Creative Connections:
The Value of Digital Information and its Effective Management for Sustainable Contemporary Visual Art Practice

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This project is dedicated to the memory of Diane Torr (1948–2017): artist, provocateur and friend.

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Abstract

This study examines digital information use in contemporary visual art making in the UK using a practitioner-centred approach. This research employs innovative approaches to establish new understanding of visual artists' tasks and skills in contemporary practice. Based on evidence derived from a substantial series of detailed qualitative case-study interviews, the research particularly clarifies the value of digital information use in contemporary visual art practice in the UK and the implications of the current digital information management skills base in the UK visual art community.

This study deploys Bourdieu's theory of cultural production to test its analytical power in the setting of contemporary visual art practice in the UK, interlinked with Becker's art world theory which conceptualises art as a group activity. Bourdieu's field theory was particularly mobilised as a tool to analyse artists' endeavours, whilst understanding those endeavours as a result of interaction between a network of individuals and organisations. These approaches were coupled with a practitioner-focused, qualitative methodology to produce deep understanding of how artists spend their time, how they value particular resources in making their work, and the relationship between the two.

I explore and specify how artists search for, retrieve, manage, use and circulate digital information, described in artists' own terms, and how they understand and value digital information and digital objects in their practices and careers. Particular attention is given to artists' tasks that require digital technologies, the skills that are needed by the artist to perform these tasks, the extent to which these tasks and skills are considered valuable by the artist, whether the artist feels confident in their ability to perform these tasks competently and effectively, and the extent to which they rely on their social and professional networks, as foregrounded by art world theory, to ameliorate skills gaps.

The study identified that artists vary their habitus to contribute labour to different Bourdieusian fields, particularly: a) as a private individual, b) as an artist working outside their practice, and c) as artist-within-practice. Further findings include the critical value of digital technologies and digital objects to the workflows of contemporary artists in a range of ways across these fields. This research also shows that much of the work in contemporary professional art making can be understood as invisible labour, whilst the skills around effective use of critical digital technologies can be understood as similarly invisible to this professional population.

Taken together, the study findings provide an evidence base for the use of policy makers when designing funding activities or programmes in the visual arts sector. Findings also support important suggestions for providers of education and training in the visual arts, with profound implications for the fit-to-need of current curricula in tertiary and professional art education. Finally, this study analyses and clarifies the extent to which the information sciences are reaching this profession, and how the professional art community may benefit from engagement with information science concepts and practices as a tool in the struggle to stay in practice.

Glossary

This section lists some key terms that will recur in this thesis and offers definitions of how they will be used.

Archive: “Archives are the documentary by-product of human activity retained for their long-term value. They are contemporary records created by individuals and organisations […] Documents do not have to be ‘old' to be an archive, just no longer required for the use for which they were created. For archives to be of value to society they must be a trusted resource. To achieve this they must have the following qualities: Authenticity - the record is what it claims to be, created at the time documented, and by the person that the document claims to be created by. Reliability - they are accurately representing the event, although it will be through the view of the person or organisation creating that document. Integrity - the content is sufficient to give a coherent picture. Usability - the archive must be in an accessible location and usable condition.” (International Council on Archives 2016).

Artwork: An output from the process of creation. Can be physically, digitally or environmentally manifested.

Art work: Labour deployed towards creation of an artwork and the supporting activities by an artist that are necessary to sustain their practice.

Born digital: A *digital object* that is first created digitally as opposed to a digital object created by *digitisation* of a physical object. For example, a sketch created on an iPad using drawing software is a born-digital object, whilst a sketch on paper which has been scanned and saved as a JPG file is a digitised object. Both end up as digital objects but only the first one is ‘born digital’.

Digital curation: The set of actions, skills and responsibilities involved in sustaining ongoing long-term access to a digital object. According to the DCC Curation Lifecycle model (Higgins 2008, DCC n.d.), this includes: conceptualisation, manifestation as a digital object along with the creation of descriptive metadata, selection and appraisal, ingest into a preservation environment, preservation, access, use and re-use, and potentially transformation into a new digital object. This cycle of activity is reiterative over time, and requires strategic planning, financial support and ongoing attention to the surrounding regulatory and technical landscape.

Digital information: "Any type of knowledge [in digital form] that can be exchanged. In an exchange, it is represented by data" (CCSD 2012). This data may take the form of a *digital object,* including a website, or a database (a structured collection of records). Digital information may be stored or accessed online or offline.

Digitalisation: The change over time from analogue to digital means in the execution of a task, process or activity, e.g. teaching, business or making creative work. Not to be confused with *digitisation*.

Digital object: A digital bit-stream that appears to the user as a coherent named entity within a computing system. May be one of a range of file types (video, text, audio, image, software, data record, etc.) and one of a range of file formats (e.g. in the case of an image it may be in the format of JPG, GIF, PSD, AI, TIFF, etc.) May exist online or offline. Simple digital objects are discrete items as described above. "Complex digital objects [are] discrete digital objects made by combining a number of other digital objects, such as websites…" (Higgins 2008, p. 137). Equivalent concept to the "Information Object" as defined by the OAIS Reference Model[1] which in an archive environment means the preserved bitstream together with the information or software that renders it usable. (CCSD 2012).

[1] Described at https://public.ccsds.org/pubs/650x0m2.pdf

Digital preservation: “the series of managed activities necessary to ensure continued access to digital materials for as long as necessary. Digital preservation is defined very broadly for the purposes of this study and refers to all of the actions required to maintain access to digital materials beyond the limits of media failure or technological and organisational change.” (Digital Preservation Coalition 2015)

Digitisation: The process of creating a digital object by digitally rendering an analogue item such as a photograph or book through methods such as scanning or digital photography.

ICT(s): Information and communications technology/ies. For the purposes of this study, this term is used to mean digital tools and devices capable of creating, manipulating or storing digital objects. Such devices are usually also capable of transmitting and receiving digital information via Internet connectivity. Examples of networked ICTs include mobile phones, personal computers, rack servers and tablet computers. Non-networked ICTs include digital scanners, digital cameras, USB sticks and external plug-in hard drives. The term can also refer to apps, platforms and tools that perform digital object storage, manipulation or transmission such as MOOCs, online data sharing services and email.

Information literacy / digital information literacy: “comprises the competencies to recognize information needs and to locate, evaluate, apply and create information within cultural and social contexts” (Alexandra Proclamation 2005). Digital information literacy is this set of competencies applied to digital information including information presented online.

Information retrieval: The actions and skills employed in creating a search for a document or other information item, or content within a document, in a database or

other information system, and assessing and selecting from the results of that search to meet a specific information need.

IP: Intellectual property, a type of property that consists of intangible assets that are the outputs of invention or creativity; includes rights ('intellectual property rights' / 'IPR') such as copyrights, patents, trademarks and trade secrets.

LIS: Library and Information Science(s), or Library and Information Studies. LIS degrees are amongst the qualifications often held by those working in libraries, archives, and information research disciplines/professions including digital preservation, digital curation and research data management-related topics.

Research data management (RDM): Digital curation as specifically applied to the subset of *digital objects* which are specifically data used in research practices.

At its most radical, technology does not designate a complex network of machines and activities, but the attitude towards reality which we assume when we are engaged in such activities; technology is the way reality discloses itself to us in contemporary times. (Žižek, 2014, p. 29)

Much of what is written about art now seems to me to be almost delusional in the grandiosity of its claims for social impact and critique, particularly given its often total disregard of the reality of art's social conditions. (Fraser, 2012, p. 30)

"I did this interview […] and they asked, 'What does it mean to be an artist?' And I said, 'Project management'. Most of that happens with a laptop."

Amy Gear, artist (2018). Quote from research interview.

Chapter 1: Introduction

1.1 Context: what do information practices have to do with making art?

I received my first art commission at the age of 14. As a graffiti artist or 'writer' in my small town, I engaged with the standard epistemic practice of graffiti writers of that time, which was to build up a 'piece book': a thick, jealously guarded paper notebook or folder of detailed pencil and ink drawings of planned graffiti murals. These murals were referred to by writers as 'pieces', an abbreviation of 'masterpieces'. The piece book was the primary research and learning resource for each writer, serving as the location where we each struggled with form, style, character design and lettering design; where we tried out different colour schemes and shading techniques, and carefully copied details from the work of other writers whom we admired. The resulting drawings acted as a way to visually set out our stylistic aspirations and the findings of our research practices. They were also, more practically, the plan for the execution of the final mural.

This planning was necessarily detailed and precise. Graffiti writing is a difficult task. At that time, it was mostly illegal[2] and significantly more laborious than the quick stencil-based, limited colour work that is now the widespread representative of post-Banksy 'street art'. Graffiti at that time was usually created by complex and extended use of a wide range of colours to create the design on the wall, starting from a freehand monotone sketch to establish the main elements of the layout. This was then reworked in greater detail to build up the design, including detailed rendering of complex

[2] Times have somewhat changed on that front. Legal wall-painting locations have expanded throughout Europe, American and Australia since the 1990s and many graffiti works are now commissioned by local authorities and advertising agencies; see McAuliffe 2013; McAuliffe 2012; Kramer 2010.

lettering, shading, colour, highlighting effects and the insertion of characters or other surrounding illustrative elements.

To add to the pressure, this practice was also subject to serious consequences such as public censure, the threat of violence, heavy fines or a police record. Secrecy and planning were paramount for efficiency and success: the location was to be found and monitored for times when it would be accessible, the surface carefully inspected for suitability. Naturally, prominent and risky locations added to the esteem in which a writer was held by other writers and the location had, at any rate, to be clearly visible once the work was completed (Cooper and Chalfant 1984). Lighting was to be considered, cans of spray paint were acquired and secreted and if necessary, carefully labelled in marker pen, since all colours look the same in the dark or under orange sodium street lighting. The appropriate spraycan nozzles were chosen and gathered. Nozzles or 'caps' range from skinny to fat, and function as the equivalent of the various nibs of a pen, providing differing functional and expressive capability. On some occasions, reliable friends or fellow writers were recruited to act as a lookout during the painting process.

The piece book, then, underpins the necessary planning and coordination. Through the work in the piece book, the writer experiments with concepts, researches options, comes to the firm conclusions required for the project to progress and in so doing, allows subsequent decisions to be taken about the colours and quantities of paint, the size and design of the work, the order in which to proceed with the various elements of the work, and the likely time needed to complete it. Practising a final design over and over again on paper allows the writer to build up a confident and embodied physical sense of the design's elements, which becomes in effect a rehearsal of the most efficient way to complete the work effectively and generally builds up the artist's ability to produce the work under time pressure and in the dark.

The piece book also served as a form of currency with other writers: we could inspect each other's styles, use the drawings as the basis for suggesting collaboration on larger works, and show off evidence of completed murals by pasting in photographs of the finished work alongside the original drawing.

It was in the course of circulating a couple of the better works in my piece book that my first illustration sale came about. Circulation at that time depended upon 10p-a-time photocopies in a local stationery shop that could then be sent by post to other writers in one's network. The shopkeeper noticed the nature of the work being reproduced and asked who had made the drawings. After reluctantly identifying myself, I was commissioned to draw a logo for a local business, earning a whole £10.

At age 14, this triumph brought home to me an important realisation – that whilst art making can be a painful, risky, expensive and intensely personal business, driven largely by personal compulsion in the face of serious odds, the fact remained that getting the right person to see what you are up to at the right time - probably involving using technology in some way - can result in fabulous riches. "Perhaps", I thought, "I can make a living at this art business."

Since that time, I have maintained my art practice alongside a research interest in documentation of creative work, and the preservation of digital traces of creative endeavour. This led me to an interest in digital curation and preservation, which can be understood as closely entwined subsections of the information sciences (Higgins 2018). Digital curation and digital preservation tackle the challenges of keeping digital objects in a stable condition, accessible to those who should be able to find and reuse them, and preserved in sufficient fixity beyond their current technological and administrative environments so as to endure as a reliable source of evidence or proof of record-keeping.

Most UK digital preservation and curation research and practice is currently deployed in the context of large memory and research institutions such as national libraries, archives, universities, research centres and large galleries, largely driven by legal and organisational requirements to ingest, preserve and provide access to their digital material. In those contexts, the use cases are clear.

But what about people who work in a sector which is mostly self-employed, that is to say beyond institutional expertise and support? Particularly when these are people who operate on extremely tight or non-existent profit margins and so will need every activity and skillset to bring some benefit to their work. If such a professional sector was also to some extent dependent on the digital objects created by information and communication technologies (ICTs), then it is clear that understanding and deploying digital curation and preservation knowledge would be of potentially very high importance in this professional community. But what is the likelihood that these individuals are currently engaging with digital curation and preservation skills and activities? In addition, if this sector is open to new technologies, has a tendency to be early adopters and has a marked appetite to push the boundaries of what any tool can be reasonably expected to do, it adds up to a distinct and complex professional community that would provide an excellent field for investigation to understand its inherent values and workflows, and how digital curation and preservation contribute to those. By this analysis, the contemporary art practice sector is a perfect professional domain in which to ground this enquiry, led by the following research questions.

1.2 Research questions

The following research questions guide specific and tangible enquiries that will allow the investigation of current working practices in contemporary visual art making, and the value of digital information in those practices.

1.2.1 Research Question 1

What are the current strategies employed by professional visual artists to seek, manage and disseminate digital information objects, including those obtained and disseminated as a result of Internet use?

The examination of current strategies in professional art making workflows provides a sound knowledge base for the use of project stakeholders and for makers of future policy and training outputs. Gathering this evidence of tasks and activities undertaken by artists allows this project to critically engage with Bourdieu's theory of cultural production, and with Becker's work on art worlds.

Bourdieu's work on cultural production was introduced in a broadly pre-digital era, and so it is unclear how far his work on the theory of cultural production is still usefully applicable as a framework for accurate and full understanding of the nature of cultural production in contemporary practice, and specifically if the emergence of the digital in daily art production processes disrupts this theoretical framework, or can be encompassed by it.

The evidence of tasks and activities also allows a critical examination of Becker's art worlds theory by providing a rich understanding of the "bundle of tasks" (Becker 2008, p. 9) that comprise current art practice, and an evidence-based examination of the value of these tasks, in the view of the artist, to the production of contemporary visual artwork.

The views of artists were gathered via semi-structured interviewing. Sampling was to a certain extent purposive in that it was useful for the aims of the project to ensure distribution of participants from the various countries of the UK, as well as to ensure distribution over the range of age brackets and genders specified in the question instrument. However, it was also useful to engage with artists at different levels of

income from their practice. Accordingly, the level of financial performance as indicated by DACS records was used as a proxy for this and participants were invited across this range.

1.2.2 Research Question 2

What are the influences upon contemporary visual artists when making decisions about the management of their digital objects, and how far do their decisions support the sustainability of those objects?

For clarity, this question was reconfigured as two discrete but connected sub-questions, namely:

2a) What are the influences upon contemporary visual artists when making decisions about the management of their digital objects?

2b) How far do artists' decisions about the management of their digital objects support the sustainability of those objects?

This research question allowed a deeper engagement with Bourdieu's theory of cultural production by examining the nature and extent of the 'field' (Bourdieu 1996) encompassing contemporary art working. This question led to an investigation of the influences working upon the contemporary artist in terms of a specific aspect of professional practice, and in so doing allows identification of the agents that, in Bourdieusian terms, inhabit the field of power. The study investigated, via analysis of those agents of influence, whether digital object management is influenced by external agents or whether, in contemporary practice, the field of power is indeed so volatile (Vigh 2009) that digital object-based activities such as online marketing and promotion, which influence contemporary art making, are now undertaken by artists themselves as much as - or instead of - any other agent of the field. These findings have implications for the assessment of relevance of both Bourdieu's theory of cultural production and for Becker's conceptualisation of art worlds to contemporary professional art practice.

Reflections from artists themselves responded to Becker's dual – and possibly contradictory - assertions that the cooperation of a wide network is necessary for art to emerge in its intended form and that even without cooperation, the artwork will still emerge (Becker 1984, p. 5).

This research question also allows the examination of the extent to which artists were influenced in their digital object management decisions by policies created by funders and other stakeholders, by the input of their peer networks, and by their training. Policies by stakeholders consist of multiple and plural information objects, such as guidance; statements of good practice; aspiration; risk management; legislative requirement. Input from other stakeholders may take the form of advice, practical help or modelling behaviour from others. Training - where it has been received - may consist of a combination of these types of input. This research question produces this typology of influence and analyses the extent artists are influenced in digital object management by the people and institutions around them.

In question 2b, the notion of good practice in the sustainable management of digital objects is represented by the widely used models and standards that will be interrogated by the study and examined for their potential redeployment in the visual arts. They are described in the later section 'Conceptual models in digital object management'.

1.3 Context and rationale: contemporary art making in the UK

The making of visual art provides both cultural and economic value to the UK (AHRC 2017; DCMS 2016, Economist 2014; Hobson 2012), but individual artists find themselves attempting to sustain practice in an increasingly difficult economic environment. Despite their training and experience, artists frequently suffer no pay or low pay for their work (a-n 2014 and 2016; Arts Council England 2016; Scruton 2016,

DACS 2014). Part of the challenge for contemporary artists in getting the value of their work recognised is that the nature and extent of the labour involved in contemporary visual art practices is poorly understood and as a result remains largely invisible to policy and guidance providers.

There are many existing clichés around the nature of art making which usually engender the notion that art making relies upon a gifted individual effortlessly sharing their talent spontaneously with others. This framing suggests art making as an activity which doesn't require effort, labour, investment, or training - which allows wider society to think of artists as people who produce cultural goods but don't need to be paid for their work.

It became clear that it is important to replace these tired clichés with evidence of the concrete skills, competences and tasks required by contemporary practitioners on a regular basis in their professional activities as the foundational task for understanding more about artists' relationship to digital information objects.

As with most contemporary professions in developed economies (European Commission 2016, Goldstein 2014) visual art making increasingly involves the use of digital objects in the daily practices of seeking, managing, and disseminating information online (the skills collectively known as information literacy, in the information sciences) as part of making workflows - whether or not the resulting artworks are in digital form. To date, however, there has been little systematic research into how artists work with digital information objects throughout their making workflows. It is crucial to identify and characterise the digital tools that are embedded in the workflows of contemporary artists. This in turn allows an empirical understanding of the type and range of digital objects produced by these tools, and how this interacts with use of the Internet in daily visual arts practice.

These practices are underpinned by artists' skills in the use of digital tools and their competence in managing and using their digital objects to support the sustainability of their practice. It is therefore important to build an understanding of the level of expertise within the practitioner community in seeking, managing and disseminating digital objects. Where it is evident that the practitioner community lacks knowledge or competence in undertaking such digital tasks effectively, these gaps can be identified and the case made for better support for relevant skills and training.

In an environment where the handling of digital objects and their role in the creative, communication and marketing tasks of visual art appears to be increasingly important to sustained visual art practice, the case grows for an improved understanding of the nature of contemporary practice and the value of digital object use in the daily labour of visual artists.

Within the last decade, a range of models and standards have emerged mainly from the library and information science (LIS) research domain and from the digital preservation and curation professional domains, to offer examples of systematised institutional approaches to the accession, management, preservation and dissemination of digital object collections. Some of these models and standards such as the Open Archival Information System (OAIS) model (CCSDS 2012) or the Digital Curation Centre's Curation Lifecycle Model (Higgins 2008, DCC n.d.) now enjoy widespread adoption by archives, research data repositories, digital libraries, and other organisations with a responsibility for the management and preservation of digital collections. It is clear that these models and standards are amongst the outputs of a rich vein of research into how digital objects can be best understood, defined, collected, managed, stored and made available for re-use. However, it is also apparent that there has been little cross-fertilisation to date with many of the other domains and professions that would benefit from this knowledge, possibly due to the domain-specific terminology that is a feature of the information sciences domain.

Given the challenges of sustainability for artists, it is likely that they would benefit from better communication of the digital object management ideas and principles underpinning these models and standards. Art practice is a domain that relies professionally upon the preservation of digital objects over long timeframes. This is a particularly interesting challenge when these management strategies must be developed by individuals who are not conversant with the information sciences. To achieve this, the nature of the daily tasks and activities of visual artists needed to be comprehensively understood and analysed in order to understand the tasks and activities on which artists routinely or typically spend their time. The study also needed to analyse the extent to which artists relied upon their digital objects in practice, and the value consciously attached by artists to their digital objects - which does not necessarily correlate to the extent of dependency.

This study focused on artists as practitioners, by which I mean people who do things, rather than the more theoretical view of artists as symbols of a particular creative movement or art historical/conceptual value. As Becker points out, the "businesslike work habits of many artists create an incongruity" to those who only consider artists as rarefied and privileged beings with no connection to daily - sometimes physical - labour (Becker 1984, p. 18) and as professionals operating within policy and requirements frameworks. As part of this pragmatic view, this study examined in detail the level of skill and knowledge in handling of digital objects as part of their research and making practices, at both the level of the individual practice, and the wider community of practice. This in turn allowed mapping of the extent to which these tasks are recognised and developed by those who make art and support art making. The resulting potential policy impacts in the visual arts sector relate to identification of skills gaps which could usefully be addressed by art sector policy makers and training providers.

1.4 Theoretical approach

Several theoretical concepts underpin the theoretical framework for this study. Primarily, Bourdieu's theory of cultural production (Bourdieu 1983, 1996; Jenkins 2002) and Becker's theory of art worlds (Becker 1982) both conceptualise professional art making as situated within social, ideological and economic conditions that influence how art work is done. These theories taken together enable consideration of the processes of contemporary art making without depending upon "idealist categories of individual agency" (Codd 1990) and introduce several useful key concepts with which this research engages.

In particular, Bourdieu's field theory (Jenkins 2002, Bourdieu 1993, Codd 1990) is often deployed as a way to understand the stage on which an individual or organisation operates, and the way in which societal structures or other actors either grant or withhold resources or access to resources. Bourdieu uses the concept of the field to underpin aspects of his theory of cultural production (1993), and the current study brings the theory of cultural production into use as a tool to specifically analyse artists' practices from their own perspective in the contemporary digital - and arguably 'postdigital' (Cascone 2000) - age.

In-depth, qualitative interviews form the central corpus of data in this study. Deployment of this combination of Bourdieu's theories of the field and of cultural production allow analysis of this data to define the different fields of activity engaged in by artists: the individual, the artist-outside-practice; and the artist-within-practice, and supports the analysis of the various types of capital that artists are striving for within each field identified.

1.5 Timeliness

This is a timely moment to investigate the sustainability of artists' practice. The UK art market is one of the major global art markets, growing in value since the 2007-08 global economic crisis (Hobson 2012), largely fuelled by strong sales of contemporary work (Economist 2014). However, by the time of finishing this study, the art market reports were beginning to show retraction, with the global market shrinking by an estimated 5% in 2019 (Sutton 2020, para. 1)[3].

The UK Government Department for Digital, Culture, Media and Sport (DCMS) estimates that the "creative industries" (see section 'Visual Arts Sector', below, for more on this categorisation) contributed 5.2% of the value of the UK economy in 2014 (DCMS 2016)[4]. The UK saw a small but notable contraction over the course of 2015, when sales "contracted by 9% to [US]$13.5 billion for a 21% stake in the global art trade" (TEFAF 2016, also quoted in Forbes 2016, para. 3)[5] compared to a 22% global share of the market in 2014 (Macquisten 2015). But contemporary sales are reported to continue to perform strongly, with 46% of all value in the global art market in 2015 (the year this research began) coming from sales of contemporary and post-war work, that is to say visual art created since 1945 (Economist 2014). Also relevant to this study is the continued growth of the online trading market, which "grew by a significant 7% for a total $4.7 billion in [global] trade during 2015" (TEFAF 2016, also quoted in Forbes 2016, para. 9).

Meanwhile, a fundamental paradox exists in the contemporary UK art market: whilst the market continues to grow or at least stabilise in value at around a fifth of the global

[3] It is expected that the global pandemic and economic downturn of 2020 will be likely to disrupt this trajectory but figures were not yet available at the time of writing.
[4] The most recent year for which these figures are available, at the time of writing.
[5] These figures are based on "data from dealers, auction houses, art and antique collectors, art and financial databases and industry experts" (Kinsella 2016) and include sales of contemporary, post-war, modern and old master sales categories at auction houses and galleries via traditional and online channels, as compiled by the annual market report by The European Fine Art Foundation (TEFAF).

art trade, and remains an important element of the overall UK economy, funding sources for UK artists continue to be under pressure and most UK art practitioners earn £10,000 p.a. or less (Kretschmer et al, 2011). In comparison, the median gross annual earnings for full-time UK employees (including all low-paid, unqualified full-time employment in the UK) in the year to 5 April 2015 were £27,600 (Scruton 2016)[6].

More than ever, artists must maximise the benefit of all resources at their disposal in order to remain competitive in a system where they are rarely, or lowly, paid, and ultimately for art making to remain a sustainable profession in which they can afford to remain. In addition, online connectivity offers artists new ways to interact with each other, art buyers, theorists and historians; new opportunities for research and collaboration; and new channels for the promotion and distribution of their work to new audiences and buyers. Art funders now often make funding decisions based on digital evidence submitted online. The market for online art dealing is gaining momentum. In 2014, an estimated 1.6% of global art sales occurred online (Hiscox 2014) and – as noted above – the proportion of online sales continues to increase. In 2015-16, the online market was estimated to have increased by 24% (Hiscox 2016), and in 2019, it was reported that 14% of global sales took place online, "up from 12% in 2018" (Sutton 2020).

The creation and management of digital objects, and their successful marketing and promotion online, can now have profound effects on the economic viability of an artist's career. As DACS and Artquest have argued (DACS/Artquest 2014), the relatively low income-level of many visual artists means that even modest economic benefits

[6] This paradoxical inequality may not be surprising to anyone who has taken notice of the economics of the art market and its relationship to social equality. As Andrea Fraser, drawing from Goetzmann et al (2009; 2011), has pointed out, "art prices do not go up as a society as a whole becomes wealthier, but only when income inequality increases. […] A quick look the Gini index, which tracks income disparity worldwide, shows that the countries with the most significant art booms of the past two decades have also experienced the greatest rise in inequality: the United States, Britain, China and, home to the most recent boom, India." (Fraser 2012, 'L'1% c'est moi', para. 7).

accruing from digital object use or reuse can represent significant income. To fully participate in this emerging digital archive, gallery, museum and funder ecosystem, artists must have the skills to locate, access, review, analyse, manage and reuse online information: it is likely that the lack of such skills will have economic consequences for working artists and that the importance of such consequences will only grow over time.

However, there is limited evidence to date of attempts to provide accessible guidance and policy from appropriate bodies to support artists in these information skills at the student stage, where good practice would ideally be instilled, and critically there appears to be little in the way of a supportive policy framework for working artists who practice beyond the support structures of the institution. To be effective, such guidance and policy must be built on a demonstrable understanding of the working practices of visual artists.

1.6 Aims

This study builds on and extends the impact of existing work in the following ways:

a) Applies existing theoretical work from the domains of sociology and of workflow modelling to create an approach to the modelling of the professional workflow which is appropriate for - and meaningful to - the contemporary visual art practice context;
b) Engages meaningfully with contemporary visual artists on an individual basis, using familiar terminology and communicating through visual as well as verbal approaches to share knowledge, in order to understand knowledge and practice of digital information management within contemporary art workflows and which stakeholders influence that knowledge and those practices;
c) Explores the extent to which artist ambitions for the longevity of their digital objects will be met by their current digital object management practices;

d) Critically engages with widespread existing standards and models in the digital information management domain to analyse their potential to represent good practice in digital information management in a way that is meaningful to the individual; and where this potential exists, to offer strategies for how this might be made accessible and applicable to contemporary visual art practitioners.

In order to develop policy and guidance useful to the professional visual art community, we must better understand how and why artists use online information in their practices, specifically these processes whereby information is sought (e.g. in the course of factual research, as elements of the final work, for inspiration) and conversely, where digital information is distributed (e.g. for promotional purposes, as part of a funding bid, as part of the documentation process for galleries, for commercial sale.) These transactions form a digital cultural heritage economy. We must understand more about digital objects in contemporary visual art practice - the currency of this economy – specifically, their role in visual art workflows, the value invested in them by artists, and the extent to which transactions between artists and their funders, buyers and others depend on this online economy of digital objects. An initial overview of this landscape, based on preliminary research, is provided in Figure 1.1.

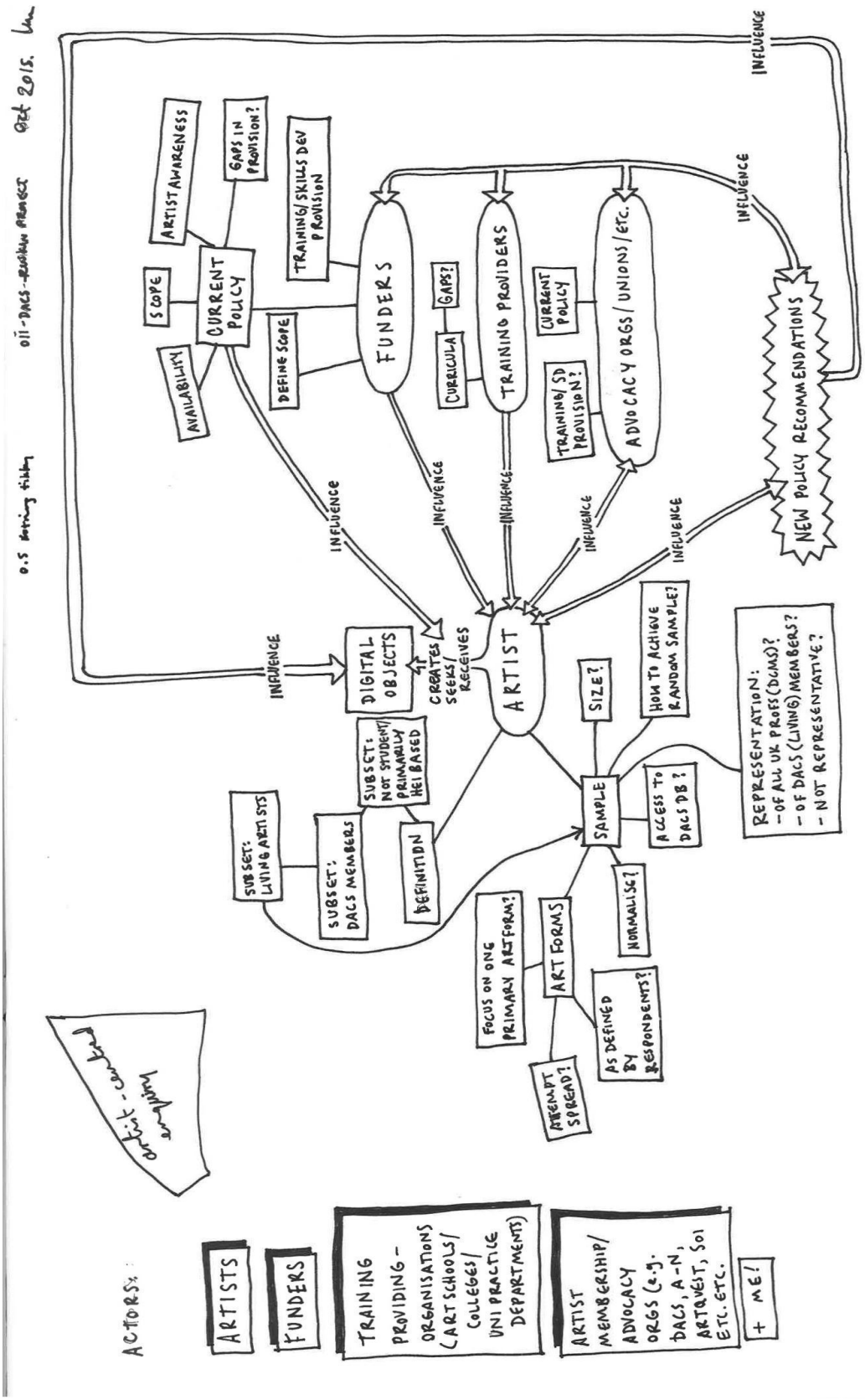

Figure 1.1. Stakeholders and relationships in visual art workflows: initial view. This figure is created by the author and is available via Creative Commons Attribution-Sharealike 4.0 International (CC-BY-SA 4.0).

1.7 Research setting and data collection strategy

This study engages directly with contemporary visual artists who are working in the UK today, and does not discriminate between artists who were born and / or trained in the UK or elsewhere: rather, it focused on artists currently working in the UK regardless of their origin. This allowed a picture of art making as employment to be constructed, bounded by the Bourdieusian social space defined as 'the UK', enriched by data from intensive qualitative interviewing and supplemented by employment data currently produced by the UK Government, such as the UK Office of National Statistics and the UK Government Department of Culture, Media and Sport (now 'Digital, Culture, Media and Sport', both acronymised DCMS), whilst realistically reflecting the international nature of the visual art professions. The statistical and economic outputs of these sections of UK Government were useful for setting the research field of this study into a wider context of economic and employment statistical information.

The UK was also the appropriate frame for the research setting of this study as this project was carried out with the cooperation and support of DACS[7], "a not-for-profit visual artists' rights management organisation" (DACS 2016). DACS has a UK-wide remit for its various rights management schemes, and whilst it works within a network of relationships with similar bodies across the world, their responsibility is primarily as a mechanism and lobbying force for the effective representation of artists' rights for artists working within the UK (DACS 2017).

The research was based upon interview data from discussion with artists currently in practice and as a result does not include study of the working practices of deceased artists, even where they have left documentation of their process in their estates. This is again a deliberate choice, in order to ensure that those who participate in research

[7] http://www.dacs.org.uk

interviews are also the people responsible for the creative decisions in the art making process, rather than heirs or estate administrators.

High-quality data collection depended upon building a sample of individual artists from across the UK, who are from a range of age brackets and gender identities (see Appendix 6, Overview tables) in order to ensure that the sample does not only represent one type of artist – for example, male, middle-aged and metropolitan. The design and execution of sampling is discussed in further detail in the later chapter on research methodology.

Artists were approached to participate in a face-to-face interview, if this was possible for them. It was recognised that their position as self-employed professionals often working in precarious financial conditions means that there may have been occasions when an artist was unwilling or unable to engage in this way, and in such cases an online version of the interview questions with a supporting telephone call was offered as an alternative.

As Given (2008) and Bryman (2008) both note, qualitative (in contrast with quantitative) approaches to research often deliberately engage with research participants in their own context, as opposed to a separate, controlled environment such as a laboratory. The current study followed the majority of qualitative work in this way, and interviews were conducted – where possible - in the artist's own environment such as the studio or office. In this way, the study benefited from the ability of the setting to provide relevant information to the aims of the research (for example, the visible presence of digital technologies in the workspace) as well as enabling the artist to feel comfortable, to demonstrate – where appropriate – the tools and skills used in their art practice, and to be able to check their files, storage media or other materials with reference to answering any given interview question. This ability to discuss questions verbally and to refer to the tools of their trade in the research interview context was potentially

powerful for the participant in the context of this study as it helped to anchor answers to interview questions in the realistic and ongoing conditions of the participant's daily practice, with all the inefficiencies and contradictions that this may imply. This rendered the resulting data exponentially more useful than a set of stock answers referring to the kind of workflow that the artist may consider to be good practice or to which the artist may aspire (for example, an organised file structure and regular backing-up of files.)

In addition, it is worth considering that the very job of art making relies upon the ability to communicate ideas and knowledge in non-verbal forms, and some previous work (Tobias-Green 2014, Wolff and Lundberg 2015) suggests that those studying art are possibly more likely to be dyslexic than those studying non-art subjects. By extension, then, dyslexia was likely to be present in any reasonably-sized sample of artists selected for the present study and so non-written and action-based methods of interaction were reasonably assumed to be helpful and supportive options for participants.

1.8 Thesis structure

The remainder of this document situates the research in the existing landscape of policy and academic literature, sets out the theoretical framework of the study, explains the message deployed and justifies the selection of methods, and then presents findings from the analysis of the data gathered across three thematic chapters. Finally, reflections and conclusions are elaborated and future work is suggested alongside a set of practical recommendations for a range of stakeholders connected to this study.

Chapter 2, 'Literature review', contains a survey of the relevant parts of the literatures of contemporary art practice that refer to the economic situation of artists in the UK and the resources - including digital objects - which may be leveraged to improve artists' economic position. This leads to an overview of the technical and policy literatures that

set out the current principles and models of practice in the management, curation and preservation of digital objects, and the attempts to date to bring together the literatures of these two domains, namely contemporary art practice and digital object management / preservation.

In Chapter 3, 'Theoretical resources', the study is positioned in the context of the Bourdieusian conceptualisation of creative labour as deepened by scholars such as Vigh and Jenkins, and with specific reference to Bourdieu's theories of creative capital and the field of cultural production. These theoretical framings are extended by Becker's art worlds theory, to enrich the explanation of the value of peer interaction and skills exchange.

Chapter 4, 'Methodology', builds on the theoretical framework to justify the choice of methods and clearly present the benefits of the textual-visual approach deployed, both in the investigation/data-gathering activities and in the presentation of the knowledge constructed. Methods described include those for data-gathering including sampling, interviewing and ethics; methods for data analysis; and methods for the validation of findings including how attention is paid to credibility, transferability, dependability and confirmability of the research.

Chapter 5 presents the first of the Findings and Analysis chapters – 'Value: The Value Model'. The main investigative activity was a substantial series of qualitative case study interviews from across the UK. These analytical chapters present each finding in terms of its relevance to the research questions and presents the implications of these findings for the theoretical framework laid out in Chapter 3. In this chapter, a new analysis of contemporary visual creative practice is presented which allows for a fuller and more accurate understanding of how art is made now, specifically laying out the relationship between the underlying resources necessary for the creation of art, including digital information skills and access to digital technologies, and various levels

of art labour ranging from least to most visible and accommodating a variety of ways in which art work is done.

Chapter 6 is the second of the Findings and analysis chapters, 'Value: Value in Practice'. This chapter continues the theme of 'value' in the findings of the analysis of the research data. Findings that emerge from the research interviews are reported in a series of smaller sections, each attending to a specific concept or topic, setting it in context with connected findings within a larger thematic group.

Chapter 7 shifts to focus upon the second major theme of the research findings, 'Lack'. This chapter continues the presentation and discussion of the findings of the analysis of the research data, but this time identifies a series of important gaps or lacks which ultimately pose difficulties of various kinds to artists attempting to sustain practice, particularly in relation to skills around the retrieval and use of digital information.

In Chapter 8, 'Conclusions, recommendations and future work', the outcomes of the study are presented and elaborated upon, and several sets of recommendations are presented. These recommendations are targeted to the key stakeholders identified in Chapter 1 and in the interview data, namely artists themselves, art representative organisations, art schools, and government. Some suggestions for further work are also provided: indicators of likely areas for fruitful investigation that have emerged from this study are enumerated.

In this way, the study sets out its scope clearly, situates the work in context, provides a transparent narrative of the methods used to gather data and the terms of engagement with participants, and provides an extended analysis of UK contemporary visual art making now and the importance of the digital within these processes and for this community.

Chapter 2: Literature Review

Much has been written about artists. Little of this work specifically incorporates artists' own viewpoints and experiences. This study addresses artists who work in the UK at the time of writing and looks at contemporary visual art making including the deployment and importance of digital information and Internet use. In so doing, it is necessary to unpack the context of this research and provide an overview of the UK visual art practice sector including its economic profile and key stakeholders, alongside contemporary understandings of the characteristics and role of digital objects. In this way, we can bring together the relevant literature from the domain of the visual arts sector and the disciplines of digital curation and preservation. Firstly, however, it is useful to provide some preliminary definitions of terms as they are used in this study.

2.1 Definitions

The contemporary visual arts practice sector in the UK is comprised of visual artists, those who educate them, those who represent them, and those who fund, buy, show, critique and sell their work. For the purposes of this study, it is comprised of living artists in current practice in the UK at the time of data-gathering. Its size, nature and the ways in which value moves from one component to the other within the sector all impact the individual artist - and also all have an inescapable shaping influence on the current study. Specialist art world terminology that has a particular application within this study is also defined.

It is also useful to offer some definitions of the information sciences domains with which this study is in dialogue, and of the key information science concepts and terminology that are used throughout. This structured approach provides a clear basis upon which the interaction of the two domain areas - fine art practice and the information sciences - can be clearly understood. This interdisciplinary approach is essential as bedrock for

the development of the theoretical work, the justification of the research methods and ultimately the findings and recommendations delivered by the study.

2.1.1 The UK visual arts sector

The UK visual arts sector represents a range of professional practices in a variety of disciplines and artforms, making a substantial contribution to the collective cultural heritage and economic performance of the countries of the UK. The value of art to society as a cultural resource, which enriches human experience and constitutes an important part of our collective heritage, has been meditated upon in cultural and aesthetic studies for centuries. Friedrich Schiller devoted part of one of his main philosophical works to the political and psychological value of art making as early as 1795 (Moland 2017). But for those who do not value art as a cultural activity or form of cultural heritage, we can explore its economic value which, at least at first glance, seems more readily quantifiable.

Whilst the arts have long been significant contributors to the performance of developed economies, it is only relatively recently that serious consideration has been given to the economics of the arts and as we shall see it remains an incalcitrant area to assess even today. This may be slightly surprising in the UK context given that influential economist Maynard Keynes was an enthusiastic patron and fan of painting, dance and music, and - as well as being a central member of the Bloomsbury Group - was a key figure in the establishment of the Arts Council of Great Britain (the predecessor of the current Arts Councils of the four nations of the UK) in the 1940s (Arts Council England n.d.).

Cultural economist David Throsby dates the first scholarly “confrontation between economics and art” to a lecture by J. K. Galbraith in 1959 and identifies the “point of origin” of contemporary cultural economics to William J. Baumol and William Bowen’s 1966 book, *Performing Arts – the Economic Dilemma* (Throsby 1994, p. 2). Since

these early interventions, there have continued to be significant challenges in establishing an authoritative view of the exact size and economic impact of the creative industries in general, including the visual arts - a challenge with which UK government continues to wrestle.

The UK Government department known until June 2017 as the Department for Culture, Media and Sport, and since June 2017 as the Department of Digital, Culture, Media and Sport (both abbreviated to DCMS) had published useful economic statistics for a number of years which set out the UK government's official view on the value of the Creative Industries, the Creative Occupations, or the Creative Economy; more of which later. DCMS economic estimates published in 2016 are the most recent UK government data specifically about the Creative Industries available at the time of writing, and it is worth noting that 'estimate' is the official DCMS label for these figures: they are not exact measures, due to the complexities of studying the creative industries as an employment sector (as discussed below) but the closest we have to a comprehensive, government-approved published view of the UK landscape. It is also worth noting that the last round of these estimates was published in 2016; in January 2017, it was announced that "the Creative Industries Economic Estimates series will no longer be published as a separate statistical release. They have now been merged into the "DCMS Economic Estimates", summary reports that cover a much wider range of professional sectors (UK Government n.d.)

UK Government's Creative Industries Mapping Document (DCMS 2001) defines the Creative Industries, as used in its statistical estimates, as "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property" (DCMS 2001, p. 5). Other concepts used in economic reports by the UK government included "Creative Economy", which "includes the contribution of all those who are in Creative Occupations outside the creative industries as well as all those employed in

the Creative Industries" (DCMS 2016, p. 3) and "Creative Occupations" which are enumerated in a list of thirty options across the categories of: Advertising and marketing; Architecture; Crafts; Design: product, graphic and fashion design; Film, TV, video, radio and photography; IT, software and computer services; Publishing; Museums, galleries and libraries; and - our priority - Music, performing and visual arts. This last category is itself subdivided into Artists; Actors, entertainers and presenters; Dancers and choreographers; and Musicians (DCMS 2016, p. 21). This provides an idea of the context in which artists are understood in the UK Government statistical universe - a subdivision of a subdivision in a heterogeneous population of what can loosely be understood as professions with some sort of connection to creative work, specifically bundled together with performers of all stripes, and split off in analysis from the photographers, film makers and people writing software; this last despite government claims that incorporating 'Digital' into the department's title would promote cohesion with other areas of responsibility. It is no wonder that the methodology for this area of statistical work seems to be under regular criticism and revision (Campbell et al 2018, Nesta 2013), but this is not to deny the difficulty of trying to methodically impose some sort of structured data-gathering on this profession given the wildly varying levels of employment, the lack of taxable income and the varied strategies used by many artists for generating income, many of which include non-art roles that are not considered by the individual to be their profession and thus are likely to remain invisible to employment statistics, tax information and much research enquiry - particularly national and multinational quantitative approaches such as these estimates. Considering this, there appear to be useful additional gains to be achieved by more targeted, qualitative approaches to improve understanding of this professional community.

2.1.1.1 Economic value of the UK visual arts sector

DCMS figures indicate strong economic performance by the UK creative industries since the 2008 global economic downturn: for the four years to 2014, the Creative

Industries grew as a proportion of the total UK gross value added to the UK economy. In 2015, the Creative Industries contributed £87.4 billion in GVA, which represents 5.3% of the UK economy, which is "comparable to the Construction or Information sectors" in value. DCMS also reports that between 2010 and 2015 the creative industries in the UK "grew by 34% - faster than any other sector" (DCMS 2017a).

The Creative Industries Council - a partnership between UK Government and representatives of various creative professions - also paints a rosy, if somewhat undetailed picture of the economic contribution made by "arts and culture" to the UK: "When indirect and induced effects are also added in, the arts and culture industry is estimated to have supported £48bn in turnover, £23bn in GVA, 363,713 jobs and £13.4bn in employee compensation" in 2016 (Creative Industries Council 2018). Here, "arts and culture" includes jobs in book publishing, sound recording and music publishing, performing arts, artistic creation and operation of arts facilities - in other words, a subset of the larger DCMS working definition of the Creative Industries and list of creative occupations. In trying to match up these sets of figures, we are not comparing like with like, but both sources provide support for the argument that the creative industries - however these are defined - make a powerful financial contribution to the UK's economy. The marked contrast between this and the typical level of artist income is explored later in this chapter.

2.1.1.2 Understanding employment in the UK visual arts sector

The 2016 DCMS statement notes that Creative Industries employment in 2014 stood at 1,808,001[8] people employed (DCMS 2016, p. 30). To give this figure some context, it is worth noting that total employment in the Creative Economy across the UK increased by 5% between 2013 and 2014 (2.6 million to 2.8 million jobs), compared with a 2.1% increase in the total number of jobs in the wider UK economy over the same period (DCMS 2016, p. 5). Within that, the UK visual arts sector is a strong economic force,

[8] This analysis of employment figures was the latest one available at the time of writing.

employing over 37,000 people. These are jobs that are not considered to be vulnerable to the increase in automation that is likely in many other industries. In other words, individual humans are likely to remain important in the creative industries (Nesta 2014).

It is difficult to obtain clarity from UK Government statistics on the number of artists who are known to work on a self-employed basis although clearly this is a common model of engagement with professional art making. DCMS figures estimate that 49% of workers in "the cultural sector" are self-employed (DCMS 2017b, p. 19): this category includes sub-categories Arts; Film, TV, and music; Radio; Photography; Crafts; Museums and galleries; Library and archives; Cultural education; and Operation of historic buildings and similar visitor attractions, and there is no published breakdown of which of these contains contemporary visual art making or what the figures are for this profession.

Eurostat-published figures from the EU Labour Force Survey (Eurostat 2017) puts the figure for self-employment in "artists and writers" in the UK in 2017 at 60%, in contrast with 15% of the general EU workforce and 33% of the EU's cultural heritage employment. But this category of 'artists and writers' includes a wide swathe of the cultural heritage professions including visual artists, musicians, dancers, actors and film directors, authors, journalists and linguists and associated roles (Eurostat 2018) and a finer-grained analysis of the 'artists' category alone does not seem to be available for the overall picture across the UK. The available figures do, however, suggest that self-employment is likely to occur as an employment mode at rates noticeably above that of the general working population, bringing with it the vulnerabilities of the self-employed including lower income, lack of cover for periods of ill-health, and less likelihood of pension provision (ONS 2018a).

2.1.1.3 Size and profile of UK artist population

There are various estimates of the size of the artist population in the UK. Amongst these, the DCMS estimates provide indicators of the scale of employment in the visual arts across the UK as well as indicators of characteristics such as educational level, geographic dispersal within the UK, gender and socioeconomic class.

Educational level

Educational level is a strong peculiarity of those working in the cultural heritage sector. “In nearly all EU countries, jobs in [the] cultural field are held predominantly by people with tertiary education in 2017 … [Across the EU] The share of people with tertiary education working in culture (59%) was almost double that in total employment (34%), representing a difference of 25 percentage points.” (Eurostat 2018). This suggests that tertiary education is a particularly strong factor in skills capacity-building in this sector.

Geographic dispersal

In 2014, 28.9% of UK Creative Economy jobs were in London and a further 15.8% were in the wider area of the south-east of England. In comparison, the highest share for any other area or country in the UK area was an 8.3% share of total UK Creative Economy jobs (DCMS 2015, p. 9).

Gender

UK Government figures report that the Creative Economy and Creative Industries employ a lower proportion of women than the wider UK economy. In 2014, 36.7% of jobs in the Creative Industries were filled by women, in comparison with 47.2% of jobs in the UK as a whole (DCMS 2015, p. 7). This contrasts sharply with the summary provided by a-n, which presents women as comprising 70% of their membership. Whilst a-n membership cannot categorically be considered necessarily representative of the overall UK artist population, this difference could also be explained by the fact that ‘the Creative Industries’ in the DCMS context is a category that also includes a range of professions in addition to visual artists; this disparity flags one of the problems

in attempting to use such large and varied categories of professions for a meaningful analysis.

Ethnicity

In the Creative Industries in 2014, 11% of jobs were filled by Black, Asian and minority ethnic ('BAME' is the term used in UK Government publications) workers (DCMS 2015, p. 7). The Artists' Livelihood Survey (TBR 2018) notes that the proportion of visual artists from a 'BAME' background was lower than the general workforce in England. UK Government census data for England and Wales report that the non-white population across these two nations is around 14% (UK Government 2018). a-n reports that 20% of their membership is "non-white British" (a-n 2017), suggesting that whilst the Creative Industries have some way to go to improve recruitment, a-n seems to be doing well in attracting Black and minority ethnic art professionals to its membership.

Socioeconomic class

In 2014, 91.9% of jobs in the Creative Economy were done by people in more advantaged socio-economic groups; that is to say, groups 1 – 4 of the National Statistics Socio-Economic Classification (Office of National Statistics n.d.), compared to 66% of jobs in the wider UK economy. More advantaged groups made up 92.1% of jobs in the Creative Industries (DCMS 2015, p. 7). If this trend carries through to the visual arts sector, it is arguably confluent with the unusually high rates of participation in tertiary education, given the current level of expense involved in undertaking a degree. It may also be an important factor when considering the high occurrence of unpaid labour in the arts, which can only be discharged by those with supporting economic resources.

a-n, a Newcastle-based artists' representative organisation with a UK-wide remit, is the UK's largest artist membership organisation (a-n, n.d.) and whilst their membership does not necessarily reflect the overall profile of the UK artist population, research

conducted across its membership is a useful reference point for understanding the characteristics of UK artists. A-N has publicly noted that many of its UK-based artist members are “especially vulnerable to political and economic change: 70% of them are female, 20% are non-white British, 15% are disabled, 80% are earning less than 10k, 12% hold a non-UK passport, and 50% are over 50 and have no pensions” (a-n 2017). This summary succinctly indicates a range of important difficulties faced by this community in the current economic and political landscape.

2.1.1.4 Particular economic pressures faced by UK artist population

The growing art market may bring value to the UK economy, but funding sources for UK artists continue to be under pressure. Most UK art practitioners earn £10,000 p.a. or less (Kretschmer et al 2011). In England, the average annual income derived from art practice in 2015 was £6,020 (TBR 2016). In comparison, the median gross annual earnings for full-time UK employees (including all low-paid, unqualified full-time employment in the UK) in the year to 5 April 2015 were £27,600 (Scruton 2016).

In 2014 a-n published research evidencing that 71% of artists who had exhibited in publicly funded galleries had received no fee. 63% of artists had to turn down requests from galleries to exhibit their work because they couldn’t afford to do so without being paid (a-n 2014).

a-n has hosted the long-running ‘Paying Artists’ campaign to improve visibility of the problems facing artists who wish to have a sustainable career in visual art, and particularly to ensure that artists who exhibit in publicly-funded galleries are paid for their labour. The motivation for the campaign is set out as follows:

- Over time, more and more artists are questioning the time and resources they spend on their art – and are giving up on art altogether.
- If there are fewer artists, we will lose the diversity and innovation that is so

fundamental to visual arts.

- We will lose the massive tourism benefits and the £1.9 billion that visual arts brings to the UK economy.
- Above all, we will lose the benefit of what art does best – help us see the world from other perspectives and give a voice to different communities.

(a-n, 2014, "Why pay artists?", para. 5)

In addition, the reorganisation of UK Government responsibilities relating to the arts has been viewed as evidence of the "downgrading" of the importance of the sector by some creative industries organisations (Romer 2017) and may be interpreted as one factor in the range of current pressures upon meaningful, systematic public funding for the arts in the UK. This view is bolstered by the further expansion of the scope of cultural heritage statistics, rendering the granularity of such figures even coarser and less amenable to creating a detailed view of the economic shape of the visual arts professions.

A further element to consider is that whilst the creative industries show impressive employment figures and healthy growth as an employment sector, as evidenced by the DCMS estimates, it is likely that self-employment amongst professional artists is at a noticeably higher rate than in the general workforce (Menger 2001). A high rate of self-employment suggests a flexible and responsive employment sector, rich in the portfolio of skills necessary for enterprise, but also subject to the vulnerabilities of self-employment, particularly in the context of low / no-wage art labour (Menger 2001).

It is clear from the 'Paying Artists' premise[9] that a-n considers art making to be an increasingly unsustainable career for the individual artist, facing the complexities

[9] Another useful concurrent intervention is the Artists' Livelihoods Survey, which was active from Feb to March 2016. This was initiated by Arts Council England, and is notable for the broad base of partners from across the visual arts who promoted the survey and encouraged eligible members to respond. These include the Association for Cultural Advancement through Visual Art, AIR, Artists' Union England, Artquest, Axisweb, Crafts Council, Contemporary Visual Arts Network, DACS,

identified by Menger, and that there is both an artistic and an economic value to what artists (struggle to) do. These are important themes to which this study will consistently return.

2.1.2 Understanding contemporary working practices in the arts

To date, there has been little systematic work done to understand contemporary working practices in the visual arts with specific reference to the role and value of digital tasks and their resulting digital objects to the individual practitioner. Certainly, art history is interested in how specific works of art have been created, and it is a common trope in the catalogues of gallery exhibitions to discuss - with varying levels of depth - any interesting features of a particular artist's process. However, if we are to build a detailed and systematic understanding of lived daily practice within this profession, we must develop a fuller understanding of the current infrastructure of the visual art sector and establish whether there are identifiable trends in how individual artists operate within that ecosystem.

This research emerges at a moment when the considerable pressures on contemporary visual art livelihoods are becoming clarified. This is being achieved by ongoing work by artists' representative organisations, based upon quantitative analysis of employment obtained through census data and qualitative data gathering such as through surveying of members of professional associations and other artists' representative groups. In building up to this moment, sociologist Pierre-Michel Menger has done useful theoretical work in arguing that artists are obliged to competently meet the demands of professional as well as entrepreneurial careers" in an "increasingly

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engage, East Street Arts, Live Art Development Agency, National Federation of Artists' Studios Providers, The National Society for Education in Art & Design, Space and Voluntary Arts Network (Arts Council England 2016). Many of these agencies have a UK-wide focus, but the Artists' Livelihood Survey was specifically for the use of members based in England. At the time of writing, 2,007 artists had responded by the closing date (a-n 2016), and the survey findings are summarised online (TBR 2018). Due to its specific geographical focus, this survey cannot provide a full picture of UK-wide practice with which to compare the findings of the current study but is a valuable contribution to the landscape.

fragmented" working environment (Menger 2001, p. 245) and by highlighting the difficulties with analysing large scale data such as census data to accurately understand work patterns in the arts, given the complex nature of employment and work in this sector with its periods of multiple jobs, non-art jobs and gaps between jobs.

Professional art making, then, appears to be a role which, if it is to be sustainable by one individual over the length of a career, clearly requires a specific and complex mix of high-quality competences in a number of varied skills. Whilst much of the skills capacity building is inevitably going to happen on the job, it would seem obvious that art training, such as provided by college and university art courses, is an important site for the development of the skills mix outlined here.

However, it seems that there is trouble in the art school. Art education has moved from the model of apprenticing in the workshop at the time of the Renaissance (Cole 1983, Sennett 2008) to the current model of specialist degrees in the HE sector, with post-secondary art teaching evolving through six main types of curricula to the current moment with all six curriculum types "jostl[ing]" for space in the BFA and MFA marketplace but with the first curriculum type, the apprentice curriculum, generally squashed down "at the bottom" of the pile (Houghton 2016). This apprentice curriculum aimed to develop a deep elementary understanding of the properties and limitations of materials, resulting in the ability to create a final piece of work that would demonstrate competency in the skills learned (Sennett 2008, p. 58). As Houghton argues, there are traces of this still surviving in contemporary art school teaching - for example in printmaking workshops or instruction on how to develop a photograph - but the main legacy of this system of teaching is the obligation to produce a final major piece of work at the end of the taught period. The problem is, according to some, that the key preliminary phase of deep skill development and the understanding of materials is now missing, and teaching is dominated by a "hidden curriculum" (Margolis 2001, Martin 1976) which enforces conformity of theoretical discourses and desirable /

undesirable habitus, which in many cases teaches only how to navigate the art school rather than the key transferable skills or deep skills needed to thrive in professional practice. The recent account by a recent MFA graduate of the contemporary art school curriculum at "a top tier LA art school" (Martin 2019, para. 1) argues that students are being influenced "through implicit codes of conduct" on how to manipulate certain theoretical positions to talk about work and to gain acceptance from the academy rather than to explore their own interests, gain technical or material skills, or understand how to address the realities of the socioeconomic challenges of surviving as a working artist (Martin 2019). The ethical dimensions of this become clear from Martin's narrative; not only is the game stacked against women and minorities, but it is also hostile to those who cannot afford a life of unpaid internships and voluntary work, or who care about the structural inequalities of the society to which their art is expected to respond.

2.1.3 Digital scholarly infrastructure in the visual arts

Turning to the scholarly literature around the relationship between digital infrastructure and visual art, some work has been done to understand the complexities inherent to the preservation of digital visual art (Loebbecke et al 2005, Delve et al 2012, Konstantelos 2012), digital visual art forms such as time-based media and software art (InterPARES2 2004-7, Laurenson 2013, Rinehart 2009) and artistic performance forms such as live art and music (Boutard 2015, Molloy 2014). There are also some useful strategies emerging for institutional approaches to these challenges (Boutard 2015, Laurenson 2013) where there may be the possibility for artists working in the institutional context to engage with existing digital scholarly infrastructures such as university digital archives; repositories for digital objects such as items of documentation and structured descriptions of artworks so that these resources can be found, reused and cited by others; and access to specialist library, repository and archive staff with the expertise to help such artists in the effective deposit, description and intelligent sharing of their digital objects. Inasmuch as these cohesive institutional

approaches are relatively rare at the time of writing, they are clearly appropriate to those artists who wish to engage with the existing and emerging digital scholarly infrastructure - and its reward mechanisms - that are becoming increasingly widely adopted by other scholarly research domains.

But going beyond the institutional context, it is clear that there remains a need for a scholarly investigation into the tasks, activities and processes that comprise production of visual art *by the individual practitioner* working in any visual medium - *even where the end product of the art making processes is not expressed in digital form* (for example, traditional approaches to painting or sculpture).

2.1.4 Conceptual models in digital object management

In order to understand where visual artists may most benefit from guidance, support and skills development in digital object literacy, seeking, management and dissemination, we first need an overview of what constitutes current models of good practice in these areas. Models and standards for digital preservation and digital curation are applied across domains as diverse as space data, cultural heritage archives and the management of research data generated by universities. This section will describe two of the dominant and widely deployed conceptual models underpinning much theoretical and practical work in the digital object management, preservation and curation domains.

2.1.4.1 Open Archival Information System (OAIS) Reference Model

The Open Archival Information System (OAIS) Reference Model (CCSDS 2012) is an ISO standard (ISO 14721, 2009 and 2012) that has been widely used for the planning of digital archives in the institutional context. 'OAIS' refers both to an archive environment that runs in confluence with the reference model, and also the reference model itself (DPC 2015). Developed initially in the space science community, it is now used by major organisations responsible for digital curation, preservation and archiving

throughout the UK, across Europe (for example, by the British Library, the Bibliothèque Nationale de France, the Koninklijke Bibliotheek of the Netherlands, Denmark's Det Kongelige Bibliotek, and the US Library of Congress. Also in the USA, the National Science Foundation (NSF) has described the OAIS model as "the de facto standard for building digital archives" (NSF 2007, p. 24).

As such, OAIS represents a major effort to achieve international standardisation in the design and operation of a workflow for sustainable management and preservation of digital objects, as well as providing those who work in such environments with a common language for the processes of their digital object management workflow.

As Seles (2016) has noted, ISO 14721 is only one of a number of ISO standards relating to record-keeping; other key international standards in this area include ISO 15489 (Information and Documentation – Records Management – Part 1 - General) (International Organisation for Standardisation 2001), ISO 15836 (Information and Documentation -The Dublin Core Metadata Element Set) (International Organisation for Standardisation 2009), ISO 16363 (Repository Audit and Certification) (International Organisation for Standardisation 2012), and ISO 27001 (Information Security Management) (International Organisation for Standardisation 2013).

The OAIS model is clearly aimed at large memory institutions, and as such is not a good fit for uptake by individuals attempting to manage digital objects in other contexts: its complexity and institutional focus result in a framework that, whilst embodying critical concepts that have great potential for use by the art domain, are unlikely to be adopted easily by individual artists or small-scale enterprises without specific LIS expertise. But the OAIS model is still relevant to the current project: firstly, it posits the useful concept of the digital information object, as unpacked further in section 2.1.5 below. Further, it exists as an indication of the kind of international cooperation and alignment across sectors that has taken place in the digital preservation world to

produce a workflow-style vision of how a digital object is manifested and understood, and can move into, through and out from a state of stewardship, and in so doing, offers a substantial, mature and widely-adopted frame of reference for the notion of 'good practice' in digital preservation in a domain-agnostic model. As such it is valuable to acknowledge its influence on international digital archival practice and, as such, its place in the contextual landscape in which this study works.

2.1.4.2 The Digital Curation Lifecycle Model

Since 2008 the Digital Curation Centre (DCC) has formulated and promulgated a Curation Lifecycle Model to illustrate the actions and processes required to curate and preserve digital objects (Higgins 2008; DCC n.d.). This is shown in Figure 2.1. The model situates the digital object at its centre, surrounded by the activities continuously necessary throughout entire lifecycle of the digital object for sustainable curation to take place. In the model, these activities are represented in three concentric layers surrounding the digital object. In this way, the model shows that the digital object must be associated with description information, in the form of appropriate metadata, throughout its lifecycle. Representation information is also continuously necessary so that the object and its metadata can be understood and rendered correctly in the user's technical environment. Planning for the management and administration of digital curation actions is also continuously required throughout the object's lifetime. Lastly, the model also advocates that those responsible for digital curation continuously engage in participation with the wider digital curation community.

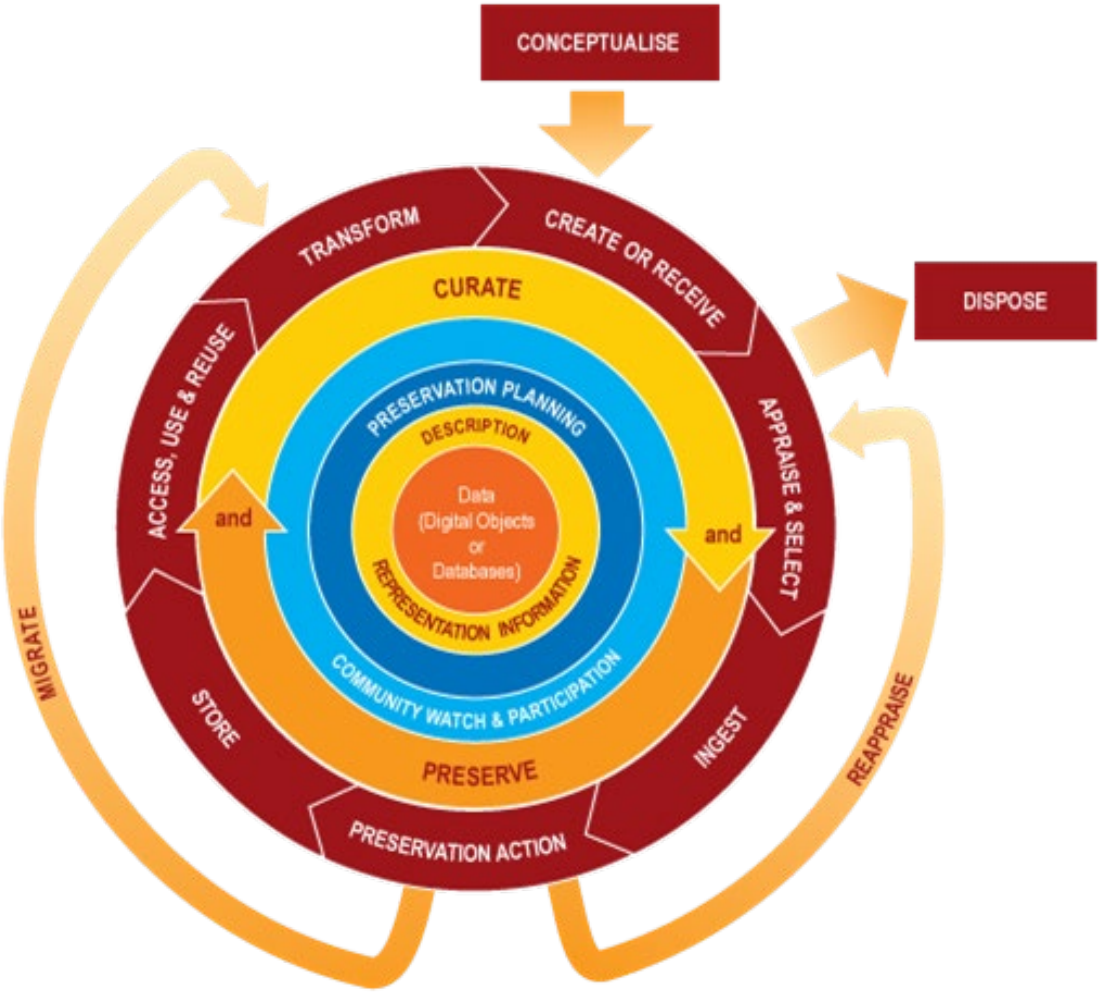

Figure 2.1. Digital Curation Centre *Curation Lifecycle Model* (Higgins 2008, DCC n.d.) Reproduction of this model is available via Creative Commons Attribution 4.0 International (CC-BY 4.0).

Once received, or ingested, into the preservation environment, it can then be sustainably stored in such a way that it is potentially available for re-use and transformation into a new asset, which in turns becomes eligible to enter the curation

lifecycle. This model demonstrates an approach to the active management of digital objects that reduces threats to their long-term value and mitigates the risk of damage and obsolescence.

Each of the sequential actions described in the Curation Lifecycle Model requires particular skills and competences appropriate to the type of object and context of the curation activity. The research proposed here is concerned with the presence or absence of these skills and competences among visual arts practitioners, and what that may imply for the sustainability of their practice in an increasingly digital economy.

These are the existing main models and standards that are currently reasonably widely adopted in defining digital objects and good practice in their management, curation and preservation. They also help to provide definitions of a set of key terms in digital curation, digital preservation and archive practice as applied to digital objects.

2.1.5 A digital object / a complex digital object

A digital object is an object composed of a set of bit sequences (CCSDS, 2012). The Digital Curation Centre draws a distinction between simple and complex digital objects: simple digital objects are “discrete digital items such as text files, image files or sound files, along with their related identifiers and metadata”; whereas complex objects are “discrete digital objects made by combining a number of other digital objects, such as websites” (DCC, n.d.) A more Internet-specific view is offered by Hui (2012) who argues that “digital objects are simply objects on the Web, such as YouTube videos, Facebook profiles, Flickr images, and so forth, that are composed of data and formalized by schemes or ontologies that one can generalize as metadata. These objects pervade our everyday life online, and it is in fact very difficult for us to separate what is online and offline anymore...” (Hui 2012, p. 380). This definition is, for my current purposes, insufficient as it excludes digital objects which exist offline – a slightly surprising tactic, given the subsequent reference to the existence of objects both

"online and offline". It is important to the current study to explicitly include the existence of "offline" digital objects as these may constitute a meaningful body of digital information of value to artists. However, Hui does highlight the pervasiveness of digital objects in everyday life and practice, and suggests that from the user's point of view, the status of "offline" or "online" is not of the first importance when considering the use of digital objects in daily life (Hui 2012).

For visual artists, digital objects may be material supporting the research and development of artwork, materials used in the production of artwork (i.e. as elements of a particular piece of work), and/or documentation of the creation of an artwork. Here, 'simple' digital objects are likely to include digital images and text files. Video, being composed of multiple elements (video track, audio track, container file) may be considered a complex digital object. Digital objects in the visual arts encompass a wide variety of file types (text, video, audio, etc) and formats (MP3, PDF, JPG, etc) created and used by visual artists.

What binds this heterogenous range of objects together is that digital objects are vulnerable to damage and loss of access, and require proactive intervention to remain accessible and to retain their authenticity. "Benign neglect" (Tibbo, quoted in Ross 2007) – meaning a lack of active management – is one of the major threats to survival of digital objects in all storage environments outside trustworthy digital archives, and as such is likely to be widespread in the contemporary visual arts community.

2.1.6 Internet Art / Art on the Internet

It is worth being clear that this is not a study specifically about 'Internet art', at least not in the sense used by the early net.art movement of the 1990s and its subsequent iterations (Greene 2004, p. 31) or its slightly less specifically-named relation, 'digital art', which is often discussed in tandem with 'new media art' (see, for example, throughout Paul 2008).

Rather, this study examines and analyses the tasks and skills required by contemporary making practices across fine art, including the role and value of the Internet and of the digital information that the Internet receives, transmits and stores. Such contemporary art practice may happen to involve that of artists making Internet art, but it is equally - or possibly more - likely that the artists interviewed are making paintings, sculpture, or any other form on visual art.

This may seem a semantic point but is in fact an important cornerstone to understanding the scope and methods of the current study. This position also reflects an important period of change taking place in the late 20th and early 21st century: the period when personal digital communication technologies became embedded in daily life - at least across developed economies including the UK, where in the first quarter of 2018, 90% of adults in the UK were Internet users, up from 89% in 2017, and from 78% in 2013 (ONS 2018; OxIS 2013).

This process of embedding has brought about the current situation in visual art practice: namely, that those relying on use of the Internet for the production and communication of their work are no longer a minority or even a specific subcategory of artists.

Embeddedness of information and communication technologies (ICTs) is now at such a stage of maturity in contemporary visual art practice that, as this study explores, the core tasks and skills of art making may have undergone a fundamental shift from even as recently as 2004, when Rachel Greene was able to describe artists using the Internet to make art as being viewed in some quarters as “programmers, and not ‘real’ artists” (Greene 2004, p. 13). Some brief further reflection on the scope and nature of Internet art is useful here in order to clearly set out the importance of this artform and its differences from the scope of the current research.

Internet art emerged in the 1990s with roots in a range of mid-20th century art movements, specifically those engaged with networked collaboration and interested in interrogation of the existing gallery and museum system (Chandler and Neumark 2005) such as the Fluxus movement, television-based art installations, mail art and participatory performance (Godfrey 1998). Some critics associate the 1960s and 1970s artforms based upon electrical connectivity, as in the case of television-based or telex art, as the earliest generation of Internet art, pre-existing the widespread availability of the Internet but similarly reliant upon rhizomic activity across an electrical network.

Contemporary visual art continues to manifest itself in the traditional formats of painting, sculpture, performance and printmaking. In addition, time-based and digital installations are now a routine presence in the art school, gallery and artist-run space. How do we define what 'Internet art' might mean today, now that real-time online interaction, monitor-based presentation, digital audiovisual immersive environments and trace data use are popular art-making strategies? One reasonably accessible and pragmatic definition - which can also be applied to earlier instantiations of Internet art - could be 'art which could not have been made without the resources available to the artist from the Internet'.

The current study executes a detailed scrutiny of the daily working practices of a substantial sample of contemporary UK artists. Participants vary markedly in their age, income level, artform, and level of proficiency and comfort with digital technologies. Their reliance upon the use of the Internet and digital information in their daily working practices is scrutinised, particularly with reference to the points in the workflow at which use of the Internet is critical, and whether these digitally-reliant activities can be understood as critical for the artist in sustaining their practice.

If almost all contemporary visual artists are found to be reliant upon the Internet and its digital information, it may now be reasonable to consider almost all artists as Internet artists to a certain degree, and that specifically competence in programming no longer exists in competition with the status of a given artist as 'real' or not. Individual works continue to appear to be more or less intimately enmeshed in the Internet - in their production, presentation and / or reception, but it is recognised that any specific artist may work across a number of different artforms and may employ differing workflows across their practice as a result. The current study investigates whether artists - as my unit of measurement - now routinely employ digital information in the creation, production and communication of their work.

Those artworks explicitly categorised as 'Internet art' in the art historical writings of the late 1990s and early 2000s were eyeing the mainstream art world as a destination as early as 2002, if Jon Ippolito's influential essay, "Ten Myths of Internet Art" (2002) is any indicator. Ippolito argues that even at that point in the 'Internet art' movement, and despite the often cited 'outsider' status of Internet art, the existing museum and gallery system including major institutions such as the Guggenheim were aware of and interested in Internet art and indeed were also collecting and preserving it.

The Variable Media Initiative[10] appeared in 1999 to devise new preservation strategies for variable-length, time-based artworks, with a specific appetite for dealing with the new digital and / or Internet-based artworks that were starting to circulate in the international gallery and museum system.

As these major figures on the North American art scene swung into action to investigate, support and preserve Internet art, the argument for the anti-establishment

[10] Initially funded by the Daniel Langlois Foundation for Art, Science, and Technology in Montreal, and consisting of a network of international institutions and consultants, including University of Maine, the Berkeley Art Museum/Pacific Film Archives, Franklin Furnace, Rhizome.org, and Performance Art Festival & Archives.

approach as a defining characteristic of this art form appeared weaker, and the maturity of Internet art as a form - if it is still a discrete current strain of art and curatorial practice[11] - has allowed artwork created using or interrogating the Internet to assume a diversity of political preoccupations and styles as it moves towards integration with other contemporary artforms.

In addition, Ippolito reminds us that Internet art is not just about the Web. He argues - again as far back as 2002 - that email, videoconferencing and text messaging were also viewed by some as intrinsic parts of artist processes, and possibly the logical continuation of the 'mail art' tradition in Western conceptual practice from the mid-20th century onwards (Tate, n.d.) Certainly, these forms are logical continuations of the 1960s-1970s forms of network art discussed above given their obvious confluences.

The theoretical implications include the realisation that the existing view of creative production proposed most famously by Bourdieu (as discussed in section 'Theoretical Considerations, below) may benefit from updating to reflect the new responsibilities routinely undertaken by artists relating to the communication and reception of their work. The methodological considerations of the current study included the development of an approach that could grapple with the concerns and context of artists regardless of how traditional or innovative their approach, tools and artforms.

2.2 Useful implications of earlier research

My previous research into similar challenges faced by contemporary live art practice (Molloy 2015) provides a useful preliminary for the current study by suggesting the importance of the use of digital objects in professional art practice, by piloting an appropriate qualitative research instrument and method, and by identifying new and

[11] The battle for terminology, including the use of the terms 'post-Internet art', and / or 'New Aesthetic' for the current online/offline forms of art makes for lively reading but does not appear in the conversations of my participants. See e.g. Archey et al (2014), Droitcour (2014), Bridle (2011; 2013) for more on these conceptual debates.

important areas where further investigation can best help understand online searching and dissemination activities in the UK professional artist population. It established that use of the Internet has become essential to the workflow of many artists sampled and brings transformative benefits to the research, creation and distribution of art. Based upon in-depth, case study length interviews with a small sample of artists working in live and time-based artforms, this research established that the artists interviewed:

- frequently searched for online resources in the course of their working methods;
- frequently rated use of online digital resources as important or very important to their research processes;
- created digital objects in the course of their practice;
- attributed high value, in both artistic and economic terms, to the digital objects they created;
- highly valued access to online archives and collections of relevance to their own artform(s) but also to other artforms from the one(s) in which they directly practiced;
- were keen to share their digital assets with peers and the public in online collections and archives.

It is also clear from the findings of the study, however, that these artists do not generally practice sustainable management of their highly-valued digital objects, lack digital information skills such as digital literacy, and have concerns about online distribution of their valuable digital assets, specifically the management of associated copyright and intellectual property rights. The overall picture is one of wide use of the Internet in daily practice, but with vulnerable, unmanaged digital assets at risk of loss or damage, unskilled information-seeking practices; and restricted understanding of online sharing behaviour including licensing options, all of which implies a limited economic benefit from artists' digital objects.

This earlier study aimed to provide evidence-based policy recommendations, specifically but not exclusively for the arts funder who was reported by participants most frequently as their funding body; this funder showed interest in the study, agreed with the preliminary results and requested access to any resulting policy recommendations.

The development of supportive policy recommendations for realising the economic and research benefits of digital objects is not a unique issue for the visual art sector. Similar issues are being tackled in other domains. For example, there is a useful parallel situation in UK higher education research practice. In 2011, the Research Councils UK (RCUK)[12] group of research funders asserted research data's position as first class research outputs and digital assets of significant economic value, and clarified the responsibility of higher education institutions (HEIs) to ensure the data resulting from funded research activity is well-curated, findable and, as far as possible, accessible online for re-use.

These developments demonstrate how questions formerly considered part of the information sciences – specifically, the creation, management, dissemination and retrieval of a certain class of digital objects – have come to be examined and responded to by new audiences in different domains.

In the higher education (HE) research domain, progress in improved management of digital research data assets is being supported by the development of policy and guidance tailored to the research cultures of individual HEIs but within the framework of the RCUK/UKRI funder requirements. Study of the working practices of researchers

[12] Now subsumed into 'UK Research and Innovation' (https://www.ukri.org/) - the research data policy has been brought through into the new organisation: https://www.ukri.org/funding/information-for-award-holders/data-policy/common-principles-on-data-policy/

has resulted in development of discipline-specific liaison and skills development activities for researchers and research-support staff, including those in specialist art institutions. But progress is primarily driven by the need to meet funder requirements. The theories and practices that are emerging from the research data management agenda in the UK can be usefully applied to the comparable – and equally urgent – need to understand the current ways in which visual artists seek, create and disseminate digital assets online and the direct economic impact on their practice of doing so.

Further, there is a direct connection between these events and professional visual arts practice: these funder expectations also apply to art schools in receipt of RCUK funds (and increasingly, of funds from other sources such as the European Commission, Wellcome Trust, etc.) Relatively recent large research data management (RDM) initiatives such as the JISC Managing Research Data programmes of 2009-11 and 2011-13 funded institutionally-based projects to instil awareness and install RDM infrastructure in around forty HEIs across the UK, including University of the Arts London, University of the Creative Arts, Goldsmiths, and the Glasgow School of Art. This indicates initial engagement by artist training institutions with digital information management skills. Harmonisation of this with funder policy for professional practice will benefit skills development at both the student and professional stages of visual arts practice.

In this chapter, I have set out some of the most relevant immediate conditions under which contemporary visual art is currently made in the UK. In order to break through widespread preconceived assumptions around the lived experience of working artists, and to produce a detailed, accurate and update account of artists' labour, I have argued that we must take account of both economic and technical factors present in art making, and also pay attention to the effect of societal attitudes and policy interventions in this area, where these exist. As we have seen in this chapter, the range of economic

and technical constraints discussed provide both opportunities and challenges to the making of art, and these pressures impact individuals and their decision-making in differing ways. Now we can turn our attention to the ways in which theorists have tackled conceptualisations and analyses of the field of art making and attempt to account for the particular intricacies of the relationships between art, artists and the societies and economies in which they attempt to sustain practice.

Chapter 3: Theoretical resources

Examining the role and value of digital objects and the use of the Internet in the working practices of contemporary UK visual artists, we can aim to replace existing problematic clichés around the nature of art making with an informed and up-to-date view of what is involved in practising art today. This foundational knowledge is required in order to identify any existing gaps in skills and knowledge that may benefit the sustainability of art making as a contemporary profession, given the particular economic challenges faced by contemporary UK artists.

There has been relatively little attention paid to examining the daily activities of artists from a scholarly perspective, particularly from perspectives within the information sciences; notable - and very useful - exceptions include Susie Cobbledick's in-depth interviews with four artists of diverse artforms (Cobbledick 1996) and Tim Gorichanaz's phenomenology-based investigation of how a small group of artists develop new understanding via the execution of self-portraiture (Gorichanaz 2019). Both of these US-based studies exemplify the richness and complexity of findings when qualitative enquiry is undertaken with artists as expert participants, and both authors underline the need for more information science - including everyday information behaviour research - to be undertaken in the art practitioner domain and in such a way that accommodates the blurriness of the work/non-work nature of life as an artist. Gorichanaz notes that the small information science literature that deals with artists is primarily focused on information seeking, including Hemmig's important typology of artists' information needs (Hemmig 2009), and that more open-ended investigation is needed to understand a broader range of artists' information behaviours.

The current research aims to respond to these pleas, and to do so in dialogue with the relevant theoretical literature that speaks to the larger questions of this research: how

are the activities of creative professionals shaped by - and how do they respond to - the ecosystems (or art worlds) of which they are a part? This research of contemporary art worlds circa 2018 allows us to scrutinize and interrogate well-established sociological theories, some of which date back to a pre-digital era. Do these theories allow researchers to analyse the labour of visual art making as it exists in the UK in the twenty-first century, or have the basic principles of the art market changed so much as to require either new theories or radical modifications of existing theory? Or alternatively, are the underlying processes stable, even as the specific practices shift and change with the times?

The key theoretical resources most frequently applied to the study of artistic production are the contributions of Pierre Bourdieu (1996, 1993, 1986). Bourdieu's work is wide-ranging, encompassing the social sciences, various schools of literary criticism, cultural studies, anthropology and philosophy. Primarily, this study deploys Bourdieu's complex theoretical analysis of cultural production, which is used in order to analyse the landscape in which artists are operating, to understand what motivates them to work, and to test this theory's analytical power in the setting of contemporary visual art practice in the UK. This theory is grounded in his earlier field theory, which is tested in incorporation with the theory of cultural production to ascertain whether it still resonates as an accurate understanding of contemporary making practices, given the developments in information technology – and their impact on visual art making practices - since Bourdieu first proposed this theoretical model.

Bourdieu's work in the sphere of cultural production (rather than his extensive - and possibly more widely known - work on the consumption and reception of cultural work) is interrogated and, to some degree extended by, Andreas Reckwitz's theory of practices (2002), which extends and refines the utility of Bourdieu's work on art making to suggest the value of analysis of art making at the level of the individual practice; and Howard Becker's 'art worlds' theory (1982), which allows us to move from a clichéd

view of the heroic single artist figure (a concept also rejected by Bourdieu) and towards a more complex and informed view of art making as created as the result of multiple interactions between many actors. This connects usefully with Bourdieu's field theory with which it is particularly mobilised as a set of tools to analyse artists' endeavours and the influences on artists' decision-making, understanding those endeavours as a result of interaction between a network of individuals and organisations. The key difference between Becker and Bourdieu's view of the social nature of art making is a matter of emphasis: Becker focuses on cooperation between the individuals in a network, whereas Bourdieu pays more attention to competition between the agents of the field for available resources. As we will see in chapter 6, both strategies emerge as important social aspects of art making today.

Thinking of the theoretical aspects of this work follows Bourdieu's stated approach to "theorising", as "a set of thinking tools visible through the results they yield … a temporary construct which takes shape by and for empirical work" (Wacquant and Bourdieu 1989, p. 50). This is very much the spirit in which I have worked with the key theoretical approaches discussed in this chapter: the project is founded upon engagement with various theoretical frameworks to understand and order the elements of art work in which this study is interested.

3.1 Bourdieu's field theory

As noted above, Bourdieu's work is strikingly wide-ranging, and his copious written output engages with a range of epistemologies. He combines empirical research such as survey work with the development of intricate theory to understand the relationships between power, institutions and individuals. One arena of many in which he has conducted investigation is that of cultural production, which is to say the production and consumption of cultural labour predominantly in the domains of literature and visual art. His analysis suggests that taste in cultural outputs both results from and confirms the distribution of power inherent in the class system. Power can be constituted in cultural,

economic or symbolic capital, and its distribution, while uneven, is often unobserved and unquestioned, even by the participants in a given cultural arena who may not benefit from its current structure. Bourdieu differs from some prominent contemporaries in French social theory such as his colleague and contemporary Foucault in his considerations of the uneven distribution of power in that, for Bourdieu, not all forms of power can be reduced to economic or political power (Johnson 1993, p. 2) - as in the case of, for example, symbolic power. The production of symbolic power is a central part of Bourdieu's analysis in his considerations of art making.

Bourdieu's contributions are useful to the current project primarily because his work makes visible the interrelations between individual and social structures within which the individual operates when making creative work, without focusing disproportionately on individual agency.

In Bourdieu's wide-ranging sweep of attention, his development of the concept of the field and its relationships is one of his major contributions, emerging from his attempts to understand power relations in society. Amongst the various existing deployments of field theory (Ignatow and Robinson 2017), the Bourdieusian approach has gained its influential power due to "its interest in forces, intensities, dynamics and processes, in place of a more static sociology of variables, categories and social groups" (Savage and Silva 2013, p. 111) - in other words, in his elaborations on field theory, it may be argued that Bourdieu is attempting to go beyond the binary tension of subjectivism/objectivism to instead set out the relational dynamics of social activity in the spirit of scientific investigation; as Bourdieu himself asserts, "the relational mode of thinking is […] the hallmark of modern science" (Wacquant 1989, p. 39).

The field is "a social arena within which struggles or manoeuvres take place over specific resources … or access to them" (Jenkins 2002, p. 84) and "a structured

system of social positions" (Jenkins 2002, p. 85)[13]. One of the central relationships to this theoretical structure is that between "habitus and field, between the feel for the game and the game itself" (Bourdieu 1998). The Bourdieusian theory of cultural production helpfully identifies the existence of agents of various sorts, all of which are striving to attain useful resources or in Bourdieu's terminology, various types of capital. Positions between agents are relational and either dominant, subordinate or equivalent. It is this set of structured relations that constitutes a given field.

Capital is "accumulated labour" (Bourdieu 1986, 2018) that is manifested in either material or embodied form. There are many different accounts of Bourdieusian definitions of capital but most agree that broadly speaking, in Bourdieu's work, capital can be economic, social, symbolic or cultural. It is worth understanding the high-level differences between these. 'Economic capital' indicates access to goods or money; 'social capital' is access to valued other agents (individuals or organisations); 'symbolic capital' equates to social prestige, for example through the receipt of honours; and 'cultural capital' is "legitimate knowledge" such as poise, connoisseurship, and aesthetic taste - some scholars have found it can be indicated by participation in activities considered to be "high culture"[14] (DiMaggio and Mukhtar 2004).

3.2 Bourdieu's theory of cultural production

Figure 3.1 represents my initial mapping of the stakeholders, relationships between stakeholders (in terms of who has influence upon whom) and some of the key issues that needed to be resolved by the project in order to fully comprehend visual art

[13] Although, as Savage and Silva have argued, we should be cautious about making definitive statements regarding the concept of the field in Bourdieu's work, given that his own use of the term can be understood as multiple (Savage and Silva 2013, pp. 116-117).
[14] Defined by DiMaggio and Mukhtar as "artistic genres that are treated by critics as 'serious', characterized by a tendency for evaluation to place greater priority on responses of critics and artists than on responses of the general public, represented in college and university curricula, likely to receive subvention from private patrons, foundations, or government agencies based on the perceived aesthetic value of their product, and often produced and distributed by non-profit organizations" (p. 175).

workflows. This preliminary image was constructed in order to clarify the stakeholders, relationships and questions that are within scope for this scholarly consideration of the visual art landscape. The key stakeholders identified here are artists; funders; training providers; and art advocacy organisations, as well as the researcher as an active – and subjective – agent within the enquiry.

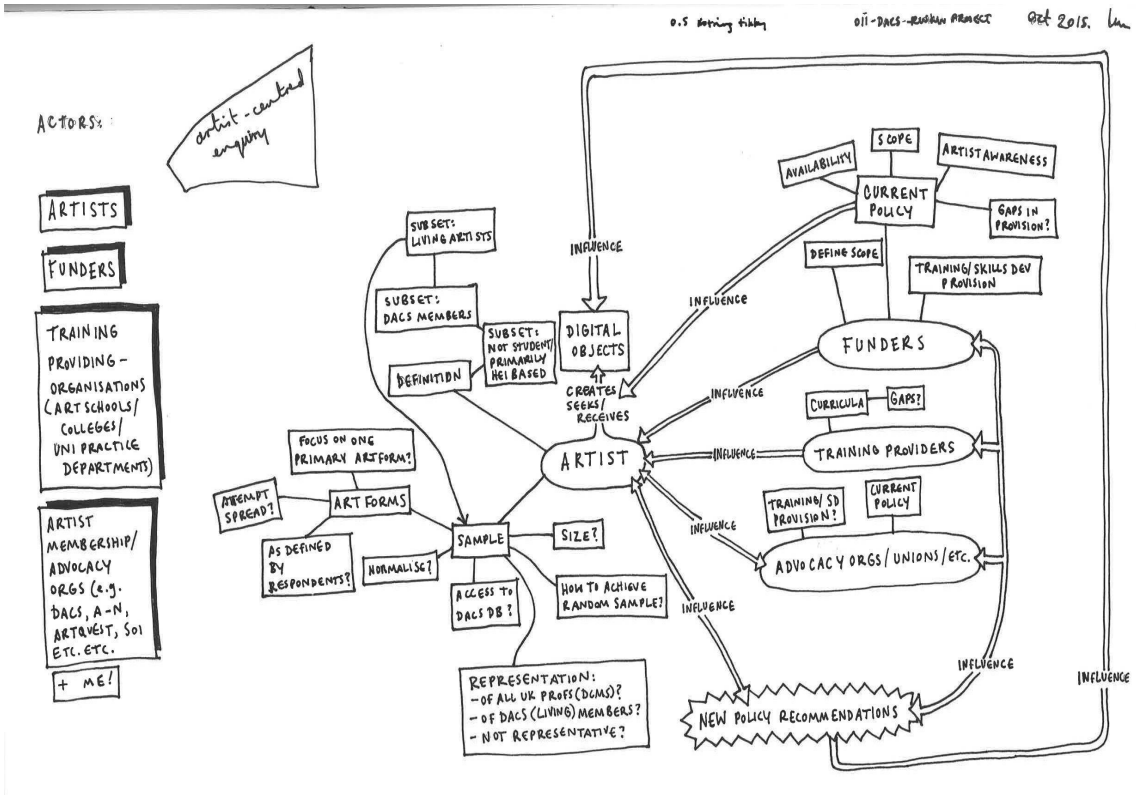

Figure 3.1. Stakeholders and relationships in visual art workflows: initial view. This figure is created by the author and is available via Creative Commons Attribution-Sharealike 4.0 International (CC-BY-SA 4.0).

Artists are placed visually at the centre of this image to reflect the artist-centred nature of the project; this is consistent with the research design (whereby findings are built from the knowledge provided by artists) and the method (whereby semi-structured interviewing is used to encourage artists to identify and discuss the topics which are important to them, as opposed to the topics which may be assumed by the researcher to be of importance).

When compared with a simplified visual version of Bourdieu's theory of cultural

production (see Figure 3.2), visual similarities are clearly apparent. Figure 3.1 was created in the initial stages of this project independently of any consideration of the theoretical literature discussed in this chapter; the extent to which the figures map directly to one another suggests the high level of suitability offered by Bourdieu's theory of cultural production.

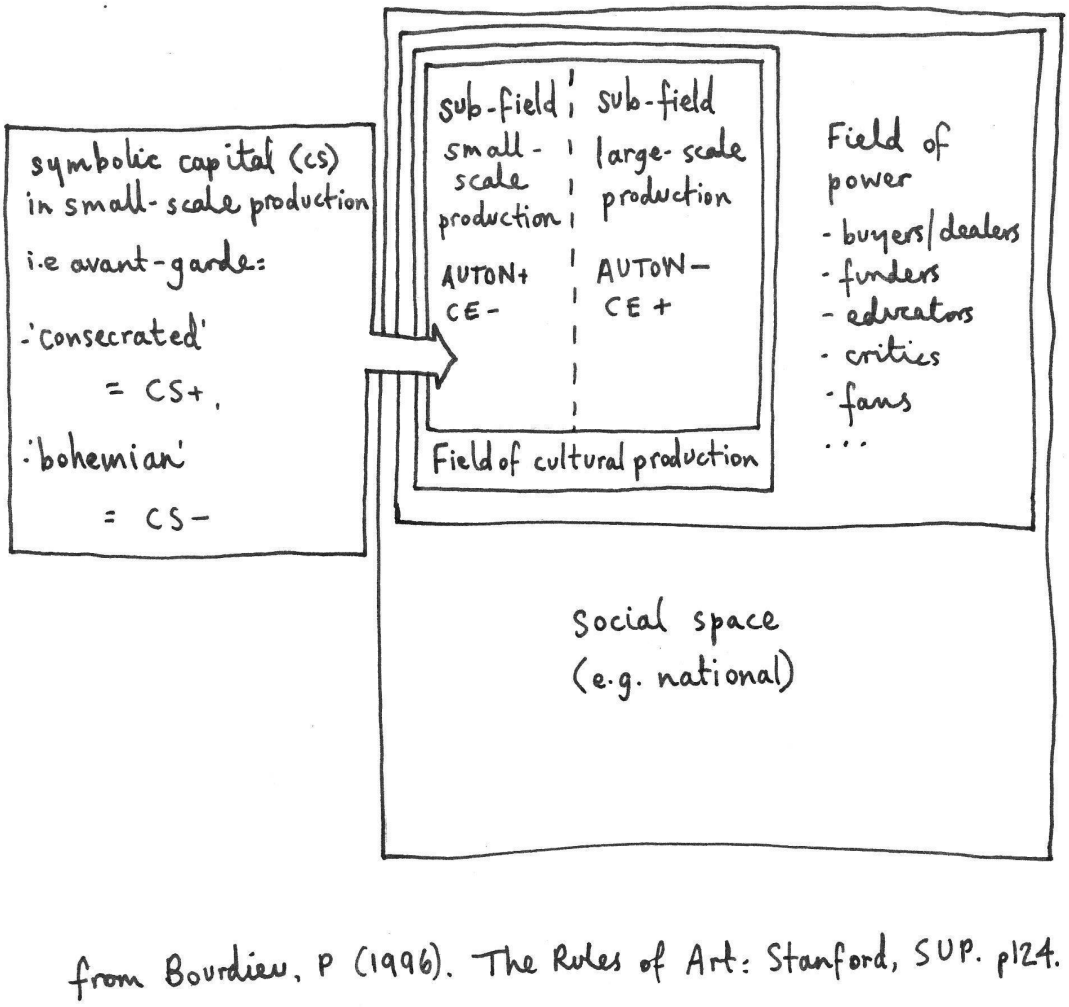

Figure 3.2: An interpretation of Bourdieu's theory of cultural production, simplified and adapted to the current study, based upon Bourdieu (1996, p. 124). This figure is created by the author and is available via Creative Commons Attribution-Sharealike 4.0 International (CC-BY-SA 4.0).

categories of individual agency" (Codd 1990, p. 132) by conceptualising the production of creative work as situated *necessarily* within a larger landscape of influences and relationships, and providing an approach to mapping and interrogating the complex interplay between the different agents involved in a given area of cultural production – in this case, contemporary visual art making. 'Agents' in Bourdieu's work can be individuals, groups or organisations who are ranged in a relational tension with each other within any particular field, the field being "the space of *prises de position* that are possible in a given period in a given society" (Bourdieu 1983).

Bourdieu initially produced his theory of cultural production with reference to literary production in 19th century France, but it potentially offers value to analyses of other types of creative work by providing a means to demarcate and organise the 'field' or arena of production, and situates cultural production explicitly within larger fields of power (see a simplified diagram of these propositions in Figure 3.2).

So whilst this framework does not itself support the mapping or conceptualisation of individual workflows, it does suggest a view of the various social influences working upon the practice of the individual artist, and individual practice as inextricably entangled within a larger network of agents and their activities.

Taking this theoretical construction as a set of nested fields, each with influence over those it contains, then, I set out my reading of the field theory as applied to cultural production and as simplified in Figure 3.2 above. Firstly, then, this figure shows that Bourdieu proposes a 'social space' surrounding any site of cultural production. Bourdieu suggests this may be a given nation as constituted by the body of political power and the economy, but I posit that theoretically other social spaces may usefully be delimited here, e.g. a geographical region of neighbouring countries such as the EU, Africa or the Americas. Proposing such a delineated space allows a given analysis to state the scope of the enquiry, whilst not ruling out the existence of wider contextual

landscapes. In the current project, the scope of the professional community studied is limited to artists based in the UK, whilst acknowledging that participating artists may be of any nationality, may have trained elsewhere, and / or may situate their practices in an ecosystem that extends beyond the UK.

Defining the sampling frame - in the current study, to the four nations of the UK - does not imply that the social space of participating artists does not extend beyond the UK. It does allow certain resources to be exploited for the project that would otherwise be only partially applicable such as cultural sector employment and earnings data from the UK Government's Department of Culture, Media and Sport, the information from the UK Office of National Statistics on average UK salary levels, and survey activities done by UK-wide art advocacy organisations.

Continuing to move from outmost to inner field structures, as demonstrated in Figure 3.2, above; within the given social space, Bourdieu positions the "field of power" (Bourdieu 1996, p. 124). This represents the relational network of agents who exercise power or influence within the social space. As the field of power is situated within the social space, agents of the field of power are accordingly influenced and restricted by the rules, laws and agreements of the social space. The actors of the field of power, in their turn, hold influence over those actors of subsidiary fields – in this specific instance, those who are engaged in the enclosed field of cultural production. In current visual art worlds (as indicated in Figure 1.1) the field of power is likely to include art buyers/dealers, funders, educators, critics and fans, *inter alia* – in other words, those who are likely to respond to, engage with and have the potential to affect the production, reception (and as a result the economic sustainability) of the activities contemporary art making which takes place in the field of cultural production. The current study concerns itself with the field of power in as far as it pays attention to the relationships with and demands made by those actors of the field of power, and delivers recommendations to those who fund artists, those who represent them such as

artists' advocacy organisations and unions, and those who educate them such as art schools, college / university art departments, and CPD providers (who are often working in cooperation with artists' advocacy organisations). These are accordingly relevant agents in the current research alongside artists themselves.

Moving further into the theoretical structure, we see that the 'field of cultural production' is sited within the field of power. This is where we find the artists and other creative professionals who are, in this field as in any other, engaged in their quest for various types of capital. Bourdieu suggests that the field of cultural production contains two poles set in oppositional relationship to each other, with the subfield of small-scale production and the subfield of large-scale production at either end of a spectrum of types of cultural practice. Small-scale production is characterised by a practice with high autonomy (AUTON+) but attracting relatively low economic capital (CE-); whereas large-scale production allows the accrual of greater economic capital (CE+) but in the context of work with lower potential autonomy in creative choices (AUTON-). Bourdieu's examples of these types of practice are from 19th century literary production, but I propose that this theory is highly suitable for application to better understanding of contemporary visual art making. This is a conclusion also reached by some other scholars of contemporary creative culture (e.g. Michael 2015, Hjorth 2014, Lena and Pachuki 2013, Hesmondhalgh 2006).

The vast majority of artists surveyed by DACS and others in 2014 were self-employed and able to have a high degree of autonomy over the kind of work they made, but more than 90% were earning a salary significantly below the national average for full time employment in the UK (DACS 2014, a-n 2014, Arts Council England 2016, Scruton 2016). In a currently very top-heavy contemporary art market (Forbes 2016, para. 5), a small number of artists enjoy earnings much higher than the UK national average salary but will often find themselves with a concomitant narrowing of their artistic autonomy as their style becomes increasingly recognised and marketable. A

prominent contemporary example is English printmaker, painter and sculptor Tracey Emin who, in a 2015 BBC documentary bemoans the pressure of her schedule, discusses the responsibilities of running a three-storey London office and studio with a full complement of staff, and remarks that she wants to take some time off in order to make work that pleases her instead of what is expected by her clients and dealers (BBC 2015). Emin serves here as an example of a cultural producer who has moved along the spectrum from small-scale to large-scale production, and it is clear that her practice is a sometimes painful negotiation between the autonomous drive of the artist and what she wants to make, and the heteronomous structures of the art market surrounding and constricting her creative range but also supporting her work with economic and symbolic capital.

The theory of cultural production is also relevant in the approach to agency within the subfield of small-scale production. Bourdieu argues that the struggle for capital within this subfield includes a particularly unpredictable circulation of symbolic capital. Symbolic capital is the value or resources available to an agent based upon their perceived value within a given culture based upon honour, prestige or other kinds of cultural recognition. In this way we see that an artist who has received honours, awards or positive critical recognition from the field of power will have accrued more symbolic capital (CS+) and is categorised, in Bourdieu's framework, as the 'consecrated' avant-garde. In contrast, an artist without such recognition from the field of power is described as having lower symbolic capital (CS-) and described by Bourdieu as the 'bohemian' avant-garde. This framework thus provides a way to map tensions between the agents within this subfield as they circulate and cycle between these positions – and move along the various positions of the spectrum between small-scale and large-scale production – and by doing so, offers a dynamic and relevant way to frame the pressures and experiences of attempting to create and sustain a career in contemporary visual art making.

The domain of the individual artist – the sub-field of restricted or small-scale cultural production (Bourdieu 1996, p. 142) – is placed within a broader field of cultural production which is in turn situated within – and influenced by – the wider landscape of those in a given society who exercise power over the production of cultural goods, such as policy makers, educators, critics, funders, etc. Building upon these key ideas, this research proposes an engagement with professional visual art making whereby it is not understood as the activity of the solitary individual genius, much less the "great man" (Bourdieu 1983, p. 312) or any other cliché of the artist figure. Rather, visual arts practice is approached as a field of cultural production subject to pressures from a greater field (in this case, the economic climate of contemporary visual art in the UK) in which various agents (individual artists, and the organisations that train and fund them) exert influence on the art making process through economic, educational and policy interventions.

Vigh (2009) develops Bourdieu's concept of the field by arguing that field boundaries, rather than being fixed, are actually subject to ongoing movement and change over time. Accordingly, Vigh deploys the notion of "navigation" (Vigh 2009, p. 1), specifically in the naval sense to delineate the idea of motion through or over a moving environment, as opposed to a fixed stable surface, to describe the way agents make their way around a given field. It is clear that any real-world application of the theory of cultural production must be able to accommodate ongoing instability and change to the boundaries as well as to the positions of the players within. In the consideration of UK contemporary art practice, we can readily appreciate that the wider field – the economic position of professional contemporary practice in the UK – is buffeted by the effects of the global art market, retraction in public funding for the arts, global political movements, and other influences and pressures.

3.3 Theory of practice(s): Bourdieu and Reckwitz

Official instructions and structures or sets of rules are studied in structuralist

sociological and anthropological accounts as a way of understanding human behaviour. Bourdieu's influential work, *Outline of a Theory of Practice* (Bourdieu 1977) was, *inter alia*, an attempt to set out space within sociology and anthropology for consideration of human behaviour in dialogue with - rather than being organised by - laws, rules or other governing structures. This includes strategies, habits or dispositions adopted in certain situations or by certain groups (in Bourdieusian terms, the 'habitus'). Bourdieu wanted to account for the behaviours of humans when adapting, improvising or responding strategically to a situation.

The concept of the field is useful to tie into Bourdieu's *Theory of Practice* and the later theory of cultural production, as the field theory defines the components of many of the dynamics in the theory of practice and the theory of cultural production.

The theory of practice and the field theory aim to allow analytical work to escape from an oppositional dichotomy between structuralism and subjectivism - in other words to find a way to talk about the negotiated truths of human lives as they are daily lived, as we are influenced by both the systems and dynamics external to us, and also by our own internal consciousness. One of the benefits of this middle way is to account better for human action when the rules of a given situation are rejected, misunderstood, or adapted in order to allow actors to gain a specific capital type.

As such, the *Theory of Practice* provides appropriate theoretical tools for the current study, as an investigation of (mostly) improvised strategies for digital object search, retrieval, management and reuse. Whilst the artists who participated in this study operate on varied economic models, they all show a desire to continue in their work. As such we can understand their desire to sustain their art labour as a driver in their striving for economic, cultural and - in some cases - symbolic capital, and recognise that strategies are formed by artists in order to achieve these aims. Both research questions of the current study are concerned with the formation of these strategies.

RQ1 asks what the strategies are. The second research question focuses on the influences upon artists as they develop their strategies for digital object care:

> 'What are the influences upon contemporary visual artists when making decisions about the management of their digital objects, and how far do their decisions support the sustainability of those objects?'

The *Theory of Practice* is particularly helpful for working with the first of the two sub-questions present in RQ2 - i.e. "What are the influences upon contemporary visual artists when making decisions about the management of their digital objects?" - by allowing space for decision-making to be understood as guided by structures such as laws, rules, or the knowledge handed down by training and qualification structures; or as improvisational structures created in conflict with such structures or to meet a need where there is a lack of structure provided for artists in this knowledge domain. As we will see in chapter 6, in this research the latter - i.e. improvisational strategies - prove particularly helpful in understanding artists' responses to the challenge of managing and using digital ICTs and digital objects in their daily working practices.

Reckwitz (2002) argues that 'practice theory' represents one element of a wider set of cultural theory within sociology, which differs from other approaches to understanding social behaviour by its focus on the social as constituted by 'practices' rather than, e.g. mental qualities, discourse, or interaction (p. 249). 'Practices' here is distinct from 'practice' in Bourdieu's sense of the visible social world: human action in contrast with thinking. 'Practices' as used by Reckwitz, however, are something more specific and equally useful:

> "A 'practice' (*Praktik*) is a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of

> understanding, know-how, states of emotion and motivational knowledge. A practice – a way of cooking, of consuming, of working, of investigating, of taking care of oneself or of others, etc. – forms so to speak a 'block' whose existence necessarily depends on the existence and specific inter-connectedness of these elements, and which cannot be reduced to any one of these single elements. Likewise, a practice represents a pattern which can be filled out by a multitude of single and often unique actions reproducing the practice …"
>
> Reckwitz (2002) p. 249-50

In this way, Reckwitz moves practices from the internal, mental or interactional spheres squarely into the sphere of actions taken in sequence, performed as a matter of routine and in a particular space or context. Within Reckwitz's "family of theories" (p. 244) that comprise practice theory, Bourdieu's work remains influential.

3.4 Becker: Art Worlds

Another member of Reckwitz's family of theories may be Becker's 'art worlds' theory (Becker 1984, 2008), which helpfully provides another way in which Bourdieu's framing can be interrogated. Becker's work on 'art worlds' usefully treats "art as the work some people do [...]. That has [...] meant treating art as not so very different from other kinds of work, and treating people defined as artists as not so very different from other kinds of workers" (Becker 2008, p. xxiii). This argument supports the proposed research design for the current project including activities such as the elicitation of workflow diagrams, discussion of key regular professional activities and the like.

Similarly to Bourdieu's theory of cultural production, Becker understands art production as happening within a network of agents and influences, but argues that the significance of others is in their direct effect on the resulting artwork rather than the influence they have on the artist (which may in turn result in an effect on the choices made by the artist). To be more specific, Becker's theory is based upon the premise

that for an artwork to manifest in the way it does, a wide variety of activities have been undertaken by a large number of individuals including but not limited to the artist, and if "one or another of these activities does not get done, the work will occur in some other way." (Becker 2008, p. 5). However, some weaknesses of this theory emerge fairly quickly. Firstly, it can be easily extended to the point of absurdity: for example, that a particular artwork is influenced as much by the barista visited en route to the studio as by the painter's studio colleagues or MFA tutor – or indeed the artist themselves. Secondly, Becker insists that support – which I propose can be described in the forms of Bourdieu's various types of capital – is an optional resource for art making; with sunny optimism, he assures us that "[i]f no one supports its doing, it will go unsupported" (Becker 2008, p. 5).

In this way, Becker argues that doing without supporting activities or materials "affects the work produced" (Becker 2008, p. 5) but appears confident that the work will still happen. Serious examination of the financial state of a lot of individual art practices undercuts this breezy confidence: it is likely that for many people, without support the work will *not* (and does not) happen. If the current project can deliver any one message, it might be that. It is frustrating to find that here, as with a number of other academic scholars of creative practice with university positions, the financial precarity of art making is treated almost as an optional condition or creative challenge rather than its real meaning: the non-making of art.

Becker's *Art Worlds* theory has also been dismissed as "merely … going beyond the individual creator to a wider network of agents involved in cultural production" (Hesmondhalgh 2006, p. 212). It is hard to substantially refute this accusation, but it is worth pointing out that Becker brings an important influence into theoretical literature around art making, particularly at the time *Art Worlds* was first published, by treating art making as the labour which happens to be performed by a particular set of the working population. This approach implicitly gives art making the same respect and dignity

accorded to other professions, and in doing so positions it - as do several other scholars including, notably, Pierre-Michel Menger in his influential assessment of the economic structures around the art workforce (2001) - as a professional sector which can be made visible, quantifiable and otherwise amenable to analysis.

Weaknesses aside, there is still much of use in Becker's art worlds theory, particularly when he draws upon Hughes's assertion that "[w]orkers of various kinds develop a traditional 'bundle of tasks' "(Hughes 1971, p. 311) as the basis of his argument that "to analyse an art world we look for its characteristic kinds of workers and the bundle of tasks each one does." (Becker 2008, p. 9). This provides a solid theoretical justification for the proposed research design, as discussed above, whilst also offering potential for examination of the extent to which Becker's art worlds theory extends the capacity for Bourdieu's theory of cultural production to support an accurate and nuanced analysis of contemporary art making as a profession.

3.5 Limits and criticisms of socio-cultural work

Pierre Bourdieu's analytical framework of cultural production through his use of field theory, as refined by Bourdieusian scholars such as Henrik Vigg, John Codd and Richard Jenkins, stands as one of the most prominent models for understanding the ways that art work is organised and, as such, is the main theoretical apparatus used in this study. His complex set of theoretical structures, however, are not without their critics. Jenkins (2002) appears irritated by Bourdieu's contradictions: for example, his claim to be breaking free of the binary positions of objectivism and subjectivism whilst remaining faithful to objectivism - a claim which is not entirely convincing, given the careful attention given by Bourdieu to explaining the complexities of the habitus, and given the extent to which Bourdieu has focused on moving beyond objectivist structuralism since the 1960s (Wacquant 1989, in his fabulously Bourdieusian analysis of the different schools of Bourdieusian theory). Indeed, Bourdieu's contributions are useful to the current project primarily because his work makes visible the interrelations

between individual and social structures within which the individual operates when making creative work, without focusing disproportionately on individual agency to the extent of an over-reliance on "the charismatic ideology of 'creation'" (Bourdieu 1996, p. 167). This moves us on from the dichotomy of structuralism versus subjectivism, and allows for an approach that acknowledges both, by providing a more nuanced landscape of relations between agents, and between an agent and the power structures that surround them.

When thinking specifically about visual art production, then, this allows us to account for the influence of individual mental structures and predispositions (habitus) of a given artist on her work, as well as the encouragement, obstacles and provocations posed by the power structures surrounding her - for example, the lack or availability of funding; her support or lack of support by artist peers; the political climate of her country, including the opportunities for freedom of expression; and the level of critical response to her work by important stakeholders such as fellow artists, patrons, critics and buyers.

But it is worth probing more relevant criticisms relating specifically to Bourdieu's work on creative production. Bourdieu's work has been described as theory that is "good to think with" (Jenkins 2002, p. 176), which I interpret as being in line with Bourdieu's own stated preference for theory to be engaged with in as far as it can be "a set of thinking tools" (Wacquant 1989, p. 50). The basis of much of Bourdieu's analytical work is the social class system, which is generally expressed – in his work on creative production - as constituted in 19th and 20th century, mostly metropolitan, France. In the context of 21st century UK society, the transferability of this foundation is not so clear. The authoritative analysis used by the UK Office of National Statistics (ONS) is socioeconomic status. How does one apply that to contemporary artists, as a professional group constituting the field of art making, as it stands in relation to the field of power? It is immediately apparent from comparison with the ONS classification

definitions that it is unclear how this could be done. A case could be made for a full-time working artist to be classified as working in 'higher professional occupation', as a 'small employer', or as a 'technical occupation', each of which occupy noticeably different places in the hierarchy implied by the current UK government socioeconomic hierarchy. In addition, I would argue that many of the usual indicators of class prestige (such as an aristocratic family lineage, wealth) - at least in the context of the UK - may be missing without endangering an individual's status as a member of the field of art production. The one obvious exception to this is the access to prestigious art schooling, which requires significant economic capital for fees, cultural capital to be able to discern which school is prestigious, and the desire for (and thus the awareness of) the symbolic capital of being a graduate of such a school. This may suggest - as do the economic statistics for those working in the cultural heritage sector, discussed in chapter 1 - a reason for the predominance of individuals of higher socioeconomic classes in the cultural professions.

This discussion gives a practical example of some of the limits reached when attempting to work in the field (in the anthropological sense as well as the Bourdieusian sense) in contemporary society. It is clear that there are urgent investigations still to be made into the socioeconomic profile of those who work in the creative arts with a focus on understanding the extent to which participation is enabled by social and economic capital, and to improve the ability for those lower on the socioeconomic scale to participate in this professional field. Some work in this area successfully deploys Bourdieu's theory of habitus to explain the confidence with which those have been embedded from an early age in an artistic network embrace the identity of 'artist' which enables their participation in the creative arts and suggests one reason for the non-participation by other individuals (Lena and Lindemann 2014), whereas other scholars have delivered useful economic analyses of the situation of the artist through other approaches such as Marxist theory or the sociology of labour (Kompatsiaris 2015, Menger 2001, Throsby 1994) that suggest economic reasons for the sorting of potential

artists into those who do and who do not participate in the art world. Bourdieu's apparatus is powerfully useful for understanding the fluctuating dynamics within the field, but perhaps has been less relied upon for those investigating access to the field, and the sorting or stratification of those who do and do not gain entry. In the current study, all participants are already within the field in as far as they have asserted their place within the field through their membership of the DACS Payback scheme (DACS 2019), which requires self-identification as an artist whose works - or representations thereof - are provably within circulation in the UK, and their participation in the research interview. And so this limit, whilst important, does not invalidate the utility of Bourdieu's theoretical tools for our current investigation.

Bourdieu's approach has also been criticised for some tendencies to reductionism (Savage and Silva 2013, p. 116) including, arguably, the lack of attention paid in the later part of his career to the development of the cultural industries. Hesmondhalgh has argued convincingly that large-scale cultural production, with perhaps the exception of television journalism, is neglected throughout Bourdieu's output and is "even more marked" in 1996's *The Rules of Art* (Hesmondhalgh 2006, p. 218). Certainly, large-scale production necessarily constitutes a large proportion of contemporary cultural output and understanding it deeply is important in order to understand the history of cultural production in a given society or type of society (as found in analyses provided by, for example, Williams 1981, and Sennett 2008). Analysis of *reception* and *appreciation* of large-scale cultural work – including pop music and sport - is present in Bourdieu's work, but his work on the *production* of such cultural outputs appears to be noticeably focused on small-scale cultural production, and particularly focussed on understanding the extent to which small-scale production of art or literature is more complex and relational than a "charismatic ideology of creation" would suggest (Bourdieu 1996, p. 167). As a criticism of Bourdieu's output, this relative neglect of the similar complexities of large-scale cultural production is worth consideration, particularly given its prominence in contemporary developed

economies, or - in Bourdieusian terms - the extent to which large-scale cultural production continues to accrue economic, political and cultural capital.

Hesmondhalgh asserts that the neglect of large-scale production is important because this type of cultural production has great influence on its subfield, small-scale production (Hesmondhalgh 2006, p. 217). Perhaps, however, large-scale production in the form of the cultural industries is even closer to (i.e. has less autonomy from) the field of power than at the time Bourdieu formulated this theory, which may imply that the nature of large-scale production functions less strongly as a superfield of small-scale production, and more like a subfield of the field of power. In the UK context, economic and political capital (the two definitive capital types of the field of power) is made of the UK's cultural industries - including television, film and advertising industries - on the international political stage as well as in domestic government communications (as discussed in chapter 2). At the same time, the 21st century has brought new innovations to the UK that have allowed a closer relationship than ever between artforms of high cultural capital - such as theatre and the opera - with the widespread appeal and access of the large-scale cultural mass market, thus bringing forward examples of large-scale production with the high cultural and symbolic capital of small scale production. Prominent UK examples include the National Theatre's cinema broadcast initiative NTLive, which has to date enjoyed an audience of nearly 9 million people globally (National Theatre Live n.d., para. 6) and which has led the way for similar initiatives such as English National Opera's *ENO Screen* and the Royal Opera House's *ROH Live*. In this way it may be argued that the porous boundary between limited-audience and mass-market types of cultural output is becoming even more perforated - and possibly that with large investment from international big business and to a certain extent government, the largest-scale end of large-scale production is closer to the field of power than ever before.

This criticism that Bourdieu has not paid sufficient attention to large-scale production,

whilst valid, does not pose a specific problem directly to the current project. Small-scale cultural production is exactly where we are focused. Individual artists are statistically unlikely to be working at the large-scale end of Bourdieu's spectrum, and even those with prominent practices are in turn unlikely to be working at the scale of the forms of media with which Hesmondhalgh is concerned. It is true that the nature of large-scale production is significant to some extent to the determination of conditions in the sub-field of small-scale production, but as argued above, if we are seeing a shift (to a limited extent) in large-scale production towards work possessing some of the capital types characteristic of small-scale work, perhaps the influence is really going - at least partially - in the opposite direction.

Further, Hesmondhalgh's assertion of the importance of that relationship works more clearly for his example of "pop 'mainstream'" versus "alternative" music genres (Hesmondhalgh 2006, p. 217). Folk art aside, visual art made for select / small / no audience does not define itself in the market or even amongst artists by a genre name that is crafted in deliberate contrast to other visual art which may be of the same quality but has a larger audience[15]. It's all part of the genre of 'fine art', but with distinction or stratification of importance indicated - to those of sufficient social capital to read the indications - via factors such as who collects this artist, which gallery represents the artist, whether their work is held in public collections, whether their work has sold well at auction, who has commissioned them, the work's critical reception, etc. In other words if, in Bourdieu's model of the field of cultural production, the field of small-scale production is indeed a subfield of large-scale production, then it is influenced by the economic, social and cultural influences of the field of large-scale production. Large-scale production, then, can effectively function as part of the wider context of the field of power and, beyond that in turn, the social space. Indeed, it is a matter of emphasis. Bourdieu's explanation in *The Rules of Art*, as reiterated by Hesmondhalgh (p. 214),

[15] 'Pop art' has a very different relationship to 'high' cultural forms, from that of 'pop music'.

clearly indicates that the subfield of cultural production is distinguished by higher autonomy from the field of power, and that of large-scale production as less autonomous, that is to say more under the influence of the field of power (Bourdieu 1996), and so his model arguably contains sufficient flexibility to accommodate the dynamic of the subfield of large-scale production moving further or closer to the field of power. Ultimately, whilst the lack of attention to large-scale production is a weakness of his overall theoretical offering in understanding the creative arts, Bourdieu seems more interested in small-scale production and his richest elaborations are reserved for this subfield, a richness from which the current study can benefit.

Another problem in Bourdieu's conception of field theory is its situation in a specifically 'national' social space. As mentioned in section 3.2 above, the visual model presented in *The Rules of Art* places the field of power within a national context. This appears to result from situating the main theoretical thrust in *The Rules of Art* in the world of 19th century French literature, with its specific network of agents and rules defined and connected by the structure of French society at that time including its educational system, the national network of agents in the field of the publishing business and selling markets, and the influence of the *Académie Française* with its powerful moderation of the French language, which together create a relatively clear-cut field of operations for such a study. But when we think about visual art making in the 21st century, we are considering a global enterprise; not only in terms of the global nature of the art market and its mysterious dynamics, but also in terms of the world of artists themselves, specifically the wide distribution of the network of art schools that train and provide employment to the artist population; and the international nature of the role with its expectation of travel for residencies, commissions and art fairs. This is no recent state of affairs either - as Becker (1982, p. 330) notes, European artists have been travelling internationally in order to work for foreign patrons and to see the work of other painters at least since the Renaissance. For the purposes of the current project, however, this problem is eased by the use of Becker's art worlds theory in conjunction

with Bourdieu's field of cultural production, which widens the stage from a field situated within the boundaries of a nation, to an international art world consisting of a network of linked local art worlds, whilst retaining the important relational elaborations of field theory. This allows the necessary flexibility for the current project to work with artists who are, at the time of interview, based in one of the four nations of the UK, as well as those who travel regularly between those nations and more widely afield on a regular or ongoing basis and, as such, are theoretically subject to the influences of the social space of more than one nation.

Another posited weakness is that Bourdieu produced most of his theoretical and empirical outputs in a period just before the widespread proliferation and adoption of Internet use and digital communication devices in everyday personal and professional life. There is no suggestion that Bourdieu - who died in 2002 - ought to have anticipated the profound changes in mass media and communication, particularly the impact of the personal digital revolution on how popular culture is now made and disseminated. Nevertheless, his concepts of the field, capital and habitus have played an important part in the development of sociology of the digital or 'digital sociology', the study of the impact of the digital upon society and also of digital methods upon sociological research (Lupton 2014) and have been usefully applied to a range of studies investigating Internet access and use, from early waves of Internet sociology through to contemporary work (e.g. Johnson 2009, Lindell 2017) including as the basis for suggestions for additional capital types in order to account explicitly for online behaviour, such as 'digital capital' (Ignatow and Robinson 2017, p. 952-3). These shoots of new growth from Bourdieu's writings demonstrate that his key theoretical offerings can continue to offer value to the study of social behaviour and the production and response to creativity however it remakes itself in the digital era.

Finally, as Michael (2015) has noted, theoretical focus in socio-cultural work such as Bourdieu's field theory and its development in the theory of cultural production neglects

the material object. People's practices themselves and with each other are important but there are also the objects and materials with which they work, which can also influence practices within, for example, a specific profession. Rubio and Silva (2013) have argued this approach presents problems to those wishing to deploy field theory in investigations of art practice, as there is a clear separation of the social from the material, in as much as material objects do not qualify as agents in the field despite their potential accrual of symbolic capital and the alteration of their material state over time. Whilst this criticism brings interesting ideas in its wake - particularly for conservation and curatorship studies - it has limited relevance to the current research; this study is centred on the actions, practices and social dynamics of the participating artists. To that extent it is art object-agnostic, in the sense that research questions are concerned with workflows and strategies, rather than the physical objects which constitute the artwork at the end of the workflow.

The workflows and strategies examined do, however, flag the presence of *digital* objects, which makes the place of objects in a Bourdieusian analysis worth considering to a certain extent. There is no compelling justification in existing literature for considering objects - whether material or digital - as agents in the Bourdieusian field, but certainly the decay or loss of digital objects brings a new non-material material practice into the community of art making and the loss or decay of these objects alters what artists can do. The current study will explore the impact on participating artists of the loss or decay of their digital objects and how this relates to the accrual of capital; this will be unpacked further in chapter 7, 'Lack'.

3.6 Deployment of other theoretical work

A range of other theoretical work is pertinent to this project, including the use of drawing as a tool for elicitation in the interview situation (Bagnoli 2009, Eisner 2008). Visual methods can allow investigation of layers of experience that cannot be easily be described or communicated verbally or textually (Gauntlett 2007). This theoretical work

supports the choice of visual methods in the current study as the sample group may be diverse in terms of their ability / willingness to connect via verbal and textual means but can be assumed – due to their profession - to be highly visually literate. The use of visual methods is discussed in full in chapter 4, 'Methodology'.

3.7 Using Bourdieu's theoretical tools

Ultimately the strengths of Bourdieu's theoretical apparatus outweigh the insightful criticisms that have been made of it. The driving force of his work on creative production retains its high level of relevance to contemporary analysis for two main reasons: first, the clear-sighted historical positioning that firmly places the contemporary artist within the "structured space of positions" (Thomson 1991, p. 14) that constitutes the art world, and recognises this social structure as no "transcendent and universal condition" but, rather, "actively produced in the 19th century" (Hesmondhalgh 2006, p. 214), allowing us to understand art as it is practised now to be understood as interrelated with - but distinct from - notions of the irresponsible self-indulgence of not having a 'real' job, on the one hand, and the cynical business-minded machinations of the art market on the other. The art world as framed by the field of cultural production allows for this central space constituted of artists, their peers, allies and competitors, working towards the types of capital they wish to access, and being acted upon - and responding to - the economic and political forces of the field of power.

Secondly, and in step with Becker, there is an emphatic rejection of art making as the result of individual inspiration. Bourdieu and Becker, both, are keen to set art making into its context of how it may be experienced from day to day by the artist: influenced by peers, helpers, competitors, policy makers, the current trends in selling, and a thousand other pragmatic influences. Bourdieu is, I think, more clear-sighted about the power of economics upon daily artistic reality; there is no guarantee that, as Becker would have it, the unsupported work will still happen. Bourdieu's framework explicitly sets the field of cultural production within - and therefore under the influence of - the

field of power, designated by relatively high levels of economic capital. This dynamic sets up the basis of the art market, at heart, to be a negotiation between those of high economic capital who seek cultural capital (the field of power) and those who lack economic capital but have the potential to generate cultural capital (cultural producers). This dynamic is central to Bourdieu's model of cultural production as expressed through field theory, and underlines the pervasive importance of economic capital to the production of cultural work. Bourdieu and Becker are usefully deployed together in this way and also in order to account for the international nature of the context in which cultural production sits; and to allow for cooperation as well as competition amongst artists participating in the field of cultural production.

In these ways, the theoretical tools offered by Bourdieu, used here in conjunction with helpful supporting theories from closely allied scholars, provide a way to embrace and understand the operationalisation of art making. The impact of these theoretical approaches on this research is discussed fully in the next chapter, 'Methodology'.

Chapter 4: Methodology

In narratives surrounding the art studio, art making is often shrouded in mystery. My aim
is to shine a light into the atelier, and lay out as clearly as possible the ways in which UK-based contemporary visual artists make their work; that is to say, what they spend their time doing, how they think about their activities, and to what extent these activities are reliant upon or connected to the use of digital information.

As such, this study is unusual due to its focus on the 'making' of 'art making'. In a sense my interest in art making is output-agnostic, as it is entirely unconcerned with the aesthetic qualities or market value of a given output, or even which form an art output takes once it is made. Rather, I am interested in the *workflow*: the making processes, put together and described by the artist.

In this spirit of illumination, this chapter lays out the methodology that set the overall direction of the research, the methods chosen to gather and analyse data and how they tie in with the research design, and the decisions taken during the practical deployment of these methods as the project unfolded.

4.1 Methodology and methods

The choice of methodology which guides investigation, and the methods used to carry out the aims of the study, were guided by the research questions. The research questions that this study explores are as follows:

Research Question 1

‘What are the current strategies employed by professional visual artists to seek, manage and disseminate digital information objects, including those obtained as a result of Internet use?’

Research Question 2

‘What are the influences upon contemporary visual artists when making decisions about the management of their digital objects, and how far do their decisions support the sustainability of those objects?’

These research questions are concerned with what artists do in their work each day, how they think about those activities - specifically the subset of their activities that is to do with digital information use - and what guides their decision-making in this arena. As such, these questions are largely about the way the research participants make meaning and understand their activities. As interpretative research, there is no initial hypothesis offered or model to be imposed on the activities of this population. For research such as this, then, the appropriate choice of methodology is a constructivist approach which aims to understand the participants’ point of view as accurately as possible and to offer some theoretical models or other outputs that help us to make sense of - and draw some conclusions from - the data gathered.

4.1.1 Methodology

Qualitative, practitioner-centred engagement is the core of this study, and this section explains and justifies this approach as the most appropriate for the investigation required to answer the research questions.

The research methodology used here is one familiar to the qualitative researcher who aims to carry out what Lincoln and Guba have famously described as “naturalistic inquiry” (Lincoln 2007, Lincoln and Guba 1985): an engagement with participants rather than subjects, which acknowledges the researcher’s standpoint, respects participants’

expertise and aims for an exchange of knowledge rather than the presumed higher insight or level of expertise on the part of the researcher.

Naturalistic approaches involving inductive work, such as this study, deal with the sense-making and meaning-making activities of participants at least as much as the more positivistic approaches of measuring so-called objective realities. In undertaking this research, it is true that I gathered objective measurements as the research progressed, such as the number of artists in London postcodes who participate in a specific DACS members scheme and who were available to talk with me within a certain time period; or the number of female versus male artists who engaged with the project. Numbers or measurements such as these are interesting and can help set a context or suggest alternative questions to be explored in the future, but were not the aim of the data gathering. Rather, this study is concerned with what is important to artists when they are using digital information in their workflow, and what influences their decision-making as they deal with digital objects. As such the inquiry is based upon learning from participants and sharing my own experiences as a fellow artist and as an information researcher, where this helps to build trust between us or can be of practical use to the artist in their work.

In these ways, I am not taking knowledge *from* subjects: I am building knowledge *with* them. In line with Lincoln (2007)'s definition of naturalistic enquiry, participants exchange their expertise on their practice with my active listening, my attention to their priorities and interests, and my offer of a supportive space to reflect on their daily work. I also offer my advice and suggestions when they ask for input or advice on their information practices, once the interview questions are dealt with and if the artist has time available for that discussion.

4.1.2 Methods and fit to research design

A naturalistic approach is often concerned with a particular location (Gubriam and Holstein 1997) which guided my attempt to interview artists in their own working location as often as possible, either with both of us physically located there, or with the artist there and speaking with me on the phone or by VOIP. On any occasion that the artist asked for an alternative location for our interview, this was provided.

Several data-gathering methods were considered for use as methods for data collection in this study, including interviews, focus group work and online surveys. Upon consideration of the questions I wished to investigate, including the vulnerabilities raised by these questions (for example, it is likely that participants may be discussing things they don't know how to do; it is also possible that some artists may feel vulnerable when sharing the intimate daily workings of the studio with another person) and the desire to situate my interaction with participants in a naturalistic environment, it became clear that focus groups would not allow me to achieve those supportive and trust-building conditions for our discussions.

The face-to-face research encounter could have been conducted as participant observation or as a research interview. Bryman (2008, p. 466) has discussed the comparative advantages of qualitative interviewing and participant observation. For two main reasons it was clear that interviews were more appropriate than participant observation for this research.

Firstly, for participant observation to be of sufficient quality to produce reliable results I would have to spend a considerable length of time with each artist to observe their information retrieval, storage, use and reuse choices as they move between layers and between projects during their time at work. Even if I had had the resources to do this, those observable actions are largely constituted of sitting at the laptop / manipulating the phone, and as such are not distinguishable actions to the observer.

Secondly, few artists are likely to be consciously aware of information science issues and skills as discrete matters for attention. As such, qualitative interviewing is necessary to raise these topics for discussion and to focus attention upon them.

An observation-based approach as the central strategy for data gathering would need to involve setting structured tasks in order to answer the research questions. A more naturalistic approach was desired in order to better understand how artists usually go about their work and the value within those existing workflows of digital information, and to explore these ideas of practice in - as far as possible - the work setting of the participant, i.e. the studio, as far as that was practicable.

As for data-gathering by online survey, this was also rejected as a primary choice of tool because many of the questions were potentially asking participants about topics with which they were not previously familiar. It was likely that in order for participants to understand the questions and to give the questions a reasonably substantive and relevant response, it would be helpful to have the researcher available in real time to supply any required explanations, to encourage fuller information than is usually gathered by online survey, and - possibly most importantly - to foster an exchange of knowledge between researcher and participant rather than the process being a unidirectional process of the participant providing information to the researcher.

However, I created an online questionnaire using Qualtrics questionnaire-building software, following the flow of the interview instrument, in case a participant strongly preferred to respond to the interview questions in an online format, or in case a real-time in-person appointment proved impossible to make. The sense and flow of this presentation of the questions were checked by piloting with research colleagues, including those in the art school. As interviewing progressed, it was clear that some participants preferred to see the questions before our conversation, and the online

version of the interview questions became a useful tool for those participants, providing familiarity with the conversational territory before our in-person discussion. When participants used the online version of the interview questions before an in-person discussion, we then also talked through their responses in the interview situation and in some cases clarified their remarks.

For these reasons, it was apparent that individual interviewing – whether or not the online version of the questions was deployed - was the most appropriate method to build the kind of knowledge required in order to fully respond to the research questions. Specifically, using a semi-structured interview instrument was important in order to provide flexibility for artists to introduce their own terminology, categorisations and prioritisations.

It is worth emphasising that the online version of the interview questions was not used as the sole means of gathering any artist's interview responses and did not use a different version of the question set from the in-person question set. The question set was the same, regardless of delivery method, and the online delivery of them was only for the purposes specified above. Any questions on personal characteristics were in place only for the purpose of setting a rapport between participant and researcher, to flesh out each participant case for better memorability, and to start the conversational ball rolling. The focus of the study is entirely on the digital information-handling issues, and so analysis focused on those responses. Quantitative analysis of any responses was not attempted in this study.

Given that the underlying funding for this project is a Knowledge Exchange Scholarship to promote exchange of expertise between the visual arts profession in the UK and the research sector, and the research questions are concerned with artists' behaviour and choices, it is clear that naturalistic inquiry using qualitative methods was the most appropriate choice for achieving the aims of the study.

4.2 The data collection process: sampling

The primary decision regarding how to bound the sample was to focus on the UK as the "social space" (Bourdieu 1996, p. 124) within which cultural production is happening. This was driven by several practical factors:

- Government messaging and statistics on the creative industries are published at the UK level. This gives a useful contextual frame to further qualitative enquiry;
- DACS is the industry partner for this research and their remit is UK-wide, so in order to be as relevant as possible to their mission, a UK wide sample is most appropriate. In addition, the partnership with DACS allowed me to identify participants in a more systematic way, rather than having to rely on opportunistic means of participant recruitment;
- Fixing a geographical limit allows more chance of being able to resource the travel and accommodation needed in order to interview as many of the sample as possible in their own working locations.

Fitting this into the wider context, we note that in 2014, 28.9% of UK Creative Economy jobs were in London and a further 15.8% were in the wider area of the south-east of England. In comparison, the highest share for any other area or country in the UK area was an 8.3% share of total UK Creative Economy jobs (DCMS 2015, p. 9). The sample for this study has a similarly high level of representation of participants from south-east England to reflect these broader patterns.

The theoretical frame provided by Bourdieu's theory of cultural production provides us with a range of positions along two different axes within the field of cultural production, ranging from small-scale production to large-scale production, and within small-scale production ('avant-garde') from low symbolic capital ('bohemian') to high symbolic capital ('consecrated') (Bourdieu 1996, p. 124; Bourdieu 1983, p. 329). My first assumptions were that representatives of as many different positions on these scales

as possible should deliberately be included in the sample; that these positions were discernible by income attained by practice; and that level of income would be in relation to the level of fee claimed by the artist from the Payback scheme. It is only after a very helpful discussion of these points with the DACS staff member who managed the Payback membership database that it became clear things were not quite as simple as I had originally envisaged.

The nature of Payback payments, in brief, is this: the artist gathers information about occasions on which her work has been reproduced in media such as books, magazines and television programmes. Each year, DACS collects royalties from various copyright licensing agreements and distributes these proportionally to each artist with a valid claim who has submitted the required paperwork. Payments are calculated by DACS staff by assigning points to a particular instance of use, and the monetary value of one point is decided by dividing the total fund available by the total number of points accrued by all artists.

For many artists, the Payback payment is a significant financial help, even if the amount itself is not enormous. For example, in 2018, the median payment was £140 (DACS 2019). If an artist's work has been widely reproduced in the sources eligible for payment of royalties, it is clear that the sum will be larger - in 2018, the largest payout was £3,200 (DACS 2019). However, there is no correlation between the value given to the artist's work - for example, if sold on the art market - and the value allocated to each point. Theoretically, a painting which would not otherwise attract a high price at sale due to the various mysterious means of art pricing, could be coincidentally clearly in shot during a primetime TV documentary and thus become eligible for a royalty claim. (Whether these circumstances subsequently influence the pricing of that painting in the future is both possible and a separate discussion.) In addition, there is no direct correlation between the level of income accrued by the artist through their practice, and the level of payment likely to be claimed by that artist through Payback; an artist who

has successfully sold many works may indeed be in a position to claim a high number of royalty payments. Equally, a busy artist with many sales may be less likely to commit to the time and resource needed to compile evidence and complete paperwork for a claim. An artist on the higher end of the income scale may also view potential royalty payments on the scale likely from Payback as a relatively small amount of money, and thus not worth pursuing. These varied scenarios demonstrate that it is important to resist drawing conclusions about the overall monetary value of an artist's practice from their engagement with schemes like Payback and the level of fee awarded to a given artist.

Given this complex set of unmeasurable, confounding factors, and after discussion with the DACS staff member who administered the database, we agreed that a way to reasonably attempt a spread of varied levels of income was to divide that year's claimants into three wide ranges of income from Payback: low, medium and high. First, I asked the database manager to establish the highest payment for that claim year, £x, and as the lowest possible royalty payment for a valid claim is £25, we then had the full range (£x minus 25) of possible payment levels for the most recent Payback claim period. This range was then divided into thirds, giving us the 'low', 'medium' and 'high' ranges of payment. My research questions did not require me to know the relevant figures concerned; the important thing was to sort all visual artist Payback recipients for the previous period into these three broad categories, and then to recruit participants within each of those categories from the widest possible range of UK locations in order to attempt a reasonable mixture of both UK location and income. It was not disclosed to me which artists contacted by DACS were from which of the three Payback categories. A set of tables in Appendix 6 provides an overview of the artists who eventually responded to the invitation, in terms of their gender, age bracket, highest art qualification and length of time in practice, to give an overview of some of the sample group's collective characteristics.

4.3 Designing the interview instrument

The interview instrument (available in Appendix 3) was the central tool for carrying out semi-structured interviews with the artists who participated in this research. It was designed to address the research questions by breaking down the concepts raised by the them into a series of specific, answerable questions framed in language suitable for the artist participant. This is one of the ways where my own experience as an artist, and current position as a PhD student at an art school, gave me substantial insight into the terminology and verbal framing that was likely to be relevant to another artist who does not necessarily have an existing interest or expertise in information science, science and technology studies, digital curation, archival theory, etc. For example, when asking about the existence and nature of a digital preservation strategy for each artist, the questionnaire does not use those terms. First the questionnaire poses questions about the existence, extent and nature of digital objects (sometimes referred to as 'files' or 'digital stuff', depending on the term used by the participant) created and received by the artist, and then asks where these are stored, with unscripted follow-up questions used to find out the technical solution, whose choice that was and how confident the artist is about the efficacy of their arrangements. Subsequent questions cover the value attributed by the artist to these objects.

Putting together the answers to these questions can then provide insight into the extent to which an artist has a digital preservation strategy, in a way that that goes deeper than a response to the direct question, 'What is your digital preservation strategy?'; provides a more valid response because the answers to the various individual questions must validate each other in order for the artist's account to make sense; and helps support the understanding of any participant who is not already familiar with the meaning of concepts such as 'digital preservation'.

The interview instrument provides the framework for a substantial interview. I was able to complete it as a participant (my responses not included in the data analysis) in about half an hour, but most interviews took between 1.5 and 3 hours, with the longest one taking 5.5 hours. In total, around 140 hours of interview data were gathered.

4.3.1 Structure of questions

Questions were divided into the following sections, providing a flow of questions that builds from the general position or habitus of the participant to more a more detailed examination of daily tasks.

Interview section 1. 'Your work'

This section contained questions about the artist's usual artforms, whether their income is mostly from their practice or elsewhere, how long they have been in practice and whether they are the sole decision-maker in their making processes or whether they work as part of a partnership or group identity.

The purpose of these questions was to 'warm up' the recipient and get them as comfortable as possible with the researcher as an interlocutor. The questions of this section also helped contribute to the reliability of the research as they confirmed the identity of the artist, and my existing data about their work including main artform(s) and status as sole or partnership artist. The latter is useful here as some artists work under their own name and also make an alternative oeuvre under a second identity as part of a group or partnership. It is important to accurately understand the person responsible for key decision making because, whilst Howard Becker has shown (Becker 1998, 1982) the extent to which art making is a collaborative, multi-person activity, the person identifiable as *the* artist is the one under whose name the artwork appears. The further we go along Bourdieu's spectrum towards small-scale artistic production, the more likely it is through necessity for the artist to be responsible for a greater proportion of all activities including the decision-making with regard to digital

information issues. In order to answer my research questions, I must ensure I am talking to the person who actually makes the decisions on digital information and can tell me what influences those decisions.

A popular assumption about research into art making is that there are going to be clearly defined differentiations of practice between one artform and another. Additionally, the assumption is often that 1 artist = 1 artform.

My previous research on the performing arts (Molloy 2014) found that the majority of respondents work in more than one artform as a normal part of their practice. To a certain extent, an artist being described as squarely situated in one artform or another is often a retrospective process of categorisation performed in order to allow clarity in the marketing, promotion and description of artwork in exhibiting and selling processes. The artist's own perspective of the work is often subsumed in this categorisation process. It is usually only the artist (and her assistants or collaborators where relevant) who are intimately aware of the daily, lived processes that result in the visible or identifiable artworks that arise from any particular artist's practice.

This issue clarifies the importance of being able to examine the artist's work at both levels, i.e. at the level of the processes required for the production of one individual artwork, and also at the level of the overall practice - the ongoing professional activities that are referred to as a totality when an artist refers to their 'practice'.

In this context, 'practice' is this body of ongoing activities upon which the production of various specific outputs relies. In a given time period (for example, a financial year) there will be activities such as tax returns, reflection, networking, reading, learning technical skills or the use of a software package, or managing a website, which may not be specifically necessary for a given artwork being worked on at the time, but are

nevertheless essential for the overall practice of the artist and may - or may not - give rise to the production of specific, as-yet-unconceptualised artworks in the future.

As Michael (2015) makes clear, there is a large range of different activities that are essential to contemporary art practice(s):

> "The everyday work of artists includes maintaining a studio, attending exhibitions, and developing systems of peer support. This work consists of resource planning, project management, administration, travel, storage and archiving – all involving decisions about and through physical places, digital technologies, modes of transport, and arrangements of space. This is work that is highly mobile and blurs boundaries between workplaces, between home and work, and between the different roles enacted by different places."
>
> (Michael 2015, p. 4).

Regardless of artform, this holds true. Michael is an unusually informed observer about the realistic details of contemporary visual art making, having herself trained as an artist as well as having written a substantial ethnography of visual art studio practice (from which the above quote is taken).

Accordingly, where the interview instrument includes a question on artform, it is phrased specifically in order to identify the ways in which the artist views this issue:

> "What field, area or medium would you describe yourself as working in? E.g. printmaking, painting, sculpture, etc. (If you spend approximately equal amounts of time on more than one, please include all.)"
>
> (Interview instrument, question 1)

Section 1 also asks about length of time in practice, to provide general contextual information but also to situate the artist within the commonly used categorisations of ‘early career’ or ‘emerging’, ‘mid-career’ and ‘established’. This is only for the purpose of having a mixture of artists from these categories to ensure a range of experience is brought into the study.

The other questions in this section are about funding. The artist is not asked to provide any figures about their income as an individual. Rather, the focus is on the type of funding that sustains the artist’s creative work - for example, how they pay for materials, equipment and studio space. Artists are asked to specify whether there is one type of funding - e.g. private funds, commissions, public funding - that is the main source of financial support for their work. This is to get a sense of whether there is any noticeable differences in information strategies between artists with sustained funding and those without.

As discussed in chapter 2, part of the difficulty of ascertaining the size and profile of this profession are a number of factors including wildly varying levels of employment, the lack of taxable income and the varied strategies used by many artists for generating income, many of which include non-art roles that are not considered by the individual to be their profession. Given these sensitivities and complexities, this is another good reason to use interviewing individual artists as a data-gathering method, as this is a technique which is noted for its use in finding out about illegal, fringe or sensitive activities and identities. Not that art making is necessarily any of those, but that level of attention and focus is necessary to dig out with each individual the personal tensions held by each artist about the relationship between their art work and what they do for money. Sometimes these two things are the same; often there is not and there is potentially shame, discomfort or defiance at that fact.

Interview section 2. ‘Your training and education’

Questions about the artist’s educational background were placed in this section. The emphasis on *identification* is important: this is a participant-centred enquiry and so it is critical that all key definitions are produced by the participant, not imposed by the researcher. Also, it was important to phrase this in a way that suggested individual agency and choice, asking, “Would you describe yourself as primarily formally trained or self-taught?” (interview instrument, question 6) rather than, ‘Did you graduate from art school?’ Art making is a professional domain that famously lacks many objective and transparent markers of quality, either in process or outcome, and as such whether someone did or did not graduate from art school - and the cultural capital accrued by the status of being alumni of certain art schools - can take on a disproportionate importance to the assessment of the quality of a given artist’s work. It is also worth remembering that there are other ways to gain high-quality training than attending art school – and, as discussed earlier, an art school education is no guarantee that an artist has received high quality training in the skills needed for their work.

Here, as with all questions that provide a range of answering options, if a participant had stated that they required a further answering option then that would have been added, but all participants were able to choose from these two options satisfactorily. If the artist chose to identify as ‘formally trained’, follow-up questions were placed to find out where (institution/country), and how long (years) they trained, and the highest qualification they achieved as a result.

All artists are asked whether they have “received training on creating, managing or sharing digital files” and if so, the topics involved and where they received this training. This question is asked of all artists, accommodating the possibility of them having received this training during their formal art-school training or as continuous professional development (CPD)-style training after or instead of university education. This question was often the point in the interview where we disambiguated the skills on

creating, managing or sharing digital files from other digital skills such as the use of particular software. Many artists initially responded to this question by talking about learning how to use e.g. Adobe Photoshop or Microsoft Excel rather than software-agnostic digital curation and preservation skills. In this way, this question was a useful way to introduce specificity and clarification about the focus and scope of the rest of the interview.

Interview section 3. 'Your working processes'

This section delivers some of the most important questions of the interview. Here we move into a detailed discussion of the artist's daily activities based upon the concept of a UML-influenced style of workflow (Ball et al. 2012). The initial question in this section asks for a verbal and / or drawn narrative of a typical workflow. The notion of the 'typical' workflow is open to interpretation by each artist. If their work consistently proceeds along broadly similar lines, it should be a relatively straightforward (if not simple) task to describe this. However, if their work takes many different routes, they are free to choose whichever one they feel would be a useful example to demonstrate the activities and tasks that they consider important to their work.

To encourage the conversation at this point, a simple example framework - based upon the DCC Curation lifecycle model (Higgins 2008) and with feedback from pilot activities - is provided as follows:

- Conceptualisation
- Research
- Draft / trial / test
- Final version
- Share / disseminate / display / sell / license
- Promote

(Interview instrument, question 13)

This is primarily included in the interview instrument in order to guide the researcher's questions but can also be shared with the participant if it seems a useful aid to discussion.

Once this narrative is written or drawn out, the subsequent questions allowed us to focus in on those tasks and activities that are reliant upon the use of digital information. In a drawn narrative, we circled these in a different colour from the ink or pencil used to draw out the initial workflow. In a verbal narrative, we revisited the steps of the workflow and describe which of these steps are digital, non-digital, or both. This section ends with a follow-up question about the use of social media for work purposes, as this is a digital-dependent set of activities which has both high frequency in UK adult internet users (Statista 2019; OxIS 2013) and is also likely to be something that might not be considered part of the artist's practice but potentially underpins the communication and promotion activities of self-employed artists.

Questions in this section also encourage the specification of the ICTs used by artists for professional reasons, and the digital objects - including file types - produced and processed by these ICTs.

Interview section 4. 'Looking for / finding digital materials online'

This section addresses the first stage of the DCC Curation Lifecycle Model, 'Create / receive', checking first whether the participant does indeed search online for information or for digital objects to download. If so, the follow-up questions examine how this is achieved. Competence in these skills falls squarely into the realm of information literacy (see Glossary and chapter 1), which specifically includes the skills of knowing how to search for information effectively and appropriately, how to assess the quality and reliability of the information found or received, and how to reuse that information ethically. Part of learning these skills is the initial awareness that these

skills exist and that a Google search, for example, is just one option from many and does not return all possible online resources to the searcher.

Asking participants to specify how they go about digital information seeking and retrieval in a non-judgemental way is important for understanding the current level of awareness of information literacy skills in this community.

Follow-up questions in this section then establish the frequency of information search online, the value of this activity to the artist's work, their confidence in information search strategy choice and execution, and their level of interest in guidance or training for this skillset.

The self-assessment questions posed about each area of knowledge/skill in this interview are all phrased in terms of confidence rather than asking participants to rate their own competence level. This is in order to accommodate the full range of participants' potential skill levels. It is logical that those who fully understand the bounds and extent of a complex skill area, task or knowledge domain are much more likely to have a highly informed grasp of how much they know and how much they still have to learn. However, for those who are not familiar with the complexity and range of options in a skills area, they are unlikely to be able to accurately describe their relative competence "when the knowledge base falls short of the absolute" (Pawson et al. 2001). This challenge was likely to be exacerbated when many of the skills under discussion in the interview were potentially identifiable as 'invisible labour', which is to say that these tasks need to happen for the visible tasks to happen but may not be recognised as discrete skillsets in themselves (a concept which is discussed in detail in Chapter 7, 'Lack').

Bearing these challenges in mind, then, the questions in this section are deliberately designed to bring focus onto such activities as searching online for information, and to

connect these activities with a reflection on whether these activities bring value to the artist's work.

Interview section 5. 'Managing digital materials'

In this section, we progress onto the skills and activities that are related to the DCC Curation Lifecycle Model phases 'Select', 'Ingest', 'Preserve', and 'Store'. For clarity, digital object management was defined in non-technical language as:

> "... organising files, labelling files so they can be found again, choosing file formats for particular purposes, thinking about where and how to store files and whether to make back-up copies"
>
> (Interview instrument, question 32)

Questions addressed storage locations; whether back-ups are kept; the age of oldest file that the participant - to the best of their knowledge - still retains in a storage environment; the likely effect of loss of participants' digital objects, the self-assessment by participants of their digital object management skills and knowledge; and the appetite for guidance or training.

By tackling these topics, the questions foster an exchange of knowledge: I receive understanding about the strategies - whether deliberate or contingent - enacted by participants in their digital object handling, and participants are inevitably sensitised here, as by other sections, to the concerns of the research. In this case, this means that the discussion provides an opportunity for the participants to reflect on the range, number and locations of files that they believe they hold, to think about the tools they currently use for data storage and whether their current approach to making back-ups is sustainable; and whether they are confident that the choices they are currently making are appropriate to the importance of their stored digital objects.

Interview section 6. ‘Using digital resources’

In ‘Using digital resources’ we return to the theme of the value of digital objects that are retained by participants. Here, value is discussed in terms of the potential purposes that drive the retention of a digital object in the storage environment. This corresponds to the ‘Access, Use and Reuse’ phase of the Curation Lifecycle Model.

Artists are asked to discuss the purposes of the files that they currently retain, and are given a list of purposes from which to choose, including an option to add any more that are not already on the list.

- Keep for research purposes;
- Keep and disseminate as evidence for funders;
- Keep for personal reflection;
- Disseminate for commercial sale;
- Disseminate for promotional purposes;
- Other [specify]

(Interview instrument, question 34)

Again, this question can help to connect for the participant between the digital object handling decisions they are taking and the value of the digital objects that are being handled. There is no presumption in the question design that artists will necessarily report that they highly value their digital objects, or that they retain them for any purpose. There is a follow-up question on the value - in the very general terms of high, medium or low - in which the participant holds their most prized digital objects, which allows a discussion about the nature of those objects and establishes the high watermark of how important digital objects are to the participant. This question also contributes to internal validity by cross-reference with the earlier question 31, which asks about the likely effect of loss of participants’ digital objects.

Other questions in this section are concerned with copyright and IPR, which are positioned here as areas of knowledge necessary for informed, sustainable use (deployment of material created by oneself in the context for which it was originally created) and reuse (use of material created by another; or use of one's own material in an additional context) of digital objects.

Self-assessment of confidence about IPR and copyright knowledge in the context of use and in the context of reuse are both requested, and interest in guidance or training in matters relating to IPR and copyright is gauged.

Interview section 7. 'About you'

This section contains two meta-questions in order to support variety of sample. The first asks participants to state their age range; the range is divided into four broad sections as follows: '30 or under / 31 – 49 / 50 - 65 / 66+'.

The second question asks the participant to choose their gender identity from the following choices: 'Female / male / trans* / other (specify)'.

As with the design of the other questions, these have been phrased so that the participant offers definitions, rather than definitions being imposed by the researcher.

Interview section 8. 'General remarks'

This last section of the interview is a direct invitation to add any other points for inclusion, or to emphasise any of the foregoing discussion. I also ask if the participant is happy to be contacted again, and to suggest any other professional contacts who may be interested in participation. This last enquiry was formulated in order to provide a back-up set of contacts through this snowballing technique in case the required number of participants were not successfully recruited from the DACS database (a precaution which ultimately proved unnecessary).

4.4 Pilot activities

Before beginning the interview process, I held a workshop at the University of Oxford Ruskin School of Art with fellow DPhil students to trial my proposed methods, and got feedback on the direction of questioning, language and ideas that I proposed to use. The interviewing process began with three pilot interviews to assess the suitability of the question instrument and to check that artists understood and could work happily with the phrasing, terminology and complexity of the questions. These artists' responses were included in the dataset. Several months later I supplemented this piloting phase with another workshop[16] held at Kuvasto, a DACS partner organisation in Helsinki, Finland. Both of these pilot workshops were mostly focused on 1. the concept of a workflow and its comprehensibility / acceptability to artists; and 2. the use of drawing as a thinking tool and communication method within the interview situation.

4.5 Interviewing: situation

As discussed above, in section 4.1 'Methodology and methods', interviews were carried out face-to-face as far as possible. It was clear in practice that some participants would not have completed the question set had they not been encouraged and supported throughout the interview, which made in-person interviewing a suitable choice. In addition, the face-to-face encounter supports the use of visual materials and methods in the interview situation, and gave me sight of the existing information systems used by artists, which helped me to place what they were telling me into an appropriate context, including the respective importance of digital and non-digital information strategies.

[16] http://kuvasto.fi/2016/10/seminar-for-visual-artists-and-designers-show-me-the-money/

Figure 4.1. Artists' information systems: textile artist Joanna Kinnersly-Taylor's plan chest drawers containing drawn designs, with carefully-added metadata. Glasgow, Aug 2017.

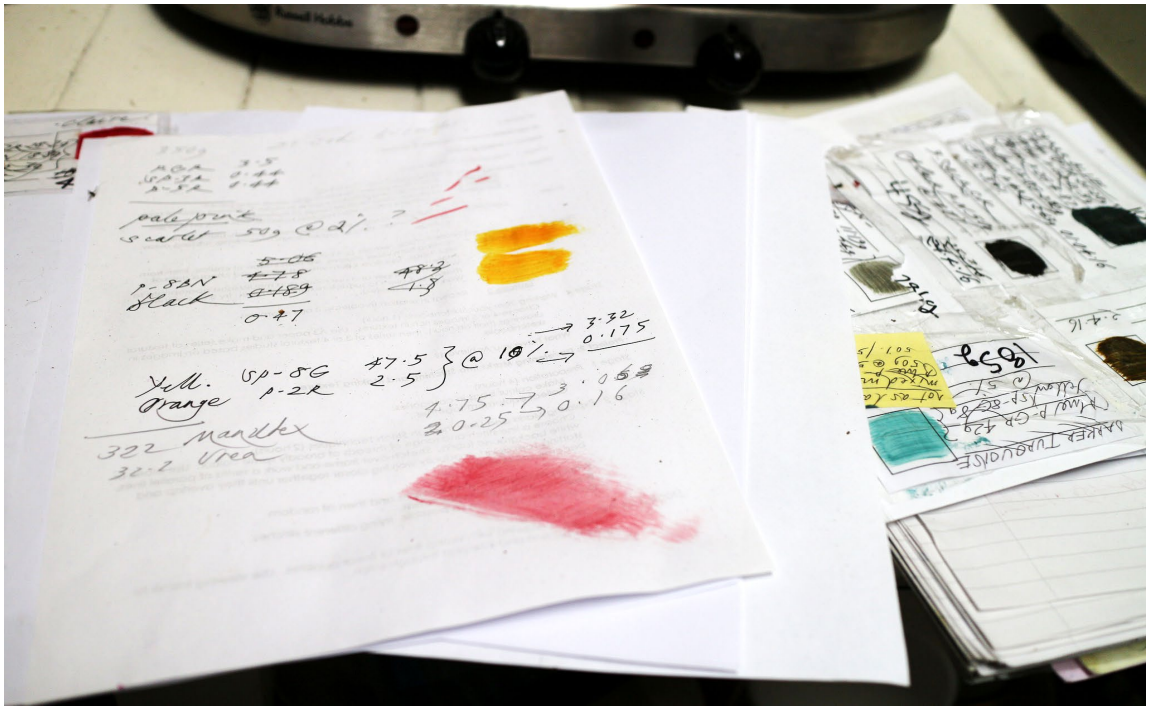

Figure 4.2. Artists' information systems: Joanna Kinnersly-Taylor's research data - written notes recording the results of chemical experiments in the dyeing process, including textual description, numerical calculations and colour samples. Glasgow, Aug 2017.

Figure 4.3. Artists' information systems: a carefully created filing system sits above PC and peripheral digital tools in Johannes Von Stumm's home office. Oxfordshire, June 2017.

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Figure 4.4. Artists' information systems: traces of Issy McEvoy's research process shows two ways to show a video. Printouts of visual data and handwritten key concepts are taped to the wall above a digital projector in the studio. London, May 2017.

Figure 4.5. Notebook and notebook. Analogue and digital drawing practices coexist in the studio of sculptor Joseph Ingleby. Glasgow, January 2017.

4.6 Interviewing: contact

Participants were contacted by DACS in a branded email including my contact details. Those who were interested were able to reply directly to this message to signify their interest to me. I then picked up the correspondence and arranged a suitable date, time and place with them, and agreed whether we could meet in person or whether another means of communication was preferred by the artist. In total, seventy-five artists were contacted, in two phases of invitation. Thirty-seven artists were eventually interviewed: twenty-one artists were interviewed in person, twenty of which were in their own workspaces and one in my home (at the request of the artist). Fifteen further interviews were carried out by telephone or VOIP services such as Skype. One further 'interview' was done by exchange of emails. Two of the interviews carried out were later found to be unusable. Thirty-three further artists were contacted but did not

respond, and another five responded with a refusal to participate. This gives a response rate of 56% and an acceptance rate of 49% of all those contacted.

Interviews were long and often arduous. Even when the participant was positive and interested in the work, the length of the interview was considerable with twenty-one key questions, some of which broke down into further sub-questions[17]. As the researcher, it was important to attempt to correctly read the level of positivity and confidence of the artist towards the topics of the interview, which often varied throughout the encounter. Many of the participants had experienced being interviewed before, but those earlier interviews had followed more traditional topics of enquiry, e.g. the conceptual aims and interests expressed through the art, or a high-level enquiry about process focusing on the art-specific making activities such as painting, weaving or construction of the visible output. Many artists expressed surprise at the areas of interest to the question instrument and were unsure why a researcher would be interested in e.g. whether they use email, whether they have arranged backups, or how old their oldest file was. With many participants who appeared comfortable and experienced with working digitally throughout their workflow, these questions were answered promptly and in a matter of fact way. In some other cases, however, the participant made a blanket statement of uninterest. For example, in one case, this occurred after a fairly detailed, engaged and interesting discussion of practices across digital and non-digital methods:

> "I'm not really interested in the technicalities of it. [...] I'm not really interested. It's a means to an end. I'm more interested in showing off my imagination – that's all I'm bothered about. Everybody to their own. The nice thing about the computer is that it caters for everybody. The idiots like me, and the bright people. The computer and programs and filing – I don't need everything that's

[17] The instrument contains a total of 46 questions including demographic, key and sub-questions. The sub-questions provided a choice of questioning routes, however, so no participant was ever posed the entire set of 46 questions.

> going. I'm keeping it simple. I don't think I know anything about it. It's become part of what I do but I'm not interested."
>
> (BG int 28/7/17)

In some other cases, the participant was perhaps also unused to such questions, but was more comfortable exploring the ideas introduced by the questionnaire. In this case, the artist positively connected this enquiry to a more holistic review of her art labour:

> "It's wonderful to talk to you. I've done artists' mentoring and I really appreciate talking over the work I've done. It's hugely linked with the economic plight of artists, and the economic regulating of the worth of artists. And questioning what you have to offer. I really appreciate this."
>
> (JW int 15/9/17)

As these quotes show, then, whilst all responses were valuable and valued, the personal attitudes and overall responses of participants were varied and unpredictable. Part of the emotional labour of the interviews for the researcher was to attempt to reassure and encourage each participant, and specifically to assure them that the interview was not a test with expected or correct answers, but an enquiry into the current (as opposed to ideal) practices deployed by the artist at the time of the interview, in order to understand art labour as it currently is, in detail. Some artists readily accepted this vision, but others - as can be seen from the first of the two quotes above - maintained a level of hostility to the idea of any digital tool use being a focus of enquiry rather than the conceptual or intellectual activities that are at play in their work. Noticing that this was one of the challenges of the interview process, I began to offer to send the questions in advance as well as more frequently using the Qualtrics questionnaire in advance in order to prepare the participant for the focus of questions.

When participants did not use either of those resources in advance, resistant or sceptical responses were more likely in the interview.

4.7 Ethics and consent

Once the participant had committed to the interview appointment, I sent through a consent form (available in Appendix 4) that we spent the first few minutes of the interview appointment discussing, so that the participant was aware of the agreement they were making and the choices they had about their participation. This form is based upon the format and wording of an existing Oxford Internet Institute consent form, with the wording revised to fit the current project. The form was not completed until after the interview was completed, however, in order to ensure that the participant knew exactly what they had said and so that they could make a fully informed decision about the level of anonymity they desired.

The main decision for each participant to make was regarding the level of restriction they preferred for their contributions. The choices were as follows:

Please **choose one** of these four options on any restrictions you would like to place on the information you provide:

☐None: You may be identified and quoted in reports about this research

☐Minimum: While you do not request anonymity, any part of the interview may be off the record at your request

☐Medium: You will not be personally identified, but we may identify your project or organization

☐Maximum: Complete anonymity for yourself and your project or organization

One artist chose ‘medium’, two further artists chose ‘minimum’ and the remainder chose ‘none’.

Most artists were specifically keen on being mentioned by name in the reporting of the work, taking the view that as artists, they were keen to be publicly credited with their

contribution to any sort of project. This view is an important point to take on board, if we are to truly understand and respect the experience of artists as professionals who are often uncredited and unpaid for their labour[18].

4.8 Use of visual methods

Key concepts in the current thesis have been developed through visual means, specifically drawing. The redrafting process in these drawings is a method brought into this work from my studio practice, giving me space to think, experiment and refine on the page in a way that writing does not, and honours the ways in which artists think, experiment and refine in the studio. As Richard Sennett has emphasised,

> "The tactile, the relational, and the incomplete are physical experiences that occur in the act of drawing. Drawing stands for a larger range of experiences, such as the way of writing that embraces editing and rewriting, or of playing music to explore again and again the puzzling qualities of a particular chord. The difficult and the incomplete should be positive events in our understanding; they should stimulate us as simulation and facile manipulation of complete objects cannot."
>
> (Sennett 2014, p. 44)

Drawing also took place during the pilot workshops, pilot interviews and some of the remaining interviews. Drawing is one of the practices that unites the two epistemological domains of this study, and is part of a range of thinking, research and communication practices in both art making and academic research.

[18] As part of my commitment to validity, I shared material where I had named or quoted an artist with that artist at the end of the writing-up process. The most critical feedback I received in return was that I had not included as many quotes from them as they had hoped! This is an interesting example of how assumptions around ethics and consent in qualitative research do not always cater for all participant communities.

Visual materials such as photography and drawings, as well as the actions or methods used to create them, can offer much to social science or humanities research. The use of visual materials has been long-established in humanities scholarship; for example, much of art history, visual art critical theoretical work and performance studies necessarily relies upon visual imagery, including 2D visual art and visual documentation of non-2D forms, as the data upon which enquiry is based.

Becker (2004) has argued that there is methodological flexibility in the use of visual media in the social sciences, but it is clear that the use of visual materials such as drawings and photographs is an increasingly popular strategy for creating and communicating knowledge in social science research. To a certain extent this growing acceptance of the visual image as an integral part of the research workflow has been enshrined by its incorporation into the functionality of popular qualitative research analysis software, including NVivo and Atlas.ti.

In addition, it is a particularly appropriate method of information sharing when conducting research within a professional sector such as the contemporary visual art sector that, after all, relies upon visual methods to research, organise, and present artwork. Following Gherardi (2008), when “knowledge is conceived as a mundane activity, situated in ongoing working and organizing practices, then we need a methodology appropriate to the observation of knowing in practice”.

The use of drawing as a form of elicitation in research interviews builds on a relatively long-standing set of strategies for the use of visual materials in research interviews: for example, the use of photographs in social and education research. As Bagnoli (2009) argues, following Eisner (2008), “not all knowledge is reducible to language” and as such the insistence on language-based methods of knowledge exchange such as verbal and textual methods as the only means of communication may limit the utility of

the research interview - particularly when working with a participant community that is by definition highly visually literate, such as that of visual artists.

When working on research with such a community, then, who are often already comfortable with drawing as a visual communication strategy, the use of drawing as an elicitation method alongside verbal communication provides an appropriate set of methods of knowledge exchange in the interview encounter, and one which is likely to support fuller rendering of high quality information exchange between participant and researcher. Drawing in the conversational / knowledge exchange setting can be a "transformation of individual perceptions into social communication" (Riley 2008).

Further, drawing can - like writing - *create* knowledge. Rosenberg (2008) expresses this idea as "ideational" drawings, defined thus:

> "When I talk of ideational drawings I am considering types of drawing and […] drawing processes where one thinks with and through drawing to make discoveries […] Ideational drawing is a process […]: thinking-in-action and action-as-thinking […]; as an act it is raw thinking and as artefact is something that is instrumental in the thinking process. In ideational drawing, physical and mental processes are linked isomorphically and crimped together." (Rosenburg 2008, p. 109).

Rosenburg's argument is grounded in the use of ideational drawing in the design domain where it functions - as process and artefact - in the creation of new knowledge and in communication practices. As such, this concept is ripe for repositioning in the research process, providing a powerful and appropriate discovery and communication tool in the interview setting.

It is worth noting the discovery element of the interviewing in this study. As discussed in section 4.3, the nature of the interview questions is such that the participants are often considering issues that they have never consciously reflected upon before, and so on many occasions the interview provides evidence of discovery by the participant of their own opinions (as well as, naturally, the discovery of the participant's point of view by the researcher).

The value of this approach was also explicitly recognised by some participants. During his interview, participant and university professor Ergin Çavuşoğlu was keen to support the validity of drawing as a way of conveying information between researcher and participant, and referred to 'I Swear I Saw This: Drawings in Fieldwork Notebooks, Namely My Own' by Michael Taussig when discussing the importance of drawing as a means of information recording in the process of academic research. The publisher's text for Taussig's book says: 'I Swear I Saw This' exhibits [anthropologist Michael] Taussig's characteristic verve and intellectual audacity, here combined with a revelatory sense of intimacy. He writes, "drawing is thus a depicting, a hauling, an unraveling, and being impelled toward something or somebody" (University of Chicago Press 2011, para. 3). Certainly, the drawing of the art making workflow at the heart of these interviews was a process of clarifying and unravelling the thoughts of the participant, often in real time.

Chris Biddlecombe agreed about the appropriateness of drawn methods in the interview, considering it appropriate to the point of necessity when attempting to convey the value of the research to the art community:

> "Nice. Stick to your guns. I mean, if this is going to be read by artists, why aren't you communicating parts of this in a visual way?"
>
> (CB int 8/8/17)

4.8.1 Drawing in the interview situation: RAID modelling

In embracing the use of drawing in both my own writing and as a means of elicitation in the interview situation, I was encouraged by the development of the Research Activity Information Development (RAID) modelling method to identify the points in creative workflows where digital objects appear[19]. Visually and conceptually influenced by Universal Modelling Language (UML) approaches, the RAID modelling method was developed both as a reflective tool for researchers to better building their understanding of their own workflows and the place of digital objects therein, and to better communicate this understanding to others including project partners and infrastructure providers. A further ambition of RAID modelling was to use a systematic notation to extend and enrich the Digital Curation Lifecycle Model with details of stages of digital objects in research workflows before the moment of ingest into a repository environment (Ball et al 2012). In this way, it offers value to those keen to better structure their understanding of the pre-ingest phases (or the non-ingest reality of those working outside the institutional context) of digital object creation and management.

The RAID modelling technique is probably usually carried out by the use of computer-aided drawing/design (CAD) or other drawing software, but after inspecting the papers describing this method it was clear to me that it could equally be carried out by hand drawing. Indeed, it is the depth of reflection and fullness of information gathering that makes this a worthwhile process - both qualities that are encouraged by hand drawing rather than CAD use (Sennett 2014, p. 40). This hunch was confirmed when, during pilot runs of the interview, a participant began to draw out a stage of his making process without being prompted to do so. Certainly, the participants in the Kuvasto and the Ruskin workshops during the pilot phase seemed to be comfortable with the

[19] and data object identification: as well as RAID, see chapter 2 of 'Managing and Sharing Research Data', 1st edition, for material on Chuck Humphrey's 'e-science' research cycle, and the gaps that demarcate the danger points for data loss.

idea of drawing out a workflow along the basic principles of this visualisation technique, as discussed in the section ‘Pilot Activities’, above.

The Data Management Terminology (DMT) (Darlington 2011) underpins the RAID modelling approach and in particular helped me to think about the different potential types of value of a digital object, namely its value in its originating project, its value in a known further project and its value in an unknown further project. Whilst these options were not specifically asked of participants in the interview situation for the current study, this ontology of value supported my thinking in developing the section of questions, ‘Using Digital Resources’ (see section 4.3 above) that asks about the different potential types of value of the digital objects retained by participants; options here were crafted to include art-appropriate examples of the DMT categories of ‘data use’, ‘data re-use’ and ‘supporting data re-use’.

In practice, I provided a high-level explanation of the UML approach as deployed by RAID modelling, showed my own attempt to draw an example workflow from my practice (see Figure 4.6) and supported workshop/interview participants in the creation of their own drawn workflows. As the interviews progressed, two issues arose: firstly, it became clear that the time required to fully follow this process was significant, and in many cases was in excess of the time for which I could reasonably ask the artist. Secondly, the offer of drawing in the interview situation had to be made tactfully particularly with artists with dyslexia. Seven artists of the thirty-seven interviewed volunteered the information that they were dyslexic and a further two said that whilst they themselves were not dyslexic, many or most of their art world peers were.

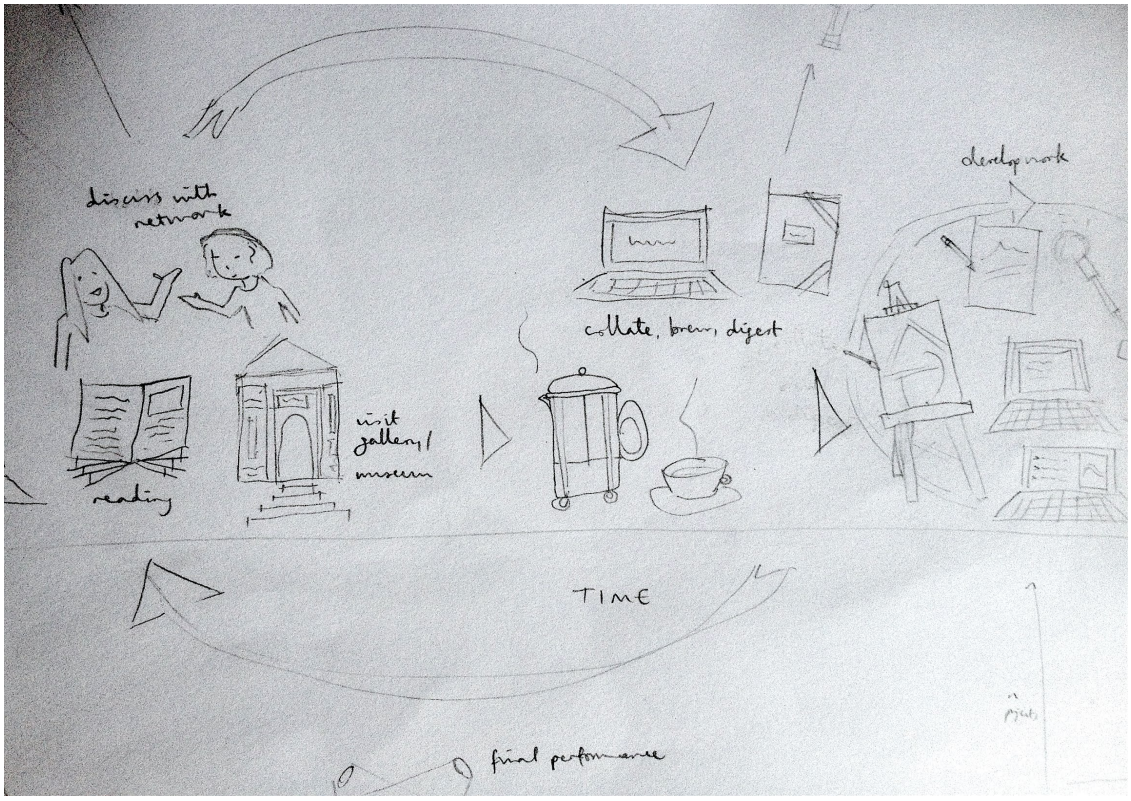


Figure 4.6. A detail of my example hand-drawn workflow, based on the RAID modelling approach. This was shared with workshop and interview participants as an example of how to go about drawing out their own workflows. The digital elements of the workflow have not yet been marked.

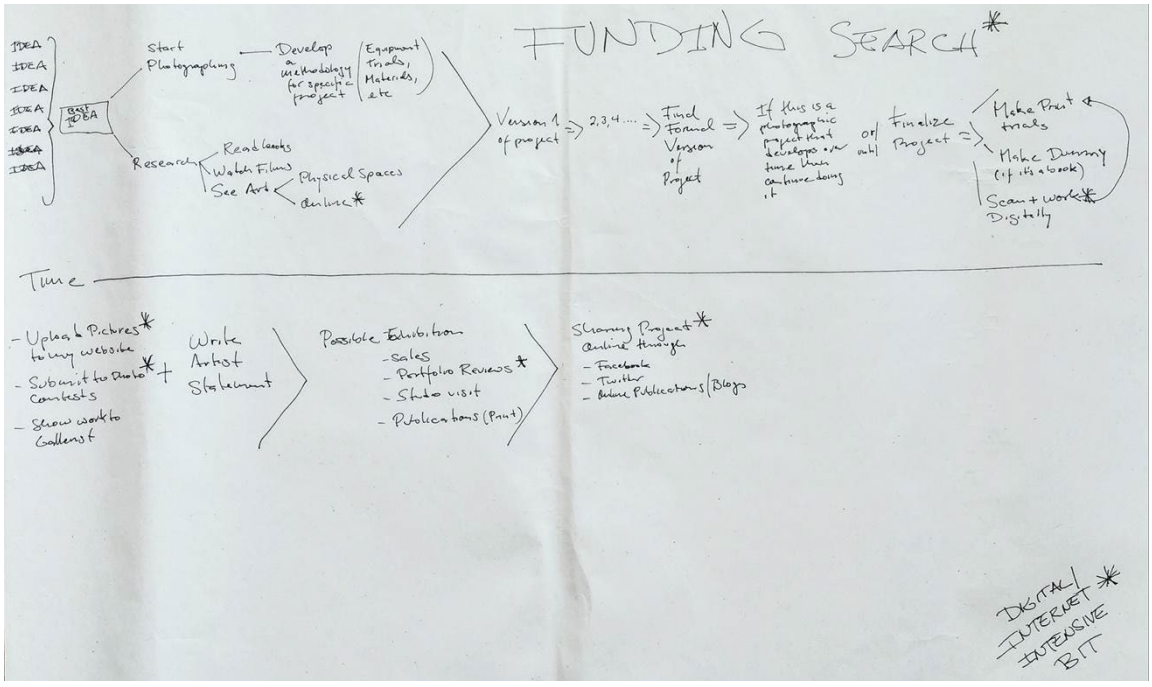


Figure 4.7. An example hand-drawn workflow, based on the RAID modelling approach made by a workshop participant. Here, the digital elements of the workflow have been marked with an asterisk.

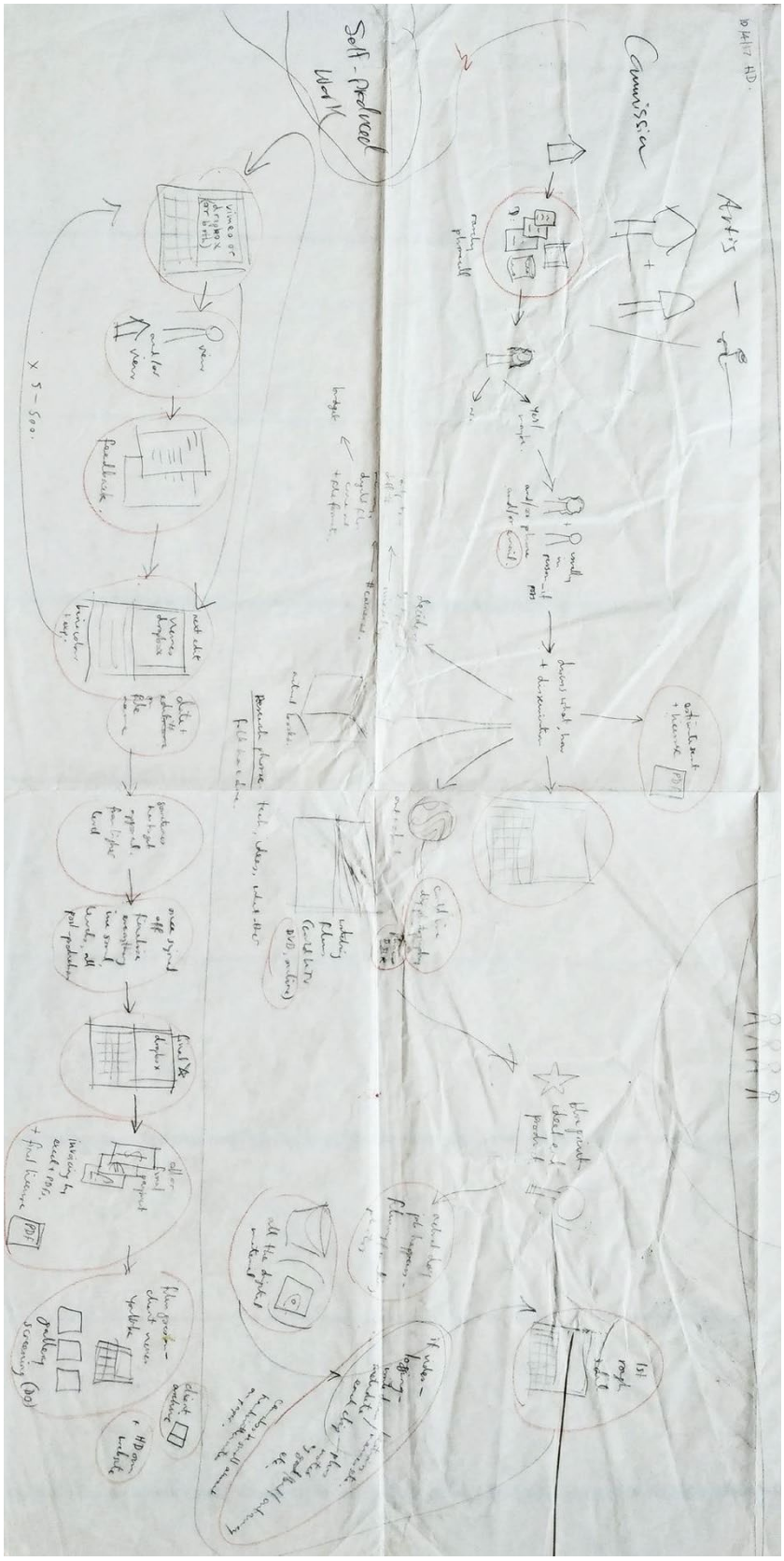
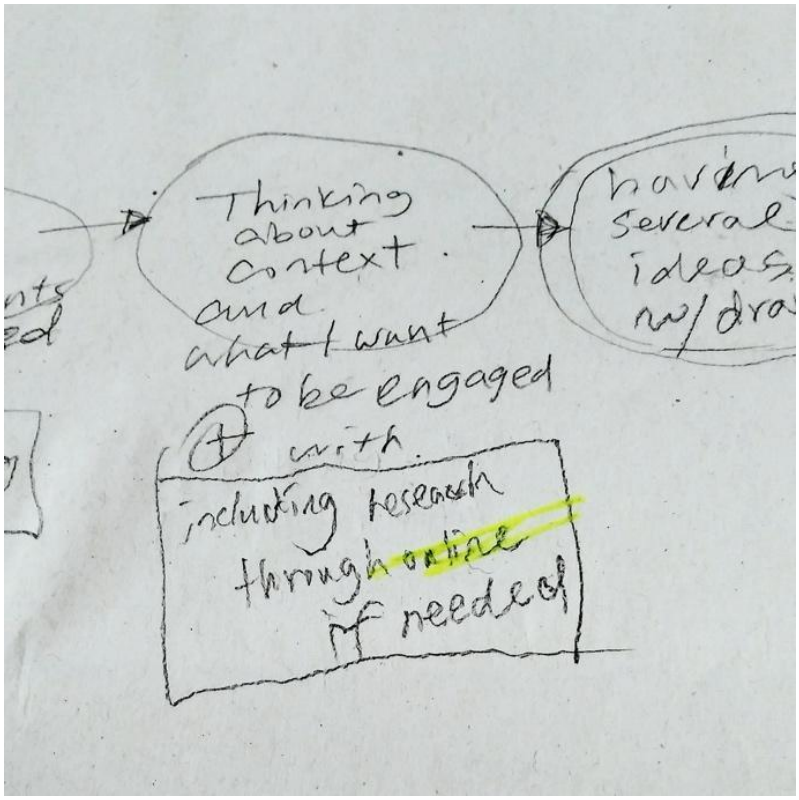


Figure 4.8. Hand-drawn workflow, based on the RAID modelling approach, made by an interview participant who conceptualises two types of workflow. Here, the digital elements of the workflow have been circled in red.



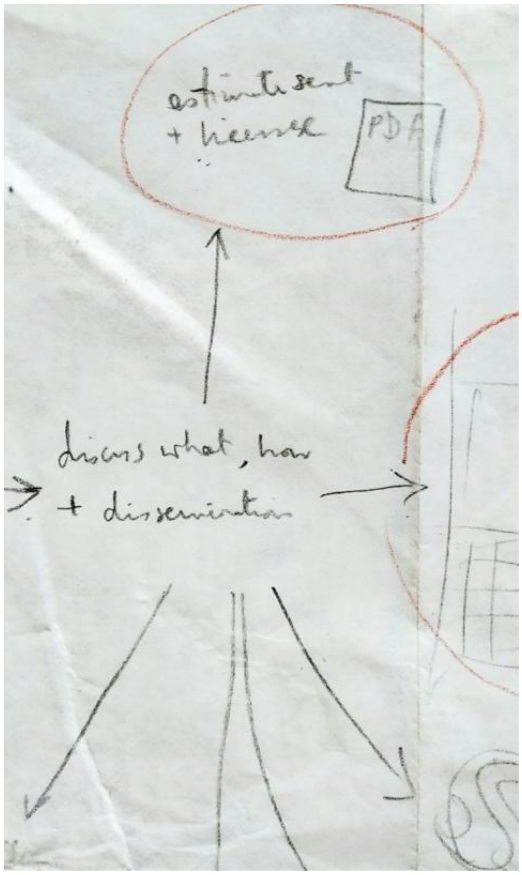
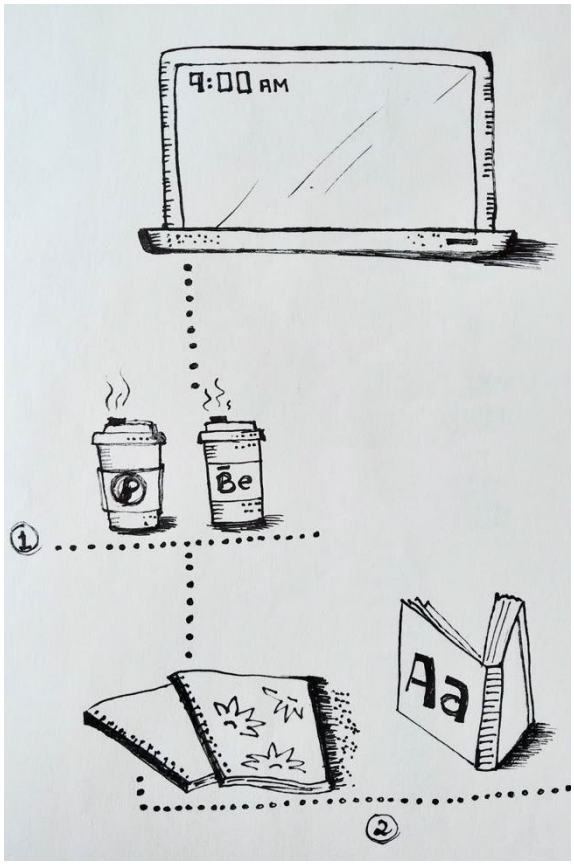


Figure 4.9. Two detail views of hand-drawn workflows, based on the RAID modelling approach made by a workshop participant. On the left, the digital elements of the workflow have been marked with yellow marker, and on the right (a detail of Figure 4.8) they are circled in red.



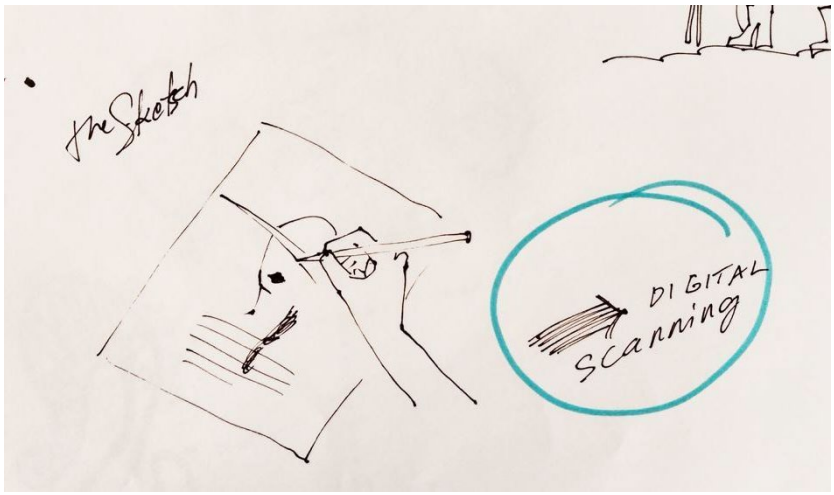


Figure 4.10. Two further detail views of hand-drawn workflows, showing how comfortable some participants were in employing their visual language, producing some beautiful details. The digital elements of the lower example were circled in blue.

Dyslexia occurs in this sample of artists at a significantly higher rate (around 1 in 5 people) than in the general population (around 1 in 10 people in the UK) (NHS 2018). In this context, then, it was important to ensure that drawing was being made available as an elicitation option to every participant and not as a sort of aid to ameliorate verbal

anxiety for dyslexic participants only. This point only became clear to me when one participant, who had volunteered their dyslexic status early in our conversation, then appeared to be offended when I later brought up the option of drawing out the workflow. Until that happened, it had not occurred to me that a participant might draw a connection between these two points; after that incident I was emphatic that drawing was routinely offered as an option to every participant.

4.9 Approach to data analysis

Data analysis began early in the interviewing phase. After I had conducted the first three interviews and had transcribed them into Word documents, I entered these into the NVivo qualitative data analysis environment. As further interviews were completed and transcripts were prepared, these were added. To avoid confusion, any responses that were received via the Qualtrics online questionnaire tool were retained in the Word document generated by Qualtrics and this document was the basis of the interview transcript; in other words I did not keep the Qualtrics responses in a separate document from the interview transcript for the same participant. This is because the Qualtrics responses were never intended to be standalone but rather in most cases to cover basic information that allowed the subsequent interview to be shorter.

4.9.1 First phase of coding

NVivo allowed me to enter the written transcript and begin the first phase of coding, *descriptive* coding (Richards 2015, p. 106). Descriptive information is entered about each record, connecting it to a 'case' - here, each artist was a separate case - and ensuring that each case had its descriptive information attached: gender identity; age bracket; personal name and family name (unless anonymity had been chosen); country in which artist is currently based; whether formally trained or self-taught; if formally trained: country in which training institution is located and the name of the training institution. These data points are similar to the approach that might be taken by quantitative approaches, but the numerical returns for each one, e.g. one gender

measured against another, are not key findings here. Rather, it is to enable searching across the qualitative data in each of the descriptive categories here - for example, whether there is an attitudinal shift between the responses of female and male artists to a particular question.

4.9.2 Second phase: Topic coding

The second round of coding is the *topic* coding phase (Richards 2015, p. 106). This was a time-consuming activity, partly due to the volume of data processed in this project. Each sentence of each transcript was read carefully and coded to a 'node' - the NVivo term for a keyword or code - that corresponded to the topic of the phrase. Figure 4.11 demonstrates an example of topic coding: the text I am using (which will be discussed later, in Chapter 6, section 6.1.2) is from the transcript of Susan Stockwell and I talking about how ideas and concepts flow into her work. Stockwell's statement is:

> "I read books. I read a book called 'The Gift' about societies and gift cultures and how that feeds into creativity. […] I can't remember who it's by. Let me Google it and tell you."
>
> (SS int 26/1/2017)

As shown in Figure 4.11, this has been topic coded to 'Books' because she's talking about using the knowledge she has gained from reading books in her work, 'Research activities' because reading books is one of her research activities, and 'Internet search strategies' because she used Google's search engine as her go-to information search tool, whilst we talked.

4.9.3 Third phase: analytical coding

In the third round of coding, *analytical* coding (Richards 2015, p. 106), I start to look across the ideas emerging from the topic coding. For example, I noticed that plenty of

participants discussed using the Internet to search for information. In topic coding, these discussions were coded to the following nodes:

- Internet search strategies (start with search engine; start by visiting specific website; both; other)
- Internet search importance (Likert item: extremely, very, moderately, slightly, not important)
- Internet search frequency (Likert item: multiple times per day; c. once per day; once or twice a week; once or twice a month; do not use; or additionally, 'varies from project to project')

What emerged from all of those discussions about their Internet use was that they had different views or ideas about the Internet. Over time, this resulted in a long list of analytical nodes relating to Internet use, as follows:

- Internet necessary for fundraising
- Internet as source for written/textual factual information (including academic literature)
- Internet as source of making resources
- Internet as source of inspiration
- Internet as source of sound resources, music
- Internet as source of images
- Internet for business services
- Internet as source of fun
- Internet as source of statistics, data
- Internet as source of film, video, moving image
- Internet and authenticity of information
- Internet and tribalism, silos of opinion

These are not necessarily spoken about directly or explicitly by participants. Rather, this type of coding results from the researcher “moving up from the data” (Richards 2015, p. 85) and towards building or confirming theory based on what the data contains. Here, the results of topic coding told me that artists use the Internet a lot - usually at least multiple times per week - although the status of Internet search, as with most information tasks, as an invisible type of task makes it likely that this was an understatement of Internet use frequency. Reading across the statements coded to the nodes related to Internet use allowed me to begin to build a theory that information retrieved from the Internet has different types of value in the perceptions of this community of users.

In this current example, the quote given above was additionally coded to ‘Internet as source of source of written/textual factual information’ – Susan wasn’t looking up what the cover looked like, but who had written the book.

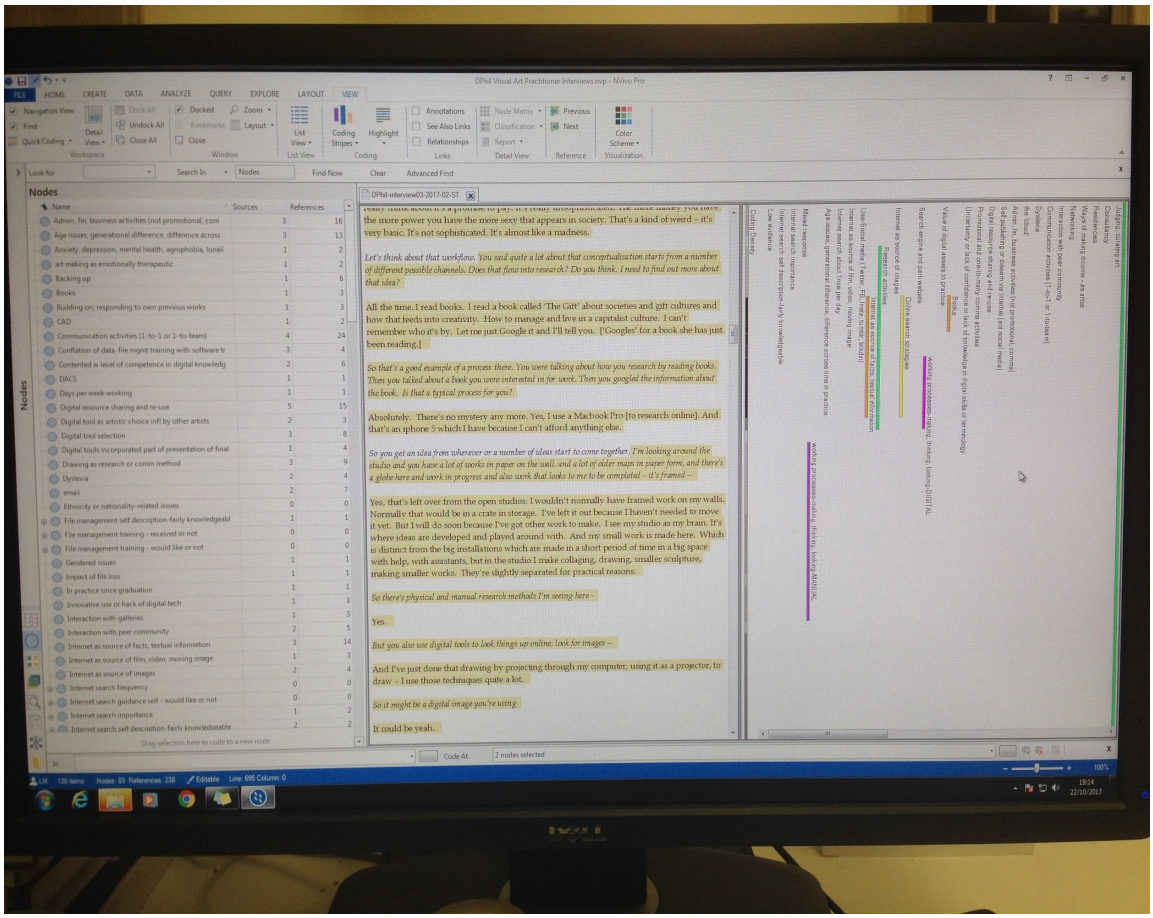


Figure 4.11: Screenshot of analysis work using NVivo software. The leftmost portion of the screen shows part of the codebook - this is the list of 'nodes' or words/phrases used; the central portion shows the text subjected to topic and analytical coding, with coded text highlighted in yellow; and the right hand side displays the analytical density of the text, with each coloured column denoting the coverage of a specific 'node' or keyword/phrase.

In this way, I asked participants to talk in a semi-structured way about the areas of interest to my study, I noted their comments throughout the interview (as well as my own, which I did not code), I worked up a fuller transcription from my notes, their Qualtrics responses where available, and my audio recording where available, and then I worked through the three levels of coding described here in order to start building theory which is relevant in the quest to answer my research questions. The existence of pre-built research questions means that this approach is not grounded theory per se (Charmaz and Belgrave 2007) but the importance of a practitioner-centred approach to definitions and response options is influenced by the grounded theory approach.

4.10 Reflections on methods and research quality

Some researchers (Mason 1996; Kirk and Miller 1986) argue that commonly-used definitions of reliability, validity and reproducibility are rooted in the use of quantitative methods deployed in the context of positivistic enquiry, and that qualitative work can be better assessed by other means. Golafshani (2003) has pointed to the variety of descriptions of what might constitute reliability and validity in qualitative research, and the range of scholars for whom issues of validity in qualitative research would be better addressed by attention to other concepts such as quality, rigour and trustworthiness. In this way, qualitative research can challenge the "widespread assumption that only quantitative data are ultimately valid, or of high quality" (Sechrest 1992) and set out an alternative range of ways in which qualitative work can be understood and valued.

4.10.1 Credibility, transferability, dependability and confirmability

Some scholars continue to use the terms ‘reliability’, ‘validity’ and ‘reproducibility’ in the context of qualitative research, but with emphasis on slightly different aspects of these qualities than are foregrounded in positivistic research. In sharper contrast to commonly-used criteria for research quality, the ‘evaluative criteria’ created by Lincoln and Guba (1985) map fairly successfully to the widely-used research quality criteria of reproducibility, validity and reliability:

- Credibility - confidence in the 'truth' of the findings;
- Transferability - showing that the findings have applicability in other contexts;
- Dependability - showing that the findings are consistent and could be repeated;
- Confirmability - a degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest.

(Lincoln and Guba 1985, quoted in Cohen and Crabtree 2006)

From these definitions, we see that ‘Credibility’ is related to what is often understood as internal validity; ‘Transferability’ maps to external validity; and ‘Dependability’ is related to reliability and reproducibility. Whilst ‘Confirmability’ sounds like it is related to reproducibility, I would argue it is in fact a more general principle of good research practice, namely that the researcher has at least attempted to be as objective as possible. Accounting for bias and in doing so attempting to mitigate its effects are critical skills in any type of research but is more frequently explicitly narrated in qualitative methods.

4.10.2 Promoting credibility, transferability, dependability and confirmability

Steps were taken throughout the research design to promote credibility, transferability, dependability and confirmability.

4.10.2.1 Credibility

To show confidence in the 'truth' of the findings is related to the idea of internal validity. Internal validity - whether the observations are really of the phenomena that the research claims to study - can often be successfully addressed in qualitative work which involves substantial time periods spent with subjects, and which allows a clearer understanding of phenomena to emerge from the participant group.

Specifically, some qualitative studies are concerned with observing and listening to participants as they define certain phenomena, rather than imposing a set of definitions which have been formed in advance by the researcher - in this way, a richer understanding of the relationships between observations and theories can be achieved. This was one of the driving factors in the research design for the current study, whereby participants were encouraged to offer their own definitions and add or emphasise themes or questions in which they were interested.

Richards (2015) also suggests a couple of steps to support validity in qualitative work: triangulation, and member checking. Both were deployed: firstly, triangulation was built into the question instrument. Questions on key points were revisited in the question instrument using a different phrasing, in order to ensure the participant had understood and given a full and complete answer on the topic. For example, the response to question 14, "Considering this workflow, please identify the tasks that use digital technology" can be compared with the answer to question 17, "Are there any apps, social media sites or interactive websites you regularly use for professional purposes? For example, Instagram, Facebook, Twitter, Flickr, Soundcloud, Pinterest, Tumblr, etc." Clearly, if the participant has given a complete response to question 14, they will have already covered the material in question 17.

Another example is question 37, which asks participants to specify the value - in the very general terms of high, medium or low - that they attribute to their most prized

digital objects. This allows a discussion about the nature of those objects and establishes the high watermark of how important digital objects are to the participant. This question also contributes to internal validity by cross-reference with the earlier question 33, which asks about the likely effect of loss of participants' digital objects.

This practice of triangulation can also attend to reliability / dependability because it can help us check the consistency of the responses we gain from any individual interview subject, and hence the dependability of the data.

Secondly, using member checking, members of the participant group were asked, at the end of the writing period, to read through material where they were either directly quoted or I had written about them referring to them by name. Participants were also invited to provide feedback on a set of recommendations for artists, art advocacy organisations, trainers and funders which had emerged from the interviewing work. As Richards notes, a straight agreement with both interview notes and with conclusions reached or theory built does not necessarily provide straightforward validation. However, it is worthwhile in order to continue the conversation with participants over time and also to check the general mood and tone of the responses. In practice, the main challenge with member checking is getting a timely response from the artist – a number of participants were asked more than once for their comments without success, and several others were keen for me to proceed with whatever material I had, as the idea of checking through a transcript seemed onerous. However, many others gave encouraging confirmation that they were happy with the material and considered it valid.

4.10.2.2 Transferability

With qualitative interviewing, it is useful to aim for 'transferability' in the resulting data. Holloway (1997) suggests this may be achieved by 'thick description', meaning "the detailed account of field experiences in which the researcher makes explicit the

patterns of cultural and social relationships and puts them in context" (Holloway 1997, quoted in Cohen and Crabtree 2006). The importance we place on transferability must be balanced with what can reasonably be achieved when working in a naturalistic way, where there is little to no control over external circumstances.

The naturalistic approach acknowledges the effect of place and personal dynamics - or in Bourdieusian terms, field and habitus - on the resulting data. My role as the researcher was closely tied to my experience both as a practising artist with studio experience, and my experience as an information science researcher with training and advocacy experience. I drew substantially on both of those epistemologies in order to carry out the communication tasks - specifically the interviewing - in this research. To *replicate* the study (following the definitions presented by Drummond 2009) would be pretty challenging. I have an unusual combination of investigative practices (as I understand both my research and art work), and my explanations of the specific interdisciplinary nature of this current study (i.e. art + information science + social science) is usually met with surprise. To *replicate* my approach, habitus, questioning strategy, nonverbal cues, choice of terminology, decision-making in analysis, etc. would be a complicated task, even if I myself were to attempt it again.

My experience of undertaking this research is that one of the key sets of required tasks was around gaining the trust of artists and building a rapport with each participant. This was for two main reasons: firstly, it was necessary in order to convince participants that the research truly aimed to be essentially supportive and advocating for sustainability of practice without any preconditions or judgements, rather than critical or conditional in support - an attitude which is rare for an artist to experience, as I know from my own work. Secondly, labour was required to take information science concepts and translate them into language finely attuned to each participant, particularly with a view to making them relevant to contemporary visual art practice. This was critical to the success of creating high quality, reliable data. Most artists are

curious about the unknown (although a few are defensive) and this level of curiosity about these generally invisible tasks - and the idea that they could be important, and could be performed to a higher or lower level of quality - provided fertile ground for most of the interviews. My reciprocal curiosity about their process, their struggles and triumphs and their experience of their own working processes - not only what they did but how they felt about it - seemed to be experienced by many artists as a welcome (and occasionally moving) reaction. All of these tasks depend on fine adjustments made in the interview situation and expressed through facial expression, tone of voice, body language, vocabulary choice, verbal cues and encouragement. Considering the complexity of this labour, then, it is clear that to replicate the research in its entirety would be very challenging.

However, to *reproduce* the study should be possible. Different artists could be approached - or indeed the same artists at a later point (as they are listed in Appendix 5). The sampling strategy has been explained. The question instrument is available for re-use, and even contains notes for a hypothetical other researcher. My approach to coding has been unpacked. The consent form is provided. Anyone of reasonable intelligence can, if they choose, learn the basics of information literacy, digital curation and preservation, and research data management from a review of the literature I have discussed, and time to experience labour patterns in various types of artist's studio can be arranged. For researchers with more time to spend, artists could be observed more over the course of several days or weeks (as done by Michael 2015) and/or set information tasks that would address the same questions. Coding is possibly the biggest challenge to reproducibility. The codebook for this research is available in Appendix 7 - this can provide a basic definition of each of the nodes deployed, and the parent/child relations between the nodes.

Another aspect of transferability is the level to which the findings or outputs of the research could be applicable in other geographic contexts. This is not a claim I attempt

to make for the work as the bounding of the field is specifically the UK. However, this does not mean that the results would not be similar in other contexts, specifically other developed economies given the similarities with some core concepts of the study's focus, such as the rate of Internet use, ownership by individuals of ICTs, participation of women in workplaces beyond the home, size of the cultural heritage sector in relation to population, etc.

4.10.2.3 Dependability

Question design can contribute to reliability and dependability; specifically, greater description in the form of verbal labelling of numbered response options has, for some questions in social attitude surveying at least, been associated with higher reliability (Alwin and Krosnick 1991) and lower reliability has been associated with older respondents, and those respondents with lower levels of education. If this is the case more broadly, there are grounds for taking into account some means of providing extra support during the interview process for such participants – for example, providing the subject with specific opportunities to indicate whether they understand the question in an interview situation, and providing sufficient verbal labelling of numbered response options in a survey instrument. I would argue in addition that qualitative research instruments can sometimes over-restrict the available response options in question instruments, for ease of analysis. Running a small pilot study with an initial version of the interview instrument, specifically one which allows subjects to define their own response categories, can act as a test of the appropriateness of the range of possible answers to each question in cases where the instrument design does not allow a free response.

Accordingly, in the current study I promoted reliability by undertaking a small pilot phase to develop the response categories; using a consistent question set for each participant; providing verbal labelling of all response options whether in person or on the telephone, regularly checking in with the participant that they understood the

question including any terminology used, and ensuring that participants were aware that they did not have to choose between the listed response options given if their preferred response was something else.

4.10.2.4 Confirmability

Confirmability is the degree to which study findings are as far as possible the product of disinterested inquiry rather than the product of bias. This can be partly judged via inspection of the audit trail, that is to say the documentation made available that shows the steps taken and the reasons for those decisions. As with thick description, discussed above, this is part of the transparency of the research process and is the justification for the detailed description here of the research process including sample selection, interviewing process and analysis approaches.

Reflexive activities are also useful for supporting confirmability as they can help clarify the biases of the researcher. Given my specific positioning (as discussed above in section 4.10.2.2, 'Transferability') it is clear that one of the major biases of my own position is that as a working artist, I inevitably take a defensive position towards artists and art making. I feel a sense of connection with my participants, to a greater or lesser extent, as my fellow artists and am honest with them about my participation in their profession which may lead to a different set of answers or a different degree of detail in their interview responses than if I had represented myself as a non-artist researcher coming to look at art making from an external perspective. My lived experience indicates forcefully to me that artists are often facing multiple systematic challenges to sustaining their practice with few notable exceptions. Again, from lived experience I am familiar with the current curricula in a number of highly-rated art schools and am aware that the range of information skills with which I am familiar from information science are not yet part of those curricula. This anxiety about the state of artists' training and support in an increasingly digitally-dependent world is one of the main

biases of which I have had to remain mindful throughout designing and carrying out this study.

Ultimately, however, the confirmability of the current study is most clearly assured by the context within which it is being carried out. The thesis process at University of Oxford involves a series of set, formal milestones which require a range of disinterested examiners to read and discuss the work in detail on multiple occasions throughout the planning, data-gathering and writing processes. Due to the interdisciplinary nature of this project, there is a lack of a pool of examiners who are working in exactly the same area as me, and as such the methods must be reasonable to experienced, high-quality researchers, often from different global regions, who are working in varied fields. This, perhaps, is about as rigorous as confirmability testing gets for most research projects.

Chapter 5: Findings and Analysis – Value: The Value Model

"The first task of the revaluation of value is to uncouple value from quantification. Value must be recognised for what it is: irreducibly qualitative."

Massumi, B. (2018). *99 Theses on the Revaluation of Value: A Postcapitalist Manifesto*

Value is a multidimensional concept in contemporary visual art working practices. As discussed in chapter 3, an analysis of the field of cultural production is based upon the movement of value conceptualised as symbolic capital and economic capital generated by creative work (Bourdieu 1983). This finds concrete form in contemporary art practice in the UK. Progressing from the macro to the micro level of analysis, we find firstly the symbolic value ascribed to the arts by UK national government in official communiqués, and echoed by contextualising statements in art sector research, policy and advocacy. This stands alongside the economic value of the cultural heritage sector to the national economy, as conceptualised by the presence of the field of cultural production within the designated social space, e.g. a given nation. Within that resides the economic value of the visual art sector. These broad conceptualisations of value frame the mass of individual practices generating – or struggling to generate – cultural and economic value.

Utilising the concept of practices as a set or "block" of activities, routines, shared knowledge and embodied experiences (Reckwitz, 2002, p. 249), we advance further to this micro level of analysis of individual artists' working practices. In examining artists' relationships with digital information use, we find potential value expressed in five significant ways:

1. The value of workflow analysis in contemporary visual art. Includes an innovative analytical approach of artist-level and practice-level analysis of art workflows;
2. The value of ICTs and digital information to artists' conceptualisation and research practices, both at practice-level and project-level;
3. The value of ICTs and digital objects as the basis of communication and collaboration activities;
4. The value of digital objects held by participants;
5. The value of digital object handling skills.

The first of these potential value propositions is both the most novel contribution of this work and underpins the other four value propositions. As such, this chapter will unpack the first of these in detail. Once this foundation is established, the other four will build on that foundation in the following chapter, 'Value – Value in Practice'.

5.1 The value of workflow analysis in contemporary visual art

One of the main motivations of this research and goals of the interview process was to understand the workflow for each artist at a detailed, realistic, and practical level. Artists made decisions in the interview situation about how best to describe their workflow: the choice of labels, the level of granularity (e.g. is 'make a webpage about the project' one action or a number of actions?), the order of steps or phases in the workflow, and whether the workflow was ultimately linear or circular, for example, were all defined by the artist during the interview. These decision points generally came up when the artist was asked to talk through "the typical processes for making the kind of work you most often make" (Interview instrument, question 13).

Participants regularly combined discussion of tasks and activities associated with individual projects with those required by their work as an artist but not necessarily

related to one specific project. In other words, artists described their workflows *at both project-level and at practice-level*. Artists also often mentioned activities and tasks that they undertook *as artists,* that is to say work that they would not have been engaged for, or had the skills for, had they not already been experienced in art working skills. Participants also mentioned activities or tasks required by their roles beyond being an artist (e.g. as citizen, as family member, as non-art employee). This was usually in relation to discussing things that limited their time or focus on art, and/or were necessary to earn income. Through these conversations it was clear that each artist has a sense of whether they are undertaking a given task or engaging in a particular activity for the sake of a project, for their practice, or as an artist beyond the bounds of their practice. We also identified a consistent set of resources that is required for art work to happen, all of which in turn need particular capital types in order to be accrued and mobilised.

5.1.1 Similarity / difference across an art practice

Some artists were clear that the projects on which they worked were fairly similar to each other in terms of workflow. The description of their workflow was often achieved by the artist volunteering to discuss one or two recent projects which - the artist suggested - would serve as a fair example of the range of projects in their practice. Video artist and animator Issy McEvoy described her projects as “Quite similar. There’ll be some kind of - shall I take my latest project as an example?” (IM int 12/5/17). Installation artist Susan Stockwell, slightly taken aback by the wide-ranging set of topics that would be required to be unpacked in response to my request to somehow describe her practice, plumped for discussing recent work in order to frame our discussion: “Gosh. OK, I’ll talk about two recent shows I was in.” (SS int 26/1/17).

Other artists were comfortable with the idea of a common process or “flow” throughout their practice, which necessarily differed to some extent with each project, but which retained a palpable sense of similarity from one project to the next, whilst not being

exactly the same in practical execution and always with the possibility of variance. Film-maker, painter and Professor of Contemporary Art, Ergin Çavuşoğlu experiences this connection through his practice: “There’s definitely a flow, but it depends on the work” (EC int 12/5/17). On further reflection, Susan Stockwell agreed with this view. “There is a line that goes through. It’s not a straight line, but there’s some kind of connection or thread” (SS int 26/1/17).

Simon Pope currently works in “participatory, relational” forms. He has reflected independently on his art workflow, which is partly influenced by his long experience as a programmer and new media artist. “Recent projects have definitely used the same sort of process. I’ve consciously tried to find a process that enables me to make the kind of work I want to make. I’m really aware as I say this that I know the less speculative sort of approaches from my days working in software, and it’s predictable with a start point, and there’s usually sign-off points throughout” (SP int 25/7/17).

The idea of a common flow between projects was extended by some artists into the idea that each of their projects may differ in terms of workflow, but that each project lays down the basis of the next. Carali McCall’s work – which involves performance and drawing - builds in this way. “I guess every project is a bit different. I’m very linear on my process. One work is the basis for the following work. It’s about finding what was interesting about the last piece of work and finding what I should do next” (CM int 8/6/17).

Other artists preferred to talk about individual projects and to discuss a workflow at that more modular level of analysis on the basis that there was more than one type of project within their practice - for example, self-initiated versus commissioned projects, or sculpture work for galleries versus public art sculpture. Sculptor Martin Smith was clear that for him “there are different processes. There are a number of factors” (MS int 6/6/17). There is a clearer conceptualisation of project types for Hydar Dewachi: in his

practice, the key differences arise between self-produced work and commissioned work – an idea that clarified for him as we drew out his workflow together. Realising that he wanted to draw two versions of his workflow, Dewachi explained, "So I've either got a commission or – let's call it self-produced work. So this is my kind of work, the self-produced, is my idea. I do it all and this is my whole project. And the commission is when somebody is saying, 'We want you to work on this' […] Self-produced [work] is a different beast [from commissioned work]" (HD int 10/4/17).

On some occasions, the artist indicated that they would need to describe different workflows for different projects, but then on further reflection concluded that those workflows were actually broadly similar overall. This was the case with sculptor Joseph Ingleby, who began, "I could talk about most often made gallery work, or most often made public artwork." After reflecting for a moment, he added, "The creative end is not dissimilar actually" (JI int 18/1/17).

5.1.2 Understanding dynamics between activities / tasks, motivations and resources: analytical model for art work

This mixture of approaches prompted reflection on how to understand the relationship between individual projects and an artist's practice. It became clear that artists' daily activities fall into one of three fields:

1. art work activities that are performed as part of a project, either commissioned or self-initiated;
2. art work activities that are performed as part of the practice but not exclusively related to a particular project within the practice;
3. art work activities that are performed outwith the practice.

This taxonomy allows the creation of an analytical model, which is presented visually in Figure 5.1 (dynamic view) and 5.2 (plan view) to clarify the relationship between the

fields of practice and their underpinning resources, which in Bourdieusian terms can be understood as constituting capital – whether economic, social or symbolic – accrued by the artist. The term 'field' is chosen here because, following Bourdieu, it can be argued that in each case, the artist is striving for a distinct sort of capital, or type of value, in carrying out their activities.

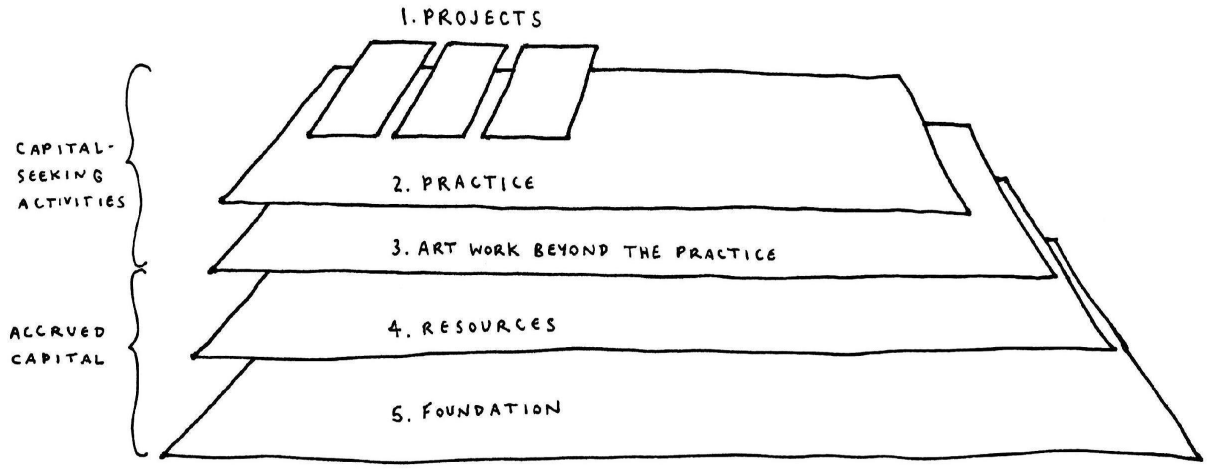


Figure 5.1: Artists' work analytical model: Dynamic view. A larger view is available in Appendix 1.

These figures show an analysis of the key tasks and skills that were important to the artists participating in this study. The model proposes four layers with each layer receiving support from the layer(s) beneath. Each layer makes possible those layers further up the stack. The dynamic view is provided to clearly demonstrate the dependencies between the layers, and the plan view is provided to give clarity on the detail of each layer. The plan view also reinforces the degree of visibility of each layer to the onlooker: projects are the part of what artists do that is most visible to others and each lower layer is less visible to the outsider.

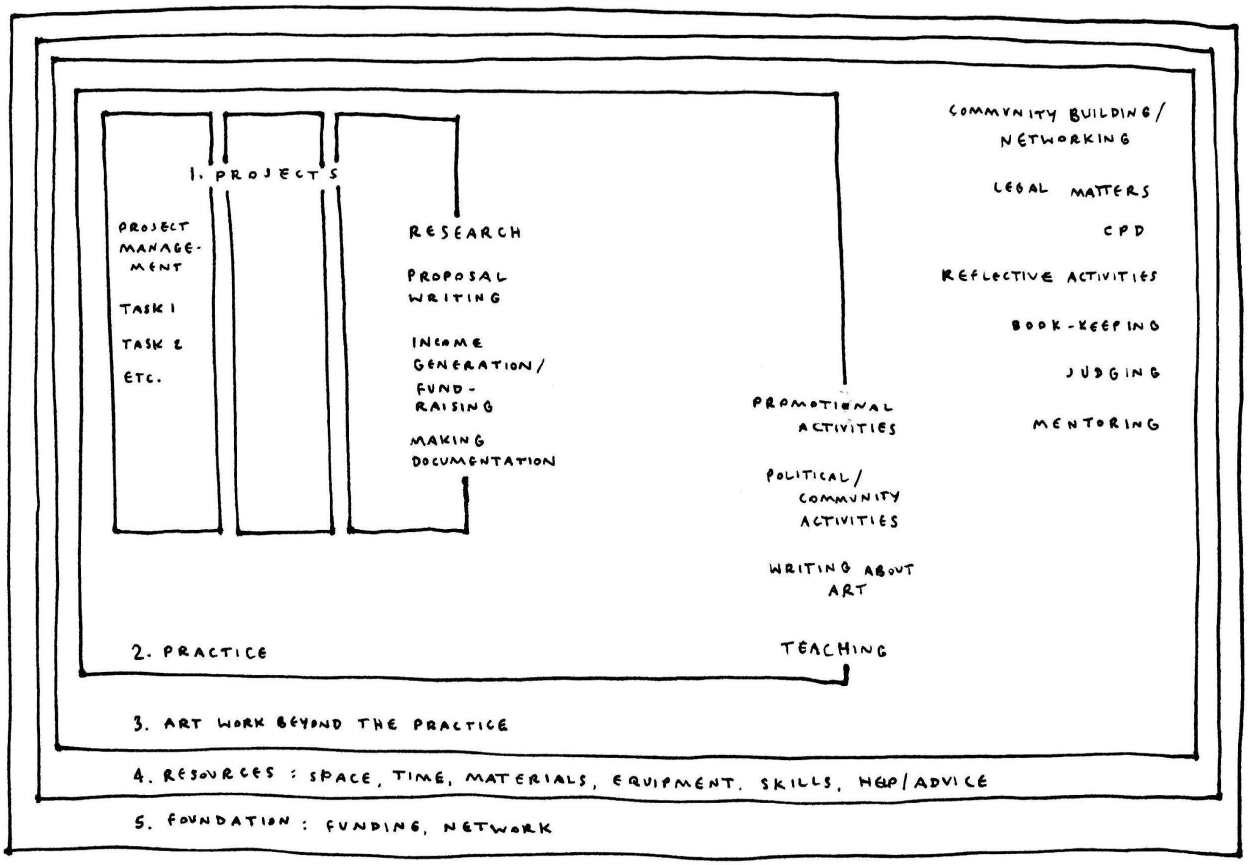


Figure 5.2: Artists' work analytical model: Plan view, showing frequently-occurring everyday art tasks and their relationship to the layers of the model. A larger view is available in Appendix 2.

5.2 Workflow analysis model: Top layer - Projects

The top layer consists of the projects with which the artist is engaged and the tasks required by those projects. This layer of activity represents the activities that are most visible to others, constituting the discrete projects or outputs for which an artist may be known, and / or from which they may make money by sale of the output. The model acknowledges that at any given moment an artist may have more than one project in hand.

they are the only person aware that the work is underway, and when the outcome may be shown completed or uncompleted; shown online on the artist's own website with no formal or public launch; or not shown at all. Such projects are common in many artists' workflows, being motivated by personal curiosity, or the desire to bring a research strand to fruition in some way that is not necessarily for wider consumption. Such projects can sometimes feed into other more public pieces of work; they can all be understood as reflective activities which comprise review and consideration of the artist's own earlier works as well as trial explorations of responses to these works which quickly shades into project-related research activities. Additionally, projects do not have to be supported by a funder: self-funding of projects is commonplace in contemporary art work.

The capital types sought in this field are economic, through sales where those are sought and through the capital accrued by winning a commission, residency or other paying gig; and cultural, through establishing a name as an artist with a particular aesthetic, audience and/or sales profile. Achievement of these may possibly lead to accrual of symbolic capital - in the case of, for example, being represented by a prestigious gallery or being elected as a member of a powerful professional body such as the Royal Academy; and social capital - entering social and professional circles as a result of professional success as an artist, and gaining prestigious clients on the basis of one's name, which in turn is likely to stimulate further economic and cultural capital.

5.3 Workflow analysis model: Second layer - Practice

Moving visually down the layers of the model, the second layer is the artist's practice. The Practice layer sits underneath the Projects layer, supporting it and making it possible. An artist's practice is their ongoing engagement with their art work, which extends through periods of productivity and inactivity; through professional success and its lack; through full time, part time and no time in the studio. The Practice layer includes the tasks and activities that are recurrent and ongoing for the artist, and which

are understood by the artist to constitute part of their practice. These tasks are often directly related to projects but as tasks that generate or underpin projects rather than constituting the work of a given project.

Examples of tasks in this layer include research activities; proposal writing; income generation and fundraising; and documentation activities. These are tasks that make it possible for the artist to undertake specific projects and are to a certain extent interlinked.

Teaching is another task that can – but does not always - appear in the Practice layer (hence its positioning on a boundary line within the model). Some artists teach art as well as make it. Many artists who teach do so on an intermittent, part-time basis and experience it as an activity beyond their practice, which is taken on for financial reasons, although in some cases it can stimulate the practice as an external influence. In contrast, fine art film-maker and painter, Ergin Çavuşoğlu, provides an exception to the usual part-time engagement with teaching. During our interview in his Soho production space (as opposed to his university office), he promptly identified as an academic as well as an artist, and reflected that the two roles were "very much" related:

> "I'm a professor of contemporary art so I teach what I do as an artist. … It links back to the notion that my work is idea-driven rather than medium-driven. I've always seen art as a scholarly activity. Being involved in an educational environment is part of my practice."
>
> (EC int 12/5/17)

Simon Pope also sees his teaching as part of his art work:

> "The [art] work is funded day to day by any profit I make out of any of the projects. I also get money from teaching [art]. I do PhD supervision for the

> Transart Institute and MFA supervision for OCAD University in Toronto and I've got a postdoc at Goldsmiths so that'll fund the next year. Before that I was a reader in fine arts. I see my teaching as totally part of my practice."
>
> (SP int 25/7/17)

Teaching, when it is *not* experienced as part of the practice, is discussed further in 'Art Work Beyond the Practice', below.

5.3.1 Example of art work at Practice level: Writing proposals

The projects that comprise the top layer of artists' work (i.e. layer 1: 'Projects', in the analysis model above) must be conceptualised (and, often, funded) in order to exist. Sometimes these projects are self-initiated and conceptualised by the artist. Sometimes they are conceptualised or initialized by a commissioning body such as a company or local authority. Many artists tend to work mostly on one or the other of those types of project but most retain a mixture of self-initiated and commissioned work. For many artists the balance moves from a majority of self-initiated work to a majority of commissioned work as their career gains a higher profile; not all artists are unmixedly content with this trajectory[20]. Both types of project require the writing of proposals to funders in order to receive financial support to bring a work to fruition, unless the artist is in the fortunate position of being able to self-fund their self-initiated (sometimes referred to as 'personal') projects. When proposals are accepted (or in the case of some self-initiated work, when the resources have been mustered one way or another), a project is initiated and the labour becomes a level 1, 'Project' layer activity.

A proposal usually details in writing and images how the artist would carry out the project and the resources required to do so. The proposal also usually attempts to make the case that the artist is the right choice to undertake a given project by offering

[20] For a specific example, see BBC (2015) for Tracey Emin's account of her daily work and how her balance of activities has changed over her career.

documentary evidence of past work, which demonstrates the style, quality and reception of previous projects. An artist's statement that encapsulates the aims of their practice, and a CV detailing previous art work experience, are often also requested.

The writing of proposals is a useful example of Practice-level activity as it is a particularly ubiquitous activity that demonstrates the hidden complexity of this routine task, the variety of approaches that can be taken, and its relationship to other activities across the Practice layer. It also demonstrates clearly the extent to which the creation, retrieval, and sharing of digital objects emerges as an embedded set of practices within contemporary art work, with a direct relationship to the sustainability of an artist's practice.

Proposal writing occupies a significant amount of focus and time for many artists, and given the competition for funding, many proposals are ultimately unsuccessful. It appears that proposal writing - despite its difficulties and the high chance of failure - is an example of one element of "a routinized type of behaviour which consists of several elements, interconnected to one other ..." (Reckwitz 2002, p. 249) - in other words, it is part of an artist's practice as well as a part of practice in the sense of practice theory: it is something that artists often do ('routinized … behaviour'), expect to be obliged to do, and are aware of other artists doing, whether they like the process or not. Like the crit, it is a specialised activity that forms one of the characteristic markers of the profession. In short, proposal writing is understood by artists as something that needs to be done regularly by almost every artist in order to generate work.

Conceptual artist Guyan Porter admits, "I do [fundraising and proposal writing] but I hate that side. […] I have to do them *like everyone else*. I do try and get other people involved in that side of things wherever possible" (GP int 5/5/17, emphasis added by author).

Sculptor Chris Biddlecombe agrees that proposal writing is simply part of a series of routine activities that are necessary to kick-start a project:

> "Yeah, once you feel you have a focus, and you have an idea that can be put together in a proposal paper of some form, then obviously that would be a time to look at how that is physically going to manifest itself, the cost of how that would be physically created, and then looking at potential funders, and putting the proposals together."
>
> (CB int 8/8/17)

Some artists find creativity and maturation of their ideas through the process of preparing a proposal. Live and installation artist Kathryn Cooper describes how proposal writing allows her to work through her initial ideas in a personal, reflexive process.

> "You'd see the advert online then spend a bit of time, usually in a Word document, hashing out the themes, what I'd like to do. That is me talking to myself thinking about what I'm interested in and how it fits into the brief. […] A very business like, 'Will that work?' [way of writing], almost free-associating. Then writing a more formal proposal"
>
> (KC int 16/8/17).

Simon Pope agrees that even when there is more than one opportunity potentially available, it is still a valuable period for letting ideas develop. "There's usually a phase [at the start of the workflow] where there's a scattershot approach with five or six proposals on the go. This is a thinking phase: imagining, inventing, something like that" (SP int 25/7/17).

The process can also develop from building a dialogue through exchanging writing with other potential project partners as part of the preparation of a funding proposal. This is a strategy that Simon uses to engage potential partners in the ideas of the project, explicitly identifying this work as part of his practice.

> "Proposals are written usually as a letter to somebody. That's part of my practice now. I write letters full of ideas; theoretical ideas plus some practical suggestions, and suggesting partners to work with to make the project happen. These are participatory projects that will require funding and institutional support in order to get the funding. They are letters that might be written to participants who would be taking part in the actual work, letters to institutional partners, and then a process of applying for funding."
>
> (SP int 25/7/17)

Not everyone is as enthusiastically engaged with the proposal process. In some cases, particularly with artists who have been in practice for many years, the effort will only be taken to submit proposals for selected types of project or funder. Alexander Hamilton has been "fully engaged" with his practice since 1974. He is prepared to submit proposals for specific advertised commissions, but not to the open calls issued by bodies dispersing public funding, such as the arts councils or charitable trusts. This is largely due to the increase he has observed in the unfunded labour required, and in the level of formality and complexity of the proposal process.

> "Going back twenty years or so, it was people [who wanted to commission an artist] contacting me, saying, 'I've seen your work – will you apply?' [but] there's greater transparency now. […] You [as the artist] have to put in an application. There is usually a series of quite gruelling interviews before you get it. […] I don't waste time now applying to Creative Scotland or Leverhulme or wherever. It takes a lot of time and a lot of effort, and the same with public art …"

(AH int 7/8/17)

This shift over time in the commissioning process has evolved simultaneously with the expectation for proposal documents and their accompanying documentation to be delivered in digital form. Over the last forty years, Hamilton has seen the proposal process being required more often, and becoming more reliant upon the use of digital information and communication technologies (ICTs); both of these shifts feel to him as though the proposal writing process obliges him to move further away from time spent in nature, which is his long-standing motivation to make art: "You have to be careful – you could spend a lot of time [preparing proposals]. You might not get the commission ... it's not worth it" (AH int 7/8/17).

This is not, however, to claim that the expectation of documentation alongside a written proposal is a recent phenomenon. Most commissioning bodies are interested in the work previously created by the artist, and so proposal writing has long been expected to include documentation of previous work. In this discussion, I use 'documentation' to mean the evidence of earlier work most commonly communicated in a proposal by the inclusion of digital images, where the work is a physical object such as a painting, sculpture or installation[21]. Where the work's original form is digital - such as in the case of digital film, digital audio or Internet art - the artist will most commonly host this online and provide access to either the full work or a sample for the purposes of review by the commissioning body.

The preparation of either of these types of evidence requires the use of ICTs to create and to dispatch the documentation photography or recording, or the digital work itself. The preparation of good quality documentation that effectively communicates the salient features of the artwork to curators, funders and the public is a discrete skillset

[21] In comparison with the work of, e.g. Tim Gorichanaz on the artwork's semiotic potential itself as a form of documentation of its originating context (Gorichanaz, 2017).

that is considered to be important within the art world. Many artists either attend training specifically to learn these skills, or hire peers or other professionals with these skills specifically to create documentation of the required quality. But however documentation of work is achieved, it is clear that it is considered part of the artist's practice.

The creation of both documentation and proposal texts is now almost entirely done digitally – that is to say, by the use of a text-editing program such as Microsoft Word to create a digital document, or the typing of text into an online form hosted by the commissioning body. But even given the ubiquity of these activities, they are sometimes not at the top of the list of things artists wish to discuss. The painter Lucy Stopford listed a number of programs she used daily in her art work, but had not mentioned Word. I specifically asked whether or not she used it. "Yeah, a bit. That's a good question. For things like a proposal and other long pieces of writing." Later, Stopford discusses the "essential" importance of email to her practice, including for proposal work (LS int 10/5/17). Similarly, installation artist Liz West also specifically mentions Word as the tool she uses for the creation of proposal documents: "It's a Word document that I save as a PDF sent through WeTransfer" (LW int 29/9/17). The value of digital communication technologies including the use of WeTransfer and similar services is discussed further in chapter 6.

The proposal process is frequently conducted via the completion of online forms on a dedicated website. Textile artist Jennifer Shellard and painter Judith Bromley both report that an online form, hosted by the commissioning body, is the location for creating and submitting the digital text of proposals. Shellard describes her current project as requiring "quite a lot of paperwork in the application … I was involved in having to submit photographs, artist's statement, CV, a conceptual statement. It's all online, via web page forms, and uploading digital images" (JS int 4/9/17). Bromley agrees that online forms are to be routinely expected when applying for funding.

As Shellard's example illustrates, the making of documentation is regularly done by digital means. Digital photographs constitute a large proportion of the kinds of digital objects currently held in storage by artists, and their role as evidence for funders and commissioning bodies endows these digital objects with particular value in the eyes of artists. The value of digital objects as self-managed resources is discussed further in chapter 6.

Liz West confirms the time-consuming and complex nature of preparing proposals. "It can take months [to go through the proposal-writing process]. Sometimes the document is thirty pages long. Each time there's a document sent, there might be concept, design, completion. They're the main three elements" (LW int 29/9/17). Carali McCall backs up this view: "I have a project at [a major London art school] that has taken two years so far including negotiating fees, getting the proposal in, networking, communication and so on" (CM int 8/6/17). Alexander Hamilton laments the lack of support for artists during the long process of proposal preparation. "Whereas in the old days … if you have to put something together, they'd say, 'We'll give you £500 just to help with the pain of it.' Whereas nowadays they say, 'Can you put together this mega document, and by the way we're not going to pay you anything?' And you still may not get the gig" (AH int 7/8/17).

This detailed account of proposal creation procedures is necessary to do justice to the complex and time-consuming nature of the activity and the way it also requires the execution of a complex set of other activities in order to be completed. In this way, proposal writing functions as a useful example of the extent of the labour performed by artists at the Practice level, which is not usually visible to or acknowledged by anyone outside the studio, and – possibly accordingly – constitutes a significant amount of the unfunded labour involved in work as an artist.

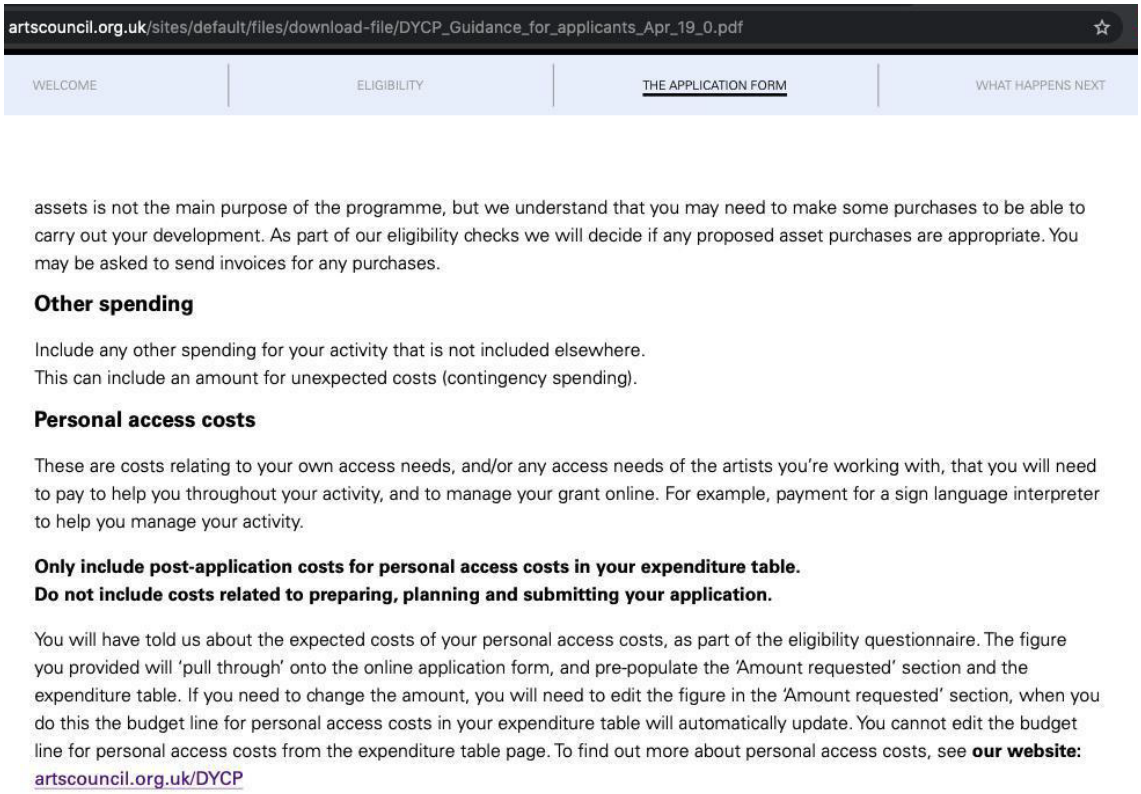


Figure 5.3: Arts Council England webpage containing stipulation against inclusion of any "costs related to preparing, planning and submitting" of applications. This applies even for artists who need specialist help with access, e.g. disability support such as interpretation (Arts Council England 2018).

On the occasions when proposal writing is ultimately successful, it results in access to the resources required to produce a particular project. Proposal writing is linked to research activities in more than one way – as discussed further below, research is often required to be aware of the opportunity to propose work in the first place, and then further research is needed to understand the practical parameters of the project – funder, timeline, location, scale, the calibre of the other artists involved, the sort of artwork that the funder wants, and so on. The conceptual or thematic elements of the prospective project must also be researched – for example, the work may be required to respond to a specific location, event or characteristics of a person or group. In this way, the production of a proposal is often framed by research activities. Research activities are discussed further in chapter 6.

The capital types sought at the Practice level include economic – for example, the writing and submission of proposals and other fundraising activity is in order to attract sufficient capital to make new work. Social capital, understood as building various kinds of valued relations with significant others (Jenkins 2002, p. 85) is also sought on an ongoing basis through promotional activities, and particularly through the interactive nature of promotion via social media. Engaging with social media – both as a creator of posts and a reader of others' posts – contributes to a valued sense of being a member of a community for many artists. Symbolic capital can be conferred by being seen by the public and by other artists as an artist capable of winning competition for commissions, attracting high numbers of followers and generally being able to generate interest around one's practice which is not dependent upon interest in a specific project.

In addition, because the activities of the Practice layer make the Projects layer possible, this implies that the capital amassed by the Projects layer can also be understood as a result of Practice layer activities.

This description of the proposal writing phase provides some context to the high value attributed by artists to their ICTs and the digital objects those ICTs create. It is clear from this analysis that digital tools and the digital objects they create are deeply integrated with the ability to produce high-quality proposals including impactful, effective documentation. This in turn has a direct connection to the achievement of career-sustaining funding and the symbolic capital of being the artist who wins the commission.

5.3.2 Work at Practice level: Summary

Projects start and end; behind them, the Practice continues, reflecting the existence of the artist. The Practice is the glue between projects, their supporting context. Work at Practice level includes the activities that support projects and make them possible.

Research, proposal writing, fundraising, making documentation of processes and of artworks: all of these tasks can occur at the level of the individual project. But for many artists, these tasks are carried out across projects and are experienced as what constitutes their Practice – their continuous engagement with the ideas and issues that motivate their work.

On the other hand, promotional activities, community/political activities, writing about art and teaching are all recurring strands of action that are considered by some artists to be situated within their practice, and by others to be work that they undertake as artists outwith their practice. The variety of self-generated definitions here are accommodated and clarified in the analytical model and can vary from artist to artist.

All Practice-level activities that were reported by artists are dependent on digital tools and digital information. The example of proposal writing is provided as it is a crucial skill and perpetually recurring task for working artists. It clearly shows the reliance of artists on information retrieval from the Internet to identify opportunities and to perform research, the ability to create and share digital textual documents, to create and share effective and evocative digital documentation, and to access to online proposal submission systems. The ability to perform these skills effectively and to a high quality implies a higher number of better-quality proposals submitted which is likely to result in a better chance of success in winning enough work to remain in practice.

5.4 Workflow analysis model: Third layer – Art Work Beyond the Practice

The third layer, beneath the Practice layer, consists of the tasks and activities that are understood by interview respondents as part of the work of being an artist, but are not specifically viewed as being contained within the artist's practice. This distinction is clear to artists and crops up frequently when discussing the range of work they do

drawing on their art skills – indeed, the regularity of this categorisation is how this layer of the model was conceptualised.

These level 3 tasks and activities recur regularly as an individual continues to work as an artist, and – like level 2, Practice level activity - are not tasks required by any one specific project. Like level 2 and level 1 above, them, the tasks of level 3 specifically require the skills of an artist to execute. However, artists define these level 3 tasks and activities as being "supplementary to" or "feeding into" their practice, rather than as being part of the practice.

This category of art labour informs the artist's sense of continuous engagement as an artist in an outward-facing way, that is to say activity which engages with society (e.g. through political/community activity); the wider visual art sector (e.g. through network and community-building); and legal frameworks (including book-keeping, tax returns, and attention to other legal requirements such as insurance). There are also inward-facing activities such as continuous professional development (CPD) and reflective activities.

However, not all artists allocate the same tasks to the status of being either inside or outside the bounds of their practice. In the cases of teaching, writing about art, and undertaking political/community activities, some artists viewed those activities as an integral part of their practice and others viewed them as something they do as artists but outwith their practice or in another close but undefined relation. To indicate this ambiguous status, they have been placed in Figure 5.2 (plan view) straddling the border between the two fields ('Practice' and 'Art Work Beyond the Practice').

Examples of this level of labour are numerous. At the time of interview, Janie Nicoll was just finishing a busy three-year term as president of the Scottish Artists Union (SAU). Illustrator Lucy Bergonzi works in arts participation projects in her local

community. Lucy Stopford commits significant time to the Oxford Art Society as the Chair of the Society's committee as well as the organiser of her weekly studio group. Guyan Porter served as the first President of the SAU. Interdisciplinary artist Katriona Beales worked with a small group of other (female) artists to found the Artists' Union England, and Chris Biddlecombe continues to spend a significant proportion of his professional time as an artists' representative and consultant on various art-related initiatives including the development of a management structure for the European Council for Artists' Resale Rights; his income is "a mixture of monies through making art and through supporting artists" (CB int 8/8/17).

5.4.1 Example of Art Work Beyond the Practice: Teaching

Art teaching is a form of labour that requires the artist's knowledge and experience, but isn't necessarily classified by the artist as part of their practice. In this way it is a useful exemplar of activity at level 3, 'Art Work Beyond Practice' – a layer of work executed by artists which often goes unnoticed in considerations of art labour.

Teaching is a widespread strategy for income generation amongst artists and as such comprises a significant proportion of artists' working time in many cases. Understanding teaching contributes to understanding the overall texture of contemporary art labour. Teaching tends to take the form of either workshops in community settings open to the public or teaching in the tertiary education environment which usually consists of providing guest lectures and running crits[22]. Textile artist

[22] The 'crit' – often considered to a shortened form of 'critical review' (Michael 2015) or 'critique session' (Ralske 2011) - is the standard style of teaching in many (all?) art schools (and many shared studios), "rooted [in] the singular and peculiar ethos of the art institute" (Ralske 2011). In the art school context, the crit involves a seminar attended by a group of students where a student's work is shown and the teacher encourages this work to be critiqued by other students, usually of the same cohort, and any other invited participants such as relevant faculty members. There are many approaches to exactly how to make a crit happen in a constructive way, and the precise aims of the session and role of the teacher – as well as the size of the group - vary from one art school to another. Thornton (2009) provides a detailed ethnographical study of conceptual artist Michael Asher's legendary MFA crit at CalArts for one in-depth example of the fine line between art teaching and art performance or installation. Thornton claims that Asher's 'post-studio class', which he ran from 1974 to 2008, was his "most influential [art]work" (Thornton 2009, p. 71) – if Asher had agreed, this would have been a prominent example of teaching as part of practice. Michael (2015) examines another – much more succinct – approach to running the art school crit: in this case in the form of half-hour

Joanna Kinnersly-Taylor and sculptor Joseph Ingleby each run workshops in their respective artforms in order to improve their income and maximise the utility of their studio workspaces. These are not specifically aimed at art students and aim to provide skills and advocacy for the art form, rather than to provide a formal qualification. Illustrators Jade Sarson and Owen Davey also (separately) run workshops and provide lectures. However, their teaching takes place by invitation on university and college campuses, rather than as self-organised events in their own workspaces. None of these artists considers their teaching to be part of their practice. Sarson clearly articulates her awareness of the work she does as an artist due to her art skills, and its position as a separate activity from her practice, but as *work done as an artist*:

> "The only thing I really count as separate [from my practice] is doing lectures or any of my teaching roles – but [I'm] still [doing them] because I'm an artist …" (JS int 7/3/17)

Some artists find that their teaching ebbs and flows to help tide them over financially when their income from their practice is insufficient, but this *quid pro quo* can easily present challenges for the artist, as in the case of Shetland-based artist Amy Gear, who teaches in both community and university settings and, again, experiences teaching as a separate strand of activity from her personal practice: "[Teaching provides] a very useful amount of money for me. [...] But it's hard to get time to do what I could call my personal practice. I have to do other stuff a lot of the time." (AG int 13/2/18). Joseph Ingleby finds that his public artwork periodically "takes over" from his "piecemeal" work teaching workshops in metalworking and drawing (JI int 18/1/17). Multidisciplinary artist Maryclare Foá also discusses her teaching/practice time-split in terms of a fluid dynamic which needs careful handling to keep in balance. She describes her making, teaching and writing as "about equal" to her in terms of income

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sessions led by fine art photographer Christina McBride at the Glasgow School of Art (Michael 2015, p. 125).

(MF int 16/2/17). Over her long career, Foá has amassed considerable experience as a teacher in several UK art schools. Now, in addition to providing an annual lecture for one of the major London art schools, she finds that her teaching work is arranged for her in blocks of several weeks at a time. As a result, some months she has lots of teaching and in others no teaching at all, leaving her intermittently dependent on other sources of income.

Susan Stockwell teaches fine art in London one day per week. The pay alone is not enough to live on, but is important to her as it represents a regular income. With Stockwell, we can see that teaching can also sometimes perform another useful function by providing input into the artist's practice:

> "I might even take my students to go see something and we'll have a crit where they crit my work and we have a discussion. We go into some depth. Some of it will come through and make sense and be part of the next stage of the process of work." (SS int 26/1/17)

In this way, teaching is clearly described as an activity from outwith Stockwell's practice that has the potential to add value to her practice by introducing new ideas into her making.

Painter and 2D artist Sue Hofman has also drawn creatively from her teaching experience. For several years after graduating from art school, Hofman taught parent-child art classes, before qualifying as a secondary school art teacher. Employed in a school within a deprived area, she realised her pupils were gaining therapeutic value from the creative activities she was leading in art class. Whilst frustrated by the extent to which her teaching limited her time for painting, she also gained a sense of appreciation for the therapeutic power of art-making and now, having retired from school teaching, works part-time for a mental health charity to help clients in the use of

art to cope with their problems, and spends the rest of her time on her own art work. This set of experiences continues to resonate in her art.

> "It's important to me to use teaching skills in ways that are beneficial in a therapeutic way. … I'm not drawing incidents from that to put into my work but I think it keeps you with that emotional channel … it keeps that door open."
>
> (SH int 9/8/17)

Janie Nicoll similarly describes her socially engaged community art labour, including the organisation of creative workshops for her local community as part of an environmental campaign, as activities that sit alongside her practice and "feed into it" (JN int 19/1/17).

Prosaically, the primary type of capital sought via teaching seems to be economic; sometimes teaching represents the only regular, predictable income to an artist, particularly in terms of income gained via their art skills and knowledge. In addition, there are some examples of symbolic capital, as a teaching post at a prestigious art school is a valuable addition to an artist's CV and can be useful as evidence of credibility when applying for commissions or entering competitions.

It has been suggested that art school instructors may on occasion use the crit as an opportunity to "egotistically display their knowledge and mastery, publicly performing their competency as academics, in the hopes of gaining personal or political stature" (Ralske 2011, para. 26). In this case, the capital sought here would clearly be social capital in the sense of a display of "legitimate knowledge of one kind or another" (Jenkins 2002, p.85). But it is clear that many artists hold a genuine ethical commitment to the protection and advancement of their profession and / or their society as a whole, which motivates their work in committee and community contexts – examples of other common activities at level 3, Art Work Beyond Practice. Political

and community activity of this nature is rarely remunerated, but can be driven by a moral or ethical commitment to making society fairer. Participation in union, committee and board activity can also, in some situations, help to promote one's visibility within art world circles as committee, board and advocacy work often involves a mixture of artists, curators and art policy professionals of various types, but – as with teaching – can be heavily time-consuming but, unlike teaching, is often unpaid.

Digital information regularly appears in narratives of teaching, or more accurately, teaching regularly appears in artists' digital information narratives: several artists accredit their teaching jobs as the environment in which they first accessed digital information technologies, and could trace the developing centrality of ICTs to contemporary life through the evolution of the digital in standard teaching practices. Janie Nicoll taught at Edinburgh College of Art in the mid-1990s, gaining her first email address in the process. Susan Stockwell received her digital tablet – a staple tool of her current workflow – from her teaching job. Many artists have learned Powerpoint and Keynote presentation software prowess thanks to their teaching work, and as the expected format of art lecturing has morphed over time from the use of glass slides to overhead projector to presentation software and digital projector, with handouts hosted on university virtual learning environments, artists have picked up skills in the use of these technologies.

Currently, digital information technologies are also used directly in the processes of teacher-student interaction, as in the case of Simon Pope who conducts his supervision over the Internet. Pope regularly exchanges digital objects with his students in the form of visual references (digital images and digital film clips) as well as when receiving and returning written assignments. Ergin Çavuşoğlu describes link-sharing by email with his students as "very common practice" - "It's the easiest way to visually illustrate or show a student what you mean by a particular artist or movement" (EC int 12/5/17). Maryclare Foá also relies on the Internet to provide quick visual

references in teaching. Planning and scheduling teaching is usually digital too – Maryclare Foá relies on keeping and retrieving teaching schedules she has been emailed in order to organise her time, and all artists who teach ruefully refer to the volume of email necessary for the job.

Outside the academy, workshops are promoted and sold via the websites of artists and art organisations. Digital documentation is regularly created in order to produce attractive imagery for online advertising, and for providing a sense of the physical workshop environment alongside written description of the courses on offer. This sales strategy is of course also used in marketing the academic art departments in tertiary education.

5.4.2 Art Work Beyond the Practice: Summary

The creation of a specific analytical focus on a category of activity defined as 'Art Work Beyond the Practice' does useful work in bringing visibility to the existence of a range of time-consuming, resource-intensive activities undertaken by many artists to accrue economic capital, and to contribute to their communities.

Examination of art labour at the level of Art Work Beyond the Practice is an important step: this layer of activity represents the contributions to artmaking, cultural heritage, education and society that are made by artists beyond the bounds of their practice. In other words, artists do not only bring value to their society through the work of their practice but also through a range of additional activities situated in this layer and described here. The added value brought to a community by the presence of artists is a powerful argument for improved funding for members of this profession.

Many of these activities are carried out in person. However, in these processes, as we see above, the use of ICTs and the creation, exchange and use of digital objects remain important. The majority of communication work between the artist and relevant

stakeholders in these sorts of labour is carried out digitally including the creation and exchange of contracts, insurance arrangements and other legal documents. All artists who discussed their teaching use ICTs to prepare their materials including handouts, slide decks and the use of university VLEs, and several artist teachers conduct supervision and/or support student research through use of the internet as communication medium and research resource. These tasks, taking part as they do within this strata or layer of artist labour, indicate a range of digital activities that bring important benefits to artists and communities, but that are not always fully recognised as part of art labour.

5.5 Workflow analysis model: Fourth layer - Resources

The fourth layer of the model consists of the Resources that were reported by artists as necessary to support the activities that comprise the layers higher up the stack. Both layer 4, Resources, and layer 5, Foundation, represent accumulated capital of various sorts.

Evidence from the research interviews suggests that the resources of layer 4 include tangible resources such as space (e.g. a studio, a workshop, a dedicated desk at home); equipment and physical tools; making materials (e.g. stone, textiles, paper, paints); and information and communication technologies (e.g. laptop computer, desktop computer, mobile phone, digital camera, digital tablet, a router for internet connection). Resources of this layer also include intangible resources such as time; relevant skills; help, advice and skill-sharing from the artist's network; digital objects (emails, digital texts, digital images, websites); and software. It is at this level of the model that the interventions suggested by the current study would take place.

The deeply rooted importance of ICTs in contemporary art workflows is clear. Artists consistently confirm the role of ICTs as essential equipment in what they do every day, regardless of their artform. This confirmation is often implicitly as well as explicitly

stated: for example, in many interviews, the artist outlined research, making or communication processes that involve regular switching between digital and non-digital processes. Additionally, many artists describe a work process without necessarily consciously recognising the use or need of a digital tool or platform until it is focused on in the research interview. Examples already touched on include searching for a book's author online during a conversation, or the use of Word or WeTransfer to create and submit a proposal. In a way, these digital tasks may be experienced as invisible labour by the artist as well as being invisible to onlookers.

The value of the digital objects produced by these digital technologies also emerges here as of foundational importance. These work in intimate relation with the Internet connectivity required to collect, distribute and – in some cases – store digital objects, alongside the skills and knowledge required to effectively carry out these digital tasks.

5.6 Workflow analysis model: Fifth layer - Foundation

The final, underpinning layer of the model is the Foundation. This can be understood as 'what is required' in order for the contents of the Resources layer to exist, so that it can in turn support the achievement of all the other tasks and activities required for art work to happen. The two elements of the Foundation are a) Network (or social capital); and b) Funding (or economic capital).

5.6.1 Network

Within this Foundation layer we can see clearly the conceptualisation by many artists of art work as a task that, as Becker argues, takes place as a result of "the collective character of making" (Becker 1982, p. 351). But whilst Becker insists that an audience is necessary for art making (Becker 1982, p.4), there is another important type of interlocution for artists. Artists regularly rely upon peers and contacts to help with skill-sharing, physical tasks and emotional support during their workflow. The importance of having people to talk to about the work recurs across ages and artforms as a powerful

driver for the artist to persevere in their art work, in addition to the value gained from post-completion discussion with an audience.

Maryclare Foá grounds much of her practice in the community of women artists with whom she works and socialises. Foá regularly collaborates with three other women on performance drawing events and on co-authorship of a book[23], and attends a salon in Highgate, north London, run by a number of artists interested in drawing. These contacts furnish her with a setting for her practice that provides support as well as a sense of momentum. Lucy Stopford arranges a long-running painting workshop where she brings together a well-lit space, a model and coffee and biscuits. Participants are expected to focus for sustained periods of time without frequent breaks, chat or other distractions. It is a working session, not a tutored session, so feedback is not specifically encouraged. Stopford finds that the effort required to organise and participate in this weekly painting studio session is repaid by the sense of community, and the new opportunities, that it brings. In our conversation, we reflected on the value of community for the artist, particularly as art making – like writing – can involve much time spent alone. But despite this requirement for solitude, Stopford's view is that the artist needs to experience their identity as sited within a contextualising network of some kind, whether that is amongst other independent artists each working alone, or as part of an organisation.

> "I think artists – you're quite – *adrift* is the wrong word, but to have a context I think is helpful. ... I know perfectly well I'm an artist whether I'm completely on my own or whether I'm part of an organisation, but – it can just open doors, you know? [...] Doing it all alone must be the hardest thing of all …"

[23] Foá, M., Grisewood, J., Hosea, B., & McCall, C. (2020). *Performance drawing: new practices since 1945*. Bloomsbury Publishing.

(LS int 10/5/17).

This point of view is neatly embodied by the working sessions which, whilst providing a sense of community and an obligation to focus, allow each artist to work alone, together.

The theme of the trusted, valued network redounds from many other artists across artforms and working styles. Guyan Porter's work emerges from conversations he has with artists and non-artist peers.

> "I try and bring in as many people as possible to bring in [their] opinions. Sometimes that's people literally working with me to build things, and sometimes it's people coming in who have nothing to do with art, usually people I trust implicitly but not necessarily because of their direct knowledge of art. It might be direct knowledge of some sort of philosophical subject for example. I'm always interested in who the work is interacting with, with the things I'm interested in ..."
>
> (GP int 5/5/17)

Susan Stockwell "always get[s] people to look and talk and question" her work, finding this an important way to develop her ideas both during and at the end of a project (SS int 26/1/17).

This 'talking to' can take place in person, or by use of digital communication technologies and services. Foá's regular meetings with her collaborators usually take place by Skype, with follow-up communication by email although they also regularly meet in person to attend exhibitions and other art-related events. Porter would rather have his conversations in person, and sometimes that happens, but they usually tend

to end up being by email and phone. Conversation with peers and other contacts is how Porter initiates many of his projects and finds the sites to which his work responds.

> "I don't get work through existing opportunities [online]. ... it comes about through conversation, and through me just discovering things and then speaking to people, then – if it's a location, trying to find out who owns it. And sometimes it's through working with someone for a period of time ... and they start suggesting locations. I'm very open to that ..."
>
> (GP int 5/5/17)

The value of a network for the artist often provides many other practical benefits or types of capital to the artist. Funding opportunities are shared, skills are taught and learned, workspace is found and advice is sought and given. It is widely accepted that artmaking needs interlocution with an audience of some sort; what is less well appreciated is that even when an artist is working apparently alone, her work is largely dependent on these peer interactions. There is more work to be done to better understand the details of how networks form and mature, and the relationship between, e.g. network development and career sustainability, or the extent to which professional networking compares with a traditional entry route, such as attending art school, for peer-group formation.

Here, however, the most important things to note are that peer networks of one size or another are ubiquitous and highly valued by working artists; that all artists interviewed reported peers as necessary for one or more types of capital acquisition/sharing; and that the development and maintenance of networks is achieved through a blend of in-person and digital activities: artists report high rates of use of social media for networking and communication tasks as well as promotional tasks. In short, even a talented, trained and financially stable artist won't make much professional headway if

she doesn't know any other artists, gallerists, curators or other professional peers to support, challenge and engage with her work.

5.6.2 Funding

Access to both tangible and intangible resources is routinely dependent upon having enough funding. Many artists were frank about the necessity to undertake paid work using skills that are not related to art making in order to get by. These sources of income included work as kitchen porter, landlord, secretary, soft furnishing manufacturer, freelance proof-reader, charity worker and various unspecified part-time gigs. Other sources of income include renting out rooms to lodgers, receipt of pensions, relying on a partner's income, and regularly selling possessions on eBay. Some artists have access to family money or other private income – artists reporting this type of income are more likely to be working full time on their art.

However it is come by, income is key to the artist being able to sustain wider human needs such as adequate food and shelter. This is a reality that all artists encounter. Whether an artist earns enough to live on through their art, or they need to generate income through other means, financial income and a supportive network of peers and interlocuters together constitute the foundational, fifth, underpinning layer of this value model.

5.7 Workflow analysis: a structured approach to understanding the relationship between artists' work and their use of digital information

A full, detailed narrative - whether verbal or visual – from a variety of artists provides a rich set of data from which to start to deeply engage with and understand the workflows of artists, and particularly to ascertain the value of digital information within those workflows. This approach required persistence, sustained focus and clear

communication, and in a cyclical way, this process drew on some of the Resources and the Foundation identified by this analytical process. Through hearing artists' voices in this way and in detail, we can start to understand not only what these tasks and activities are, but also how they relate to each other: which supports which, and which are visible whilst others are unseen, at least outside the walls of the studio, but still necessary.

This approach provided value by allowing the artist to unpack the tasks and activities that they are more accustomed to describing, usually around the conceptualisation, making and showing tasks that occur in relation to specific projects and are positioned at the top, most-visible layer of the analytical model described above. However, this careful unpacking also allowed artists to discuss and reflect meaningfully upon those less-visible tasks - the communication and networking activities, the screeds of email-writing, the drafting of pages of proposal documents and invoices, the sending and receiving of text messages, meetings with peers for advice on how to use a particular program, the hours spent searching online for information; in other words, the activities of layers 2 and 3 of the analytical model described above.

This new approach builds upon and utilises key foundational ideas from Bourdieu's field theory; specifically the concept of different capital types sought by the actors in the field, and the way in which a given arena of effort can be understood as a field bound by shared understanding of boundaries and ways in which capital of a specific type is accrued in this population.

Building upon these useful concepts, this new model is more specifically tailored to understand and analyse the fruits of practitioner-centred enquiry into art work rather than e.g. art reception or appreciation, and has the flexibility to accommodate some of the points raised by artists that field theory alone cannot: for example, the value of cooperation and community-building rather than competition with artist peers.

Another example of what the Bourdieusian approach does not accredit is the effort of the actor motivated by curiosity, compulsion or the desire to prove something to oneself, irrespective of wider public recognition. This is an additional motivation in the daily work of many artists. As a result, it is worth including in the model, where it is labelled 'reflective activities' - albeit recognising this can quickly shade into research activity (also present in the model, existing as it does at both Project and Practice levels) - and in the textual narrative where it is discussed as self-initiated or personal projects (see section 5.2 'Workflow analysis model: Top layer - Projects').

In addition, Becker's Art Worlds theory is also extended and enriched by the workflow analysis model. One of Becker's foundational organising principles is the categorisation of all art-related activities or tasks into the following ontology of "things that must be done" for art to be made (Becker 1982, p. 2): 'originating ideas', 'executing ideas', 'manufacturing and distributing materials and equipment', 'making art', and 'support activities', the last of these being described specifically as "a residual category [...] to hold whatever the other categories do not make an easy place for" (Becker 1982, p. 4). If we include only those categories that specifically involve the labour of the artist, we find that the current model presented here accommodates the important interrelationships between 'originating ideas', 'executing ideas', 'making art' and 'support activities' to demonstrate the debateable value of Becker's categorisation. The layers of the current model unpack Becker's categories of 'making art' and 'support activities', loosening the implied hierarchy of Becker's ontology; as a result, Becker's categories are transformed into a much more visible, detailed and legible set of interconnected artist activities whilst still allowing flexibility to accommodate and support the analysis of the varying details of different artists' workflows.

Further, the need for network and community that emerges clearly from the data bolsters Becker's position that art making is essentially a group activity, whilst also

refining his description of the relationship with audience – artists' biggest fans are often other artists, and that specific critical relationship between one artist and another appears in the most foundational layer of the model.

The model also recognises the degree to which activities are more or less publicly visible with the visual stacking of layers in both the dynamic and the plan views; this conveys both the way that lower layers support higher layers and also that the uppermost, 'Projects' layer is the most visible layer to an external, e.g. public, viewpoint, whilst clearly making the case that much complexity exists underneath and partially out of sight. In these ways, the current approach offers some useful analytical power which extends the utility of Bourdieusian field theory, incorporates the underlying argument of Becker's art worlds theory, and entwines both in a new analytical space that is flexible enough to support and respect the terminology and motivations of contemporary artists.

In summary, then, this new approach allows a clearer, more realistic view of contemporary professional art practice than provided by Bourdieu or Becker alone, centred on artists' own definitions and thus providing a sound analytical framework that we can use to better understand contemporary art practice and the place of digital information and ICTs within that.

We can see from this discussion that workflow analysis in contemporary visual art practice, whilst an unusual undertaking is, fundamentally, a useful exercise. When performed in such a way as to accommodate the participant's perspective, it yields great value to the analyst in several ways. The notion of describing a workflow provides a framework that can be used across a sample of participants to understand similarities and differences between artists' practices. It allows us to gain insight into the actual - rather than presumed or clichéd - tasks and activities that are used and are required for contemporary art practice. It provides an opportunity for artists to reflect

upon the activities required by their work, the skills required for those activities, and any skills or knowledge gaps that appear, including those relating to their seeking, management and reuse of digital objects. Further, in the current project, the analysis of workflows allowed the construction of an innovative model for conceptualising artists' work in a structured and detailed way that clearly communicates the dependencies between resources and outputs and the layers of activity in-between. This model has value as an evidence-based competency framework, a curriculum benchmarking tool for training and education providers, and a reference model for the use of policy development.

Chapter 6: Findings and analysis – Value: Value in Practice

To understand the potential for digital objects and digital information skills to help artists sustain practice, we must first understand exactly how artists work in the 21st century and how this resonates with emerging digital cultural practices. The model introduced in chapter 5 gives us a structure to understand and analyse artists' activities and tasks, and shows how the whole range of contemporary art work activities and tasks is situated upon a set of required capital types.

Building and augmenting this new approach to art workflow analysis, and emerging from practitioner-centred enquiry, this chapter provides a detailed description of the roles and value of digital objects as they occur and recur throughout the tasks and activities of contemporary art practice across the layers of the model.

One of the primary findings of this study is that digital information is threaded throughout research, communication and collaboration activities in artists' daily work. This chapter is a thematic examination of the value to artists of this digital information - including information online or retrieved from the Internet as well as digital information objects - as we find digital information use occurring throughout artists' daily activities, and as digital objects are created, shared, stored and reused by artists.

In keeping with the central philosophy of the research approach (set out in chapter 4), this study is practitioner-centred; accordingly, the idea of value worked with in this chapter is based upon value as it is defined and described *by interview participants*. We can see from these narratives that the kinds of value they describe feed into or help to obtain the various kinds of Bourdieusian capital discussed in chapter 3. But also, to

perform digital information management tasks in an effective manner contributes to the sustainability - which is to say, the ability to sustain access to sufficient capital upon which to survive - of any enterprise including that of being an artist. The findings reported in this chapter provide a series of detailed examples of various key art work activities that emerged as strong and consistent themes in the data, how they happen in current practice, and the extent to which each of these activities - according to artists' own narratives - deploys or relies upon the use of ICTs and digital objects in order to continue art work. The following sections explore: 1. researching; 2. communicating and collaborating; 3. storing and using one's own digital objects; and 4. handling digital objects including searching and retrieving online, managing and sharing.

6.1 The value of digital information to artists' research practices

Research activities within art making are processes through which the artist develops ideas and techniques, and trials various methods for achieving or deploying the visual language they have developed. Understanding the forms of research deployed in art making allows accurate understanding of the full context – the overall workflow - within which artists are using digital objects and digital information technologies, and what they are attempting to do with digital information. Not every piece of visual art requires research, and not every artist consciously engages in it, but for those artists who do knowingly undertake this form of enquiry, it is a foundational process that brings clarity and confidence and suggests next steps forward. It can, of course, also produce more questions than answers, and actively resist closure or completion (Bell 2009).

Information search (Hemmig 2009), retrieval, and the use and reuse of digital objects are all important tasks within artists' research activities. Echoing the findings of the layer-based analytical model described in chapter 5, artists clearly described two main

motivations for carrying out research activities: a) research for individual projects, and b) research activities to support the artist's practice more broadly.

6.1.1 Research at Project level

Much of the research undertaken by artists is motivated by the research needs of a particular project. Participants discussed how this broke down into i) research led by materials; ii) drawing as a research method; iii) research with participants; iv) desk research.

6.1.1.1 Project level: research led by materials

Materials-led research methods are often particularly important to sculpture and installation work but can also be deployed in other artforms[24]. Research led by materials is research activity that focuses on working with the tangible materials of one's project to understand the options presented by these materials, to identify and resolve any problems of construction, and to build a deeper understanding of the aesthetic possibilities presented by different material approaches. Research with materials can also help resolve the more prosaic questions around how much a given work is going to cost to make, or how heavy, large or delicate it will be to transport and install.

Research led by materials exists at Project level, as one of the tasks of a given Project. It also takes place at the Practice level, as is shown in Figure 5.1 and 5.2. As discussed in section 6.1.2 'Research at Practice level', below, a preoccupation with certain materials often produces new discoveries for the artist, and functions as a

[24] It is worth noting that 'research led by materials' is not analogous with 'practice-led research' as an analytical term, although the former could arguably be understood as a subset of the latter. Practice-led research, as a term, has a long history of contentiousness, particularly in fine art (Rust, Mottram, Till 2007, p. 10) but here I use it specifically to mean research enquiry which is grounded in – in this instance – the making processes of visual art work. This type of research can involve active experimentation with the physical processes and gestures, visual language, circumstances, habits, thematic concerns and materials of the artist's process.

trigger for new ideas and new projects. However, here I discuss materials-led research when it occurs in artists' narratives about particular projects.

Materials-led research can include such processes as working with different metals to understand their capabilities for particular qualities - for example, how to bend a particular type of metal piping to achieve a certain shape; experimenting with the colour outcome of particular mixes of colour chemical in order to achieve the required density and hue of colour when applied to a specific type of textile; or creating different arrangements of installation elements to understand whether the composition and scale convey the intended outcome. Sculptor Joseph Ingleby makes a detailed maquette before cutting any steel or iron for the final sculptural piece. Doing so "solves all the problems, all the three-dimensional problems, and if it's a public work you can work out how much [material] you need, how much it's going to cost …" (JI int 18/1/17). These research processes can be very time-consuming: sculptor Johannes von Stumm claims it has taken fifteen years of research with his materials to understand how to combine glass and stone in the complex interlocking shapes characteristic of his sculpture, a process which is often frustrated by the unpredictable properties of the materials with which he chooses to work.

Susan Stockwell collects materials en masse – a process she describes as "gathering, whether physical or digital" (SS int 26/1/17) - in order to produce a marriage of sculpture and installation, usually at large scale and characterised by repetition and a repurposing of objects to highlight their history, political implications or effect on the natural environment. The classification of works on her website emphasise her materials-led process: some of her completed works are categorised by their materials, e.g. 'Paper works' and 'Rubber works' ("Susan Stockwell: Work", n.d.). Stockwell's work is developed from a process of research with her materials, and each project often performs a double role as an artwork in its own right, and also as a research output for her next project. For example, her year-long residency at the Royal

Shakespeare Company resulted in an installation of a painted sail hung from the ceiling of the theatre atrium, but this instance of the work was only one of a series of experiments in hanging the sail using different arrangements responding to different sizes of exhibition space.

This method of repetitive manipulation of repurposed materials leads Stockwell from one project to another. To develop new work, she must be nimble in responding to the findings of her materials-led research – sometimes in a high-pressure situation, as is clear from her account of a high profile commission for The Art League in Houston, Texas: "I had tonnes of computer components to work with, to make stuff that I didn't know I was going to make, and it was all a big lab for a few weeks with some assistants."[25] In this case, her research in this one short project had unexpected outcomes which led into the next project:

> "One of those was remade ... I realised I could work with it on a much bigger scale if I had more space. That became Flood, in York in 2010[26] ... It was unexpected. ... A lot of it, I learn through the process of making. That process takes me as much as I take it."
>
> (SS int 26/1/17)

Stockwell's account here is useful in illustrating the features that materials-led research holds in common across its appearances in various contexts including the art studio and the scientific laboratory. It is strongly experimental, is based on the manipulation of physical elements to achieve an outcome, and produces data which sometimes

[25] It is perhaps ironic that, given our conversation about the role of the digital in materials-led research, Stockwell was working with piles of reclaimed computer components. These were used for their material qualities – the intricate construction, colour combinations, weight and the reflective quality of the metal – as well as their political and ethical ramifications, including the mining of rare minerals used in circuitry, the environmental impact of aluminium smelting and the brutal factory conditions in which ICTs are currently produced. In this way, Stockwell eloquently draws these issues together and to our attention, whilst also providing a visceral experience of the enormous physical and philosophical presence of the digital and its global impact in 21st century life.

[26] http://www.susanstockwell.co.uk/medium.php?work_id=527&image_id=2018-04-24-1

confirms, sometimes challenges the artist's thinking. This closeness to scientific process is echoed by Guyan Porter's account of his research activities:

> "Sometimes the research itself takes on a life of its own, as in it'll become part of a written document or it'll feed into a project that somebody else is doing ... I'll then get into the studio and start making things, experimenting. I've always seen my studio as more of a laboratory than a production facility. It's a place where I can think and try things out. That's a new gestation process and can take a long time of experimenting and finding some sort of visual language that will match up with the ideas I'm interested in, in regards to that project."
>
> (GP int 5/5/17)

Materials-led research, then, is by its nature primarily about working with tangible materials, but as we will also see with other research arenas, the digital tasks are increasingly interleaved with the physical. Liz West's digital renders of her fibre tip pen drawings are revised again and again as the work develops, and the final expression of her ideas which goes to the fabricators is a set of digital computer-aided design (CAD) files.

Visual artist and poet Tamarin Norwood developed her 2012 art book, olololo[27], by responding to deliberately challenging research questions such as 'How can a pencil draw lines whilst it stays still? And how do you turn the pages of a book whilst allowing this to happen?' She worked with "a pencil and paper of different kinds, seeing how they can move in relation to each other. *And at the same time* I was emailing back and forward with [a curator] and saying 'maybe this and maybe that'" (TN int 5/2/2018, emphasis added). Norwood's research communications were digital, and the final expression of her ideas for the printer was, again, in digital form. Norwood's typically

[27] http://www.tamarinnorwood.co.uk/project/olololo-2012/

lyrical description of this research process encompasses both materials research and collaborative enquiry but it is clear from her phrase ‘And at the same time’ that the interplay of both strands was required throughout her research.

On some occasions, the materials that are experimented with are perceptible, rather than tangible per se, but working methods such as redrafting, alteration, combining, collage and massing of objects remain central. Here, the importance of digital objects becomes immediately obvious. Janie Nicoll often works in collage form and creates the visual elements needed for her work through a combination of digital photography and physical manipulation. A regular part of her workflow is to employ digital technologies to create various versions of an image in order to achieve a particular effect: for example, digitally photographing a symbolic building, then using Photoshop to manipulate certain visual details for emphasis. In this way the materials she is working with at this experimental stage are perceptible digital objects in the form of multiples of digital images, rather than physical materials such as stone or glass. However, again the interleaving of physical and digital is innate: the work begins and ends as a physical structure, but the necessary bridging provided by research is largely achieved by the creation and use of digital objects.

> “I take good quality photographs using a digital camera. I’ve got an SLR digital as well as the intermediate type. So, I get decent images and then re-work them on my computer – to get the right colour balance or levels. So yeah, I manipulate the image a bit to work out how I want something to look.”
>
> (JN int 19/1/2017)

As we have seen in these narratives, once the research with materials begins to produce results (or further questions), the next steps in the workflow are usually digital. These are discussed further below in section 6.2, ‘The value of ICTs and digital objects as the basis of communication and collaboration activities’.

6.1.1.2 Project level: drawing as a research method

Another research method important to contemporary art practice is drawing. Drawing can of course result in an output that is an artwork in itself, and some artefacts arising from the drawing as research process can be considered as artworks by fans or critics. However, drawing is also used by artists as a research method with no intention on the part of the artist for the outputs of the activity to be considered as artworks. As an example, in Joseph Ingleby's practice, pencil drawing is a specific activity within his structured research process which comes after desk research and before model-making.

> "If I'm doing a public artwork, I start off researching [the venue or location] and deliberately not drawing. And then I draw in a sketchbook. ... I normally draw with pencil. I develop the drawing, and work with certain ideas that metamorphosise: ideas from nature, man-made things. I draw until they work together to a lesser or greater abstract sense depending on the work."
>
> (JI int 18/1/17)

For Ingleby, as for many artists, drawing is a way of thinking. In his case, it is specifically a way of thinking through the shapes created, and the project does not continue until he is happy with how his drawings have developed in his sketchbook. Drawing is also crucial for Liz West, an artist renowned for her large-scale installations of complex arrangements of coloured lights and neon. She struggles to express herself freely in writing and finds that felt tip pens can better communicate the sophistication of her ideas, even if those ideas are roughly sketched whilst she thinks them through. This process works for her self-initiated work and for her commissions:

> "Either I draw ideas out in a very rough way on paper for any work that could possibly exist anywhere, or I'm approached by a commissioner and given a site. So I'm thinking of ideas for that environment. I sit down and draft out very rough sketches ... with a set of fibre-tip colour pens on A4 paper."
>
> (LW int 29/9/2017)

For Maryclare Foá, "drawing is threaded through everything" (MF int 16/2/2017) in her practice, including her research processes[28]. She often draws during gallery visits rather than taking photos with her phone, and during her interview showed me a drawing she had made of an artist doing a gallery talk she had attended, as the attention involved in drawing either artworks or artists themselves means to her that she will remember the work or person in detail, and certainly - for her - more than by taking written notes.

[28] Foá's drawing research began long before the digital era and includes 'research on drawing' as well as 'drawing as research', sometimes in the same project. A useful example is her work inspired by astronaut Chris Hadfield. Struck by the photos Hadfield posted on Twitter from space, Foá began to use her illuminated laptop screen as a light table. By drawing on paper placed over the laptop's display of Hadfield's Twitter photos of space, she would "trace the thing I thought it looked like", making a set of experimental drawings in the process. Her academic discussion of this project was submitted to TRACEY, the journal of the Drawing Research Network in July 2016. This elegant interweaving of the digital into her long-standing non-digital drawing and performance practice is characteristic of Foá's irreverent, pragmatic, improvisatory approach to her art work which has been developed over many years. As she summed up in our five-hour interview, "I just do it anyhow and put it out there. And that's the way I've always operated ..." (MF int 16/2/2017).

Figure 6.1. Visual notetaking: Maryclare Foá's notebook with writing and drawing as aides-memoires. London, 2017.

How does drawing-as-research function when the final artwork is also a drawing? We can understand this by examining when illustrators draw as part of their research. The relationship between drawing and the final artwork is different from the cases above. The nature of illustration work means that a final output has already been conceptualised to some extent by the client – they have a need for a particular kind of imagery and describe this in the brief to a greater or lesser degree of specificity. Some illustration jobs are very tightly specified: examples from my own practice include briefs such as, "We want a black and white line drawing of [this particular building] in a 5-inch square format", whereas some other jobs are much more open to interpretation – again from my own practice, an example is, "Can you suggest Europe here?"

Whether the brief is very tightly detailed or wide open, the illustrator draws to establish the means to that final image, rather than to research the full range of different ways the final artwork could emerge. For example, we know in advance that the image needs to be 2D, representing a certain theme, and reproducible to a certain size. Even

so, this does not preclude experimentation in drawing. Illustrators Owen Davey and Jade Sarson both draw to understand the world around them, to establish their visual language and to narrow down the options for the final drawing. Owen prizes the "tentative or discovery element" of his drawing practice, and deliberately attempts to draw in a less "overly confident" manner in order to keep forms fluid and options open as long as possible (OD int 6/3/2017) even though his final pieces have a very smooth, organised, pattern-like, almost diagrammatic quality. In contrast, illustrator and illustration agency director Brian Grimwood prizes a dramatic, expressive and spontaneous appearance in his work. Prizing his "very simple" approach to making, Grimwood's account of his research workflow is that it is almost non-existent. "I get sent a script and think about how I'd approach it. ... I usually do a drawing or a scribble first. I don't work out ideas on the computer" (BG int 28/7/2017).

Drawing for many artists is very likely to be a process of pencil or pen to paper. There is some sign of digital drawing (i.e. drawing using a digital stylus and tablet) in the research processes in artists' workflows across the sample, but at this point in time this is still relatively unusual, and generally confined to the illustrators interviewed. Whether the research drawings are carried out using traditional or digital media, however, the next phase of the workflow is almost invariably digital as the drawings - and the knowledge achieved by this research process - are digitised and communicated to the artist's clients, collaborators or constructors. This next phase is explored below in section 6.2, 'The value of ICTs and digital objects as the basis of communication and collaboration activities'.

6.1.1.3 Project level: research with participants

Artists' research is often highly collaborative. Themes, questions, methods and solutions are often worked upon with other artists, with non-artist experts, and – in some projects - with members of the public. Photographer and film-maker Hydar Dewachi's practice is deeply invested in the documentation of other people's work,

including the work of other artists. In many of his projects, whether self-initiated or commissioned, his research process is sparked by meeting other artists and searching for solutions together. For one commission, he was hired to document a piece of endurance performance art consisting of a mile-long crawl through east London by artist Noëmi Lakmaier. Dewachi was keen to do justice to the perseverance of the artist and the dramatic potential of this artwork[29]. He described how their collaborative research began through filming some experimental efforts:

> "I went to [the artist's] flat and we [digitally] filmed a bit of her crawling to get an idea [by reviewing the video together]. Also it helped because she's never crawled before. She's in a wheelchair. She had an idea of how to crawl, but she never actually practiced it. So it was good - when we went there, she realised what's best to do and we worked together on how we can best negotiate that together … that's part of where for me the research starts. Meeting the artist and starting to research it."
>
> (HD int 10/4/2017)

The research process continued as they experimented with different routes and movement strategies, and reviewed their findings on digital video in order to understand the best way to achieve the video artwork that both Dewachi and Lakmaier were satisfied with.

Sculptor Susan Stockwell undertook preparatory research when offered a residency in a major art gallery complex. This is another model of collaborative research intertwining the interpersonal and the digital.

[29] This project can be viewed at http://www.hydardewachi.com/one-morning-in-may/

> "I went there to do a week's research of their collection: I looked at their publications, around the museums - they've got three and I looked at two in detail in quite a lot of depth. I got tours around the collections and the stores, and also looked online at their collection. I dug out things that were of interest to me, I read around them and met a lot of the staff. I heard [from the staff members] about the museums and how they're going to rehang [the collections] and their agenda and what other artists they've worked with and looked at their work. Particular things that caught my attention I then researched in more depth."
>
> (SS int 26/1/17)

Simon Pope describes his work as "participatory, relational art" – as such, it is not surprising that this highly collaborative philosophy extends to his research practices. A major strand of his research is closely related to his proposal writing process, as discussed in the previous chapter (in section 5.3.1, 'Example of art work at Practice level: Writing proposals'), where theory is thrashed out in dialogue with his co-conspirators, usually by email. These are followed by in-person meetings, and "an intense period on the ground – I'll hire a car and go around and knock on people's doors, find out who I should speak to", a particularly direct way of developing ideas around a site-specific work. These various channels of research activity are gathered digitally, too – Pope describes non-profit, open source research organisation software Zotero[30] as "really linchpin software for me ... in terms of understanding my own research, my own professional practice, and for teaching. I gather literature for myself and for other people's projects in Zotero. I take notes into it. I write notes from journal papers into Zotero and relate them to the PDF" (SP int 25/7/2017).

Here, even when participant research is an activity very likely to be conducted offline, it is clear that the use of online information is embedded in a mixture of online and offline

[30] https://www.zotero.org/

activities, and is described as a coherent part of a larger range of research activities that, together, comprise conducting research with participants.

6.1.1.4 Project level: desk research

Desk research tasks are common in art making, and take up a substantial proportion of artists' time at work. These are largely comprised of retrieval and use of digital information from the Internet, including textual, visual, audio, video and moving image resources. Desk research takes place at the Project and Practice levels. (Practice-level desk research is examined in the course of section 6.1.2 below.)

Project-level desk research is focused on the needs of a given project, that is to say after a proposal has been successful or a commission accepted. The information retrieval undertaken at Project level is usually either to find out more about a theme or concept that the project will address (and in so doing, the artist builds onto the knowledge already retrieved for the proposal stage) or for what might be considered more material purposes – for example, the methods of using or manipulating materials or tools for a specific outcome, or appropriate means of delivering project outputs to the commissioning body.

Another popular motivation for desk research at Project level is how to accomplish a task or technique, where this is new to the artist or is a new application of a known technique or task. From his research with participants, described above, Hydar Dewachi realised he needed to buy or build a camera rig for a mobile filming gig. The online video platform YouTube supplied affordable (i.e. free) access to the instructional videos he needed in order to learn how to build a rig himself from cheap materials, at a time when his bank account was close to zero.

> "So then I needed to build a [film camera] rig, so I went to Youtube and I watched lots of videos of people building a camera rig out of PVC pipes, cause at that time

> I had literally just started my freelance and I was completely out of money. All the money I have I use to buy things that I need like a mic and different stuff. So I managed to build a camera rig out of PVC pipes that I hold downwards and then film with it …"
>
> (HD int 10/4/2017)

Desk research is also of great value for digital information retrieval tasks related to a specific project. An example of this value is in the preparation of public artwork commissions, which are usually site-specific and where the artwork is obliged to resonate with its location. Joe Ingleby's public sculpture work routinely requires online investigation of the historical background and any previous signage, public art or other landmarks for the proposed location of a public artwork, and many sculptors and installation artists use online mapping to study a specific area, establishing the landmarks, features and ownership of the site of their proposed artwork.

Hydar Dewachi expressed a divided view on the value of desk research, with different attitudes towards project-specific desk research depending upon his confidence about a given project.

> "Sometimes I avoid looking at what people have done so I don't get influenced, and sometimes I need to see. It depends on how confident I am in the job as well. If it's something I've not done before that's when my panic level goes to the extreme. Sometimes it does backfire, doing too much research, for me. So I have to stop research. Sometimes with technical things the more you research the more confused you get. Technical details, I can spend hours a day trying to find which camera to buy, for example."
>
> (HD int 10/4/2017)

Susan Stockwell's work draws together an interest in political and economic history with the installation of massed components to make large-scale sculpture. For her, maps serve not only as information objects but also as visual cues in their own right, and the Internet is an important source of map resources as well as other information resources in her Project-level information retrieval activities.

> "I've been looking at loads of maps online, saving bits of them, and I might project them to make a drawing, or I might use them for reference. There's quite a lot of research done [by me] through Google [search engine] and just looking at stuff and correlating information to then use it in the work. Especially for more political work where I need to know facts and figures. Quite a lot of that."
>
> *Researcher: "So is it visual stuff [that you search for online as part of your research process] as well as numbers and words?"*
>
> "Yes, absolutely, visual stuff, reading, it could be Wikipedia or it could be other things."
>
> (SS int 26/1/17)

Artists are also very interested in finding out about each other. Information retrieval on other artists is performed by searching for textual information and images of their work. These tasks can occur at the level of Art Work Beyond the Practice, and at Practice-level, but here, as we focus on Project-level desk research, we see this type of enquiry is performed when the artist wants to refer to the work, ideas or biography of another artist as part of their current project. London-based video artist and animator Izzy McEvoy became deeply interested in the life and work of the architect George Finch after discovering he was the man who designed the local and much-loved Brixton Recreation Centre.

> "I researched as much as I could about the architect who was called George Finch and a guy [film-maker Tom Cordell] gave me permission to look at his footage. He already had it on Vimeo [...] The architect's dead but the filmmaker is still alive. I managed to find out quite a lot about [Finch] in that."
>
> (IM int 12/5/2017)

McEvoy used the online video resources she found on video-sharing platform Vimeo[31] alongside other desk research in the research processes for her own digital video work exploring Finch's legacy, *An Architect is an Artist* (McEvoy 2017). In this way, we can see the development of a loop of visual representation online of Finch's work to Cordell's video interviews of Finch, and from Cordell's work to McEvoy's own, the linking technology being the Internet as both the information gathering and video dissemination platform.

Guyan Porter echoes this attitude to the frequency and range of reasons to conduct Project-level research online. He uses the Internet for Project-level research:

> "... a lot. Extensively. And that can be anything from researching trees, different types of trees, or trees in certain types of light, to information - I do a lot of research so that's studying what people are writing on a subject like immortality for example, like stem cell research, but it can also be very much like gathering visual information. So that [i.e. the Internet] is a huge resource"
>
> (GP int 5/5/17)

The digital tasks involved in desk research closely resemble what might be expected from research activities in other domains. As the examples given here illustrate, the skills needed to search online effectively, understand the reliability of digital material and share findings have much in common with some aspects of academic research.

[31] https://vimeo.com/

Unlike the digital skills infrastructures in the (non-art) higher education and research sector, however, artists lack access to a teachable infrastructure for those skills.

It is clear that information literacy skills as taught in library and information sciences (CILIP, n.d.) and, at a more introductory level in university library inductions, have much potential to underpin improvements in the quality and efficiency of desk research processes which are regularly undertaken by artists.

6.1.2 Research at Practice level

Research by artists can happen before and/or during a specific project, and in some cases can occur after project completion, providing the connection or chain between one project and the next. Research activities at Practice level are undertaken before or leading into creative production, supporting and augmenting the Project-level research activities described above that occur once a proposal or commission has been accepted, or after the project has been otherwise initiated. These research tasks are placed in the analytical model on the second level, 'Practice' when they are not specific to a particular project but rather are perceived by the artist as part of the practice as a whole, and underpin the artist's work on specific projects. When such research activities are *not* perceived by the artist as part of a project or their practice, then these tasks can be understood as existing at the third level of the analytical model, Art Work Beyond the Practice.

For many artists, research at Practice level is a continuous strand of activity that supports the artist's sense of being an artist, regardless of the production – or non-production – of publicly-visible outputs. This continuous engagement can take the form of online desk research, reading books, working with materials, visiting exhibitions and talking to people.

In some cases, each artwork or set of artworks created for a specific project holds a double value: an artwork in its own right, it also serves as part of the artist's ongoing Practice-level research process. Some artists experience their practice as an ongoing process created by each project leading into the next one – in other words, the first project becomes part of the research for the second project.

Maryclare Foá keeps paper and digital files full of written stories and painted or drawn images. These are either works that she wants to develop further, or they're completed works that she files so she can "look back and remember" as part of her initial research processes when creating new work.

> "That's why in my studio I have work from some time ago hanging around. So that I have that idea of different marks, colours, combinations of things that I was doing, that might lead onto the next thing ... often work follows one onto the other – that's how stuff happens."
>
> (MF int 16/2/2017)

In addition to this use of physical gathering of visual data in notebooks and sketchpads, and the sorts of physical filing Foà discussed here, there is also regular use of the Internet for research activities in pursuit of a mixture of theoretical, aesthetic and practical interests at the Practice level.

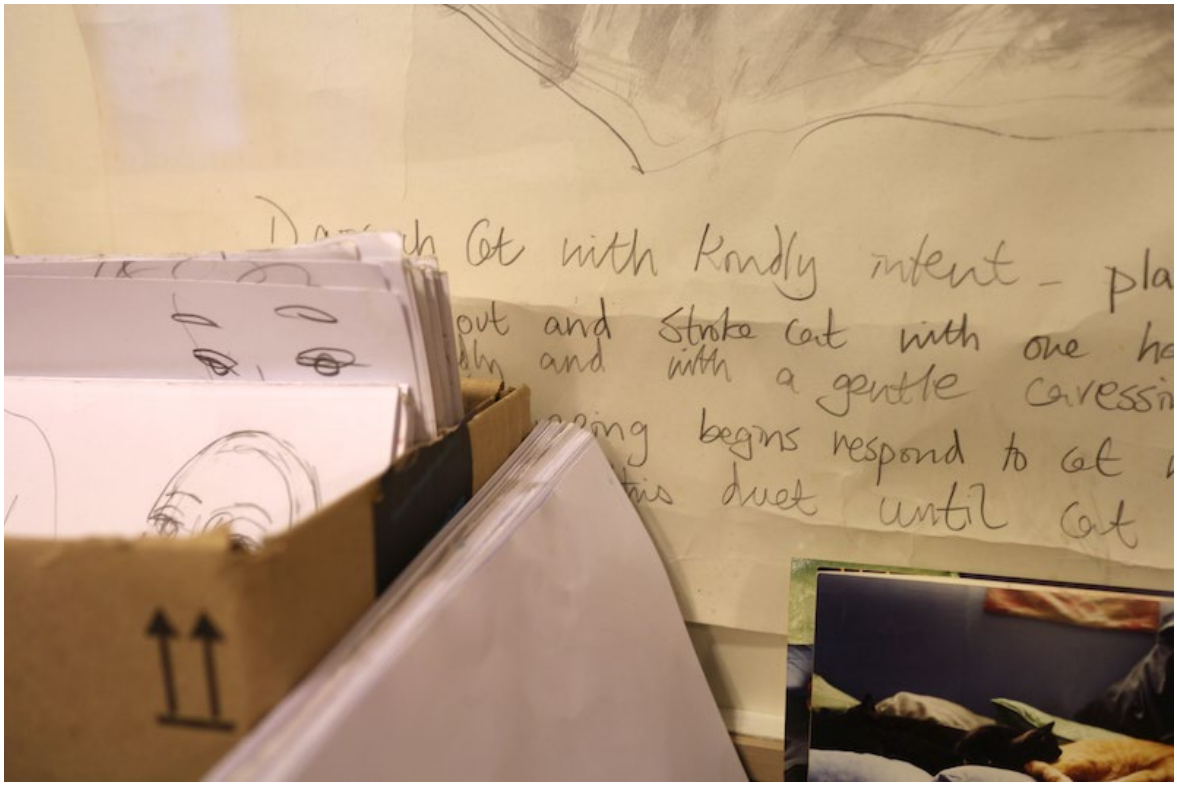

Figure 6.2. Drawings as data: information filing system full of visual notes against the wall of Maryclare Foá's studio. London, 2017.

As with other parts of their workflow, artists regularly and unquestioningly blend digital and physical tasks as they engage with their research practices. Sculptor Joseph Ingleby carries out Project-level research mainly with materials and through drawing. However, when discussing Practice-level research, he emphasises the value of wifi in the studio: "[Research] is where online comes in a lot more … Some of the desk research I've been able to do online. So it [wifi in the studio] is handy" (JI int 18/1/2017).

One broad category of Practice-level online research is the set of practical research tasks required in order to be aware of artists' opportunities such as funding sources; support, advocacy and advice for professional issues such as copyright and IPR, contracting, insurance and legal matters; and career opportunities such as open calls for exhibitions and residencies.

For painter Jacqueline Utley, Practice-level research is an ongoing activity blending online and offline information retrieval and experimental work with materials before initiating the Project-level work on the artwork that will 'go into the world':

> "I'll be reading, looking at images – a mixture of books and online. I'll be thinking about that information. I'll start disseminating it with paper using collage, watercolour, cutting things up. That's my visual research. Then start on the surface of the actual thing that might go into the world."
>
> (JU int 17/7/2017)

In many cases, this regular, innate and ongoing use of the Internet as a tool for Practice-level research is used for so many queries, and in respect to so many different parts of the artist's practice, that the artist is not necessarily consciously aware of the exact purposes for which they have been searching online, and need to consult their Internet browser history to realise the extent and detail of their Internet use. This is another clue that the physical and digital tasks here are blended and connected in the artist's approach to their Practice-level research. Susan Stockwell readily turned to her laptop, on the raised bench between us in her studio, to check her browser history as she gave a very detailed response: "Let's look at my [Internet search] history and see what I've been doing … Researching museums, pay-scales, visitor information for the London art fair, researching a writer I met last week, researching other artists…" (SS int 26/1/17).

Many artists shop for their physical making materials online. Motivations include the low prices from online retailers, or because the materials are difficult to find locally (including specialist book titles) or are materials that are unusual to find in shops or in bulk at all. Many artists of longer experience in particular note that their resourcing methods have changed from bricks and mortar shopping to online resourcing over time. For example, Susan Stockwell, who shops on eBay for materials such as

computer components and coins *en masse* to make her large-scale accumulative installations, remarks: “As a sculptor, you’re always buying bits of this and that. But there are things you can only buy online now – there aren’t the shops that there used to be to go and buy things from” (SS int 26/1/17). Some artists are motivated to buy online due to their rural location, or the desire to minimise time away from the studio. Books are popular purchases for artists and are clearly a major source of reference information. To meet this demand, online platforms such as eBay and Amazon are just as commonly used by artists as more specialist art materials or books suppliers.

Other popular online-dependent tasks carried out by artists as part of their Practice-level research include finding other information resources, e.g. digital or physical books on topics of interest. Even when the book is physical, Susan Stockwell provides a clear example of the central value of digital for finding a description of the book including its key metadata - as well as an example of how exposed artists can feel when their processes of developing concepts are made visible:

> “I read books. I read a book called ‘The Gift’ about societies and gift cultures and how that feeds into creativity. How to manage and live in a capitalist culture. I can’t remember who it’s by. Let me just Google it and I’ll tell you.” [searches online for a book she has just been reading.]
>
> *Researcher: “So that’s a good example of a process there. You were talking about how you research by reading books. Then you talked about a book you were interested in for work. Then you ‘Googled’ the information about the book. Is that a typical process for you?”*
>
> “Absolutely [laughs] - there’s no mystery anymore.”
>
> (SS int 26/1/17)

Some artists have research practices similar to those in academic research domains, in that they also consult academic resources such as research papers and academic databases in their research processes. This is to be expected with artists who also have a university-level teaching practice: Simon Pope and Ergin Çavuşoğlu frequently use academic texts in their work, as well as to share with their students. But for many other artists, this desire to engage with academic research online is driven by a real concern to have an accurate understanding of the knowledge domain to which their work refers. Driven by his frustration with the low quality of fact-checking in some picture books, illustrator Owen Davey relies on academic resources to ensure his children's picture books don't reproduce inaccurate information about the animals they depict:

> "It's really hard to get actual animal facts. Books lie as much as the Internet does. So for my research [for picture books], I have to get information that's aimed at a higher age – like, adult descriptions like research papers [online] – and simplify."
>
> (OD int 6/3/2017)

These research processes are "time-intensive work" for the illustrator as he researches "animal names, habitat, etc. I use academic papers for that", but the effort is an important one for Davey, tied to an ethical commitment to providing his audience with reliable information: "I feel like there's an obligation for me to communicate effectively and to not lie" (OD int 6/3/2017). Fellow illustrator Jade Sarson agrees on the critical importance of high-quality digital information (from both academic and non-academic sources), alongside her reference books, for providing reliable references for illustration work - even if it takes so much time to do so:

> "A lot of jobs require a lot of visual research. I have encyclopaedic resources [on the bookshelf] on history and fashion and design, but especially as I do a lot of

history comics, I need to check what a thing looked like in a certain decade. And it's hilarious how much time would be saved actually if I didn't have to do that research. […] I'd say the time is quadrupled just by having to stop drawing to go to Google and search for an image of a thing […] I don't stick to stock websites 'cause those can be quite limiting. I find myself looking at private blogs because people are more detailed on those. […] Actually, YouTube has been quite a useful resource - I've had to draw a lot of inventions. […] Often you don't know how a thing works from a picture. I'll have drawn it in one way, and you go on YouTube and actually see a demonstration from a lab […] and you think, 'Bollocks! I've drawn it wrong!' […] so I have to redo it. But that means I'm getting it more accurate."

(JS int 7/3/2017)

Katriona Beales, Guyan Porter and Jane Wildgoose are all also regular readers of research published online. Each of these artists are keen to explore particular scientific phenomena in their work, based upon exploration of the academic literature for reference images and textual information on*, inter alia*, medical symptoms, foreign locations, historical objects, and movements in epistemology or philosophy.

Beales began researching the addictive nature of Internet use on the Internet – an irony of which she is aware - when suffering a period of insomnia.

"This led me down a road of research away from arts into design and neuroscience, trying to understand what was so compelling and attractive [about the Internet] to my brain. ... So I started trying to find academic stuff about those things. When I was starting to grapple with this about 2011-12, there wasn't really much literature about this, like academic literature."

(KB int 6/8/2017)

This dearth in the academic literature identified through her own searches encouraged her to seek out expert scientists who were already working on the issue. Beales was keen to find out whether they had any further information: “I started a conversation with a clinical psychiatrist about ... the idea of online addictive behaviours and ... I went to talk with her about the academic literature” (KB int 6/8/2017). This research was conducted before a specific project had been initiated and was, for Beales, a way into a wide topic that affected her personally, and from which a project eventually emerged. The artwork resulting from this investigation, ‘Are We All Addicts Now?’ (Beales 2016-17) has been exhibited, and - completing an epistemological loop - also published in an academic monograph (Bartlett and Bowden 2017).

In a similar way, Porter undertakes wide-ranging research before a specific project comes into focus, using the Internet to find academic literature and imagery for “studying what people are writing on a subject like immortality for example, or stem cell research, but it can also be … gathering visual information” (GP int 5/5/2017).

Wildgoose’s practice goes even further into partnership with academia. She explains, “I’m using digital databases online for my historical research. Newspapers, early printed materials, magazines, 18th and 19th century books online and images. ... it’s genuinely a hybrid practice. I publish [academically] as well as the practice-facing work” (JW int 15/9/2017).

In these examples, we can see a blend of research for pragmatic and what could be called more theoretical aims, within Practice-level research activities. Both pragmatic and theoretical research can occur before or between projects. If we take Porter’s discussion of researching trees and ideas, above in ‘Project level: desk research’, together with Foà’s amassing of colour combinations and Stockwell’s quest for the details of pay scales and art fair mechanics, we can see that these are all research activities that could happen at either Practice or Project level. When we visualise these

in our analytical model it is clear that the same activity can occur before, or outwith, a specific project as an expression of ongoing engagement by the artist with their practice; but that once a given project is initiated, the fruits of these research labours can be applied at the Project level.

These narratives show clearly that the research undertaken at the Practice-level feed into, supplement or support Project-level research, and can form a basis of knowledge from which multiple projects can spring. Digital and physical research practices intertwine at this level as much as at Project level. Similar skills are required for effective research practice at both levels: information search and retrieval are largely undertaken online although there is still an important place for traditional information sources such as books and non-digital archives. The turn to the Internet search engine is as reliable a gesture to many artists as the turn to the drawing board or easel.

These accounts powerfully evoke the sense of discovery and excitement that research processes bring into art workflows, including their ability to preoccupy and surprise the artist ("*That process takes me as much as I take it*"; "*Sometimes the research itself takes on a life of its own…*"). This capacity for discovery and wonder in art research feels like one of the motors that keeps artists motivated despite the multiple systemic challenges of professional sustainability. The central position of ICTs in the research workflows of artists speaks to the importance of the digital for accessing that transformative sense of discovery and excitement which motivates much contemporary visual art making.

Artists also show a marked desire to retain access to the results of their Practice-level research, which indicates high potential for the utility of digital curation and preservation skills and infrastructure for this professional group.

6.2 The value of ICTs and digital objects as the basis of communication and collaboration activities

Communication activities - one-to-one or one-to-team, as opposed to one-to-many promotional activities - are centrally important to art workflows, appearing as a major use of time in the workflows of all artists interviewed. This trend holds strongly across artforms, age bands and location, and is almost entirely dependent upon the use of personal ICTs to create and transmit digital objects between the artist and their network.

Dependency on digital communications technologies and services has previously been mentioned in chapter 5 in the description of the proposal-writing process (section 5.3.1). WeTransfer and Dropbox are very common ways of transmitting digital objects to commissioners or other funders during the bid process, as they can handle file sizes larger than those possible by email. Their free-to-use basic accounts and apparently simple user-end functionality are popular with artists. However, there is little evidence of awareness of the information security and IP challenges introduced by the use of these and other similar platforms. This issue will be examined in more detail in chapter 7, 'Findings and analysis - Lack'.

6.2.1 Communications with artistic collaborators

Communication with artistic collaborators includes interactions with other artists - peers or assistants - or non-artist contacts with whom the artist is collaborating. These include communications from and to the artist such as requests, questions, instructions, or sharing concepts or opinions as part of the evolving research. This is another very common activity reported in interviews, which again relies almost entirely upon ICT use. The goal is usually idea generation in order to narrow down a particular concept in order to develop it for a given project or series of projects, or development of a chosen concept.

In chapter 5, Simon Pope and Guyan Porter discuss in some detail the non-digital communication strategies they carry out to generate ideas and refine concepts at the proposal development stage, including in-person conversations and non-digital letter-writing. These, however, are carried out alongside and often in response to digital communications such as emails, text messages or shared digital references. Hydar Dewachi makes a point of gathering digital documentation to get a feel for the work previously done by an artist with whom he is planning to collaborate, so that he is familiar with their interests and aesthetic and also so that he does not inadvertently suggest something that resembles their previous work too closely.

> "Yeah. By emails and documents. Any previous things the artist has done, they'll send me video of, if there's a first iteration, if they've done a performance, I receive emails, PDFs or things like that, any previous videos or photographs, that can give me an idea of what's been done [before]."
>
> (HD int 10/4/2017)

These communication activities are of course closely allied with - and can also be understood as a type of - research activity.

Other important and regular communication activities happen with collaborators in order to progress with a project, including communicating with curators who tend to be seen as active participants in the development of a project rather than passive recipients of the finished work. Tamarin Norwood's comment above, "... I was emailing back and forward with [a curator]", exemplifies this position; Janie Nicoll reports communication with curators is "always" done online (JN int 19/1/2017). Guyan Porter, who usually initiates his own projects, is often interested in a specific location. The next step for him is to "start the process of, in a way, selling the idea to people who are custodians, curators or guardians of that site, whoever they are. 'Selling' is maybe the

wrong word to use, but getting them on board, saying 'this is what we could do here'" (GP 5/5/17); if this set of communication activities is not successful, the project will not progress. These communication activities are, as in the case of communicating with collaborators, based on a mixture of in-person and digital communications, including the exchange of emails, text messages, and the exchange of photo, audio, video or textual digital objects as references.

6.2.2 Communications with technical collaborators, makers, installers, suppliers

Once the project is underway, and work has been at least roughly planned or a concept hit upon, artists can – funding permitting - begin to commit to the expensive and time-consuming process of construction. These communications activities are more obviously visible in the workflows of those who make 3D work (such as sculpture or installation) rather than 2D work (such as paintings). Joseph Ingleby's drawings, discussed in section 6.1.1.2, 'Project level: drawing as a research method', above, are then scanned and digitally compiled, or on occasion turned into vector images with the help of a digitally-skilled friend, before being shared with others involved in the project. Ingleby emails the results of his materials-led experiments – the exact type of metal, the exact measurements of lines and shapes - to the Sheffield-based foundry employed to fabricate his work. Similarly, sculptor Johannes von Stumm employs a contact to "translate" his findings into SolidWorks computer files for 3D prototyping (JS int 1/6/2017).

Susan Stockwell's massed materials for one of her planned installations (Stockwell 2018) are coins and currency notes. The visual impact and conceptual strength of using physical currency as a sculptural medium is immediate; what is not so apparent is the scale of the communications activity required behind the scenes in order to gain access to this amount of cash for the sake of its materiality. This is not a material that can simply be ordered online, and as such, needs intensive communication activity.

> "I want to make it an Armada situation, maybe using money like Euros and dollars, or sterling. And that involves approaching banks to sponsor me. So I'm doing loads of research, talking to people, writing letters, approaching banks to loan me £10k, to give me the money for 3 or 6 months, to show in a really big space."
>
> (SS int 26/1/17)

When the work is fabricated by others, as it is in the case of Liz West's large-scale installations, scanned drawings are included in proposal documents when communicating with commissioners and are also critical later in the development of the project, when they are turned into renders in a CAD program for the use of fabricators or structural engineers. These images underpin the ongoing discussions between West, her staff and her fabricators and make it possible for her ideas to be turned into physical reality. Digital objects used in this category of communication are more likely to be preparatory images and written specifications created by the artist rather than references to other work.

6.2.3 Communication with audiences

Communication with audiences is assumed to be an important issue for artists, on the basis that audiences must be found to interact with and respond to artwork (Becker 2008). However, this is not just an issue arising at the end of the artist's process; communication is often required with specific audiences during the workflow. This is most obviously the case for certain key steps in contemporary commissioning, particularly when this commissioning is by publicly-funded organisations.

At the time of our conversation, Joseph Ingleby was preparing for a public consultation on his proposed sculpture work for a local authority. His means of communication for this project task is a clear example of digital and physical strategies blended to allow

him to both express his aesthetic and design priorities through drawing, and to present an ordered and clear artefact to be shown in the setting of the public consultation.

> "This is a set of drawings for an interview for the commission I'm currently doing. Our presentation sheet. [...] This was just done for last week for a public consultation and it's taking pencil drawings from the sketchbook, which is unusual, and darkening them [i.e. increasing contrast] and then placing them [together on the sheet]. [...] And [the drawings are] annotated in this particular case because it's a presentation sheet for community consultation."
>
> (JI int 18/1/17)

In his preparation of this presentation sheet, Ingleby has thought and drawn (see section 6.1.1.2, 'Drawing as a Research Method') in the studio, before deploying a blend of physical and digital means to present the results of his research to members of the public living in the area where the proposed work will be installed. Janie Nicoll and Simon Pope both also recounted the importance of dialogue with members of the public in the making of their work.

But not all audiences are non-artists - a point which is underappreciated by most of the major theoretical frameworks in this space. Artists do not only view each other as competitors or collaborators; they can also be genuine fans of each other's work and yearn to be part of a community with other artists. Painter Jacqueline Utley has recently "inherited" her daughter's iPhone and started using social media. She is enthusiastic about using Instagram – which she describes as "quite a friendly place for painting" – as a nimbler online presence for her work than her website, as it is easier to update and allows for more interaction with fellow artists.

> “I’ve been doing snippets from the studio. Sometimes I put older work on that I don’t have on my website. It’s connecting to other artists and seeing what people do - I find it completely fascinating.”
>
> (JU int 17/7/2017).

At first glance, this one-to-many communication sounds like promotional work, but as the quote makes clear, Utley is not trying to promote herself but rather to find herself a place within a community of fellow painters and to find out what her peers are doing in their studios. She is enthusiastic about adding to her in-person contacts with other painters, and is enjoying building her audience online - not necessarily to sell, but to strengthen her sense of working within a community.

Artists, then, use digital tools to build and engage with an audience, which may be friends and family, other artists, and members of the public both within and beyond the art world. This set of activities is a subset of communication activities and may connect with - but should not be conflated with - promotional activities. Audience building is in search of different capital types than promotional and selling behaviours: not for economic or even symbolic capital, but something less easily accounted for in Bourdieu’s analysis - community. The value of community building is supported elsewhere by artist Hannah Place (not one of the participants of this study), one of a generation of younger artists who see their art work as explicitly including the labour of making art happen through network creation and community building as well as production activities (Seltzer 2020). Community building is consistently important in artists’ narratives, whether or not it is explicitly recognised as an art-related activity. As painter Lucy Stopford reflected, “I think as an artist, you are quite – adrift is the wrong word, but to have a context I think is helpful … doing it all alone entirely in isolation must be the hardest thing of all” (LS int 10/5/2017).

As with other aspects of their work, it is clear that artists rely on digital information use - including the circulation of digital objects - as part of their regular communication activities; and that by bringing about intellectual and conceptual collaborations, technical decisions, promotional gains and community building, digital communication and collaboration activities help make art work possible.

6.3 The value of digital objects held by participants

All interview participants were able to discuss their digital object collections, and to reflect on the place these objects play in daily working practices. There were six main reasons for storing digital objects, regardless of whether these are digital objects which have been created by the artist, shared by another or retrieved from the Internet. These six main purposes are:

1. for research purposes
2. as evidence for funders, potential funders or exhibitors
3. for promotional purposes
4. as source material
5. for personal reflection
6. for commercial sale or licensing.

When asked about the purposes for which they kept digital objects, the value of digital objects for *research purposes* was clear and has been recounted in detail above. Turning to the other value types listed, another strong theme to emerge was the importance of having digital photographs and – to a lesser extent, digital video - to *keep and disseminate as evidence for funders*. There is a very clear relationship here between artists' digital object handling skills and value. As we heard in the previous chapter, the creation of applications for funding, exhibiting and residencies is a resource-intensive practice that is or has been important to all participants. Such applications now require digital objects - usually in the form of textual plus photo or video digital objects - to be attached and despatched digitally. As also previously

noted, the ability to create, manage and share good quality documentation of ideas, research and completed past projects underpins the artist's success here in capturing economic and symbolic capital. Simply put, if the artist cannot perform these digital object management tasks well, she cannot participate in the full range - or even the majority - of artists' opportunities in the contemporary art world; it is clear that this has a major influence on the ability of the artist to sustain practice.

The value to artists of digital objects for use in *promotional purposes* also has a direct connection to capital accumulation: obviously, promotional activities are done in order to increase awareness of the artist's work to potential clients. Illustrator Jade Sarson is clear on this point: "I'll use JPGs of old work for securing new clients" (JD int 07/03/2016). Hydar Dewachi does a separate edit of film work in order to make a YouTube-appropriate shorter version for sharing as well as creating digital content for his website. This is done specifically in order to market, not the artwork that he is displaying online, but himself as an artist:

> "…for me putting things online it just shows people the style of what I do. The sketchbooks for example. I don't put them online because I'm selling them. I put them online because it's nice to show it – sometimes you get feedback, sometimes you just get ignored, but it's for people to see it and not – I market myself rather than the product. So me and my website is a way of marketing myself, and the skills rather than the products themselves. I've never sold any photograph through my website but I get commissioned by people who've seen my photographs ..."
>
> (HD int 10/04/2017).

These, then, are activities that aim to win a mixture of economic and symbolic capital. When all goes well, both new people and new funds enter into the artist's art work,

contributing to the underpinning layer of the value model (chapter 5) and bringing benefit to the rest of the layer stack.

'*As source material*' is the next in the list. Painter Jonathan Meuli and sculptor Martin Smith both retain significant numbers of digital photographs as source material for their work. Illustrators Jade Sarson and Owen Davey's remarks about the value of digital images retrieved from the Internet - as well as from books - constitute an important reference library for their output. Film-maker Izzy McEvoy "use[s] things as a constant source for work", referring to her digital files, including rough footage, kept on a series of external hard drives (IM int 12/05/2017).

Personal reflection was also a strong theme in the value of digital objects to artists. Personal reflection happens before and after projects, as artists reflect on their creative trajectory and find ways forward with their work. Simon Pope connected personal reflection and the gathering of digital objects with the notion of how both artist's reputation and artwork survive in the future: "there's always a point at which people marshal their archive … This is part of being written into art history. It can seem like storage suddenly becomes a question of legacy and a place in art history" (SP int 25/07/2017).

Retaining digital objects directly to accumulate value through *direct sale or licensing* is an important value type, predictably, for the illustrators Sarson, Davey, Brian Grimwood and Lucy Bergonzi; the standard professional workflow for illustration is to license the use of a given work to the client for a stated set of purposes and for a specific time period. This is clearly a major source of income for these artists.

This basic typology was devised through analysis of artists' accounts of why they value their current collections of digital objects. It is a clear and practitioner-focused way of laying out the complex - and sometimes connected - types of value that are invested in

digital object collections by their owners, and in each case we can see direct connections to economic or social capital, and/or to artistic value.

6.4 The value of digital object handling skills

Digital object handling can be understood as the skills and competences required for effective digital information literacy, as applied to the creation or receipt, storage, sharing and use of digital objects. Digital information literacy encompasses digital information search and retrieval, information management, use and reuse, and management of digital objects to ensure their reliability over time. These types of digital object care are known in the information sciences as *digital curation* and *digital preservation* (Higgins 2008).

Digital information literacy also includes the ethical, legal and effective use and reuse of digital information objects, and the ability to critically consider the reliability of information upon which we make decisions (CILIP n.d.), an increasingly urgent set of skills as society moves from the pervasiveness of digital as a distinct new mode of communicating and working, to acceptance of the "postdigital" blurring of human and digital experience (Causey 2016).

At the everyday level for artists, digital information literacy means how well artists can identify an information lack and use online search effectively to find reliable information to which they can refer. If a digital object such as a text or image is downloaded, skills are needed to make sound decisions about how that digital object can and should be received by the user - for example, in respect to the quality of the file; the reliability and provenance of the information it contains; the copyright holder(s) and the permissions specified by the owner(s) for potential reuse; whether an adequately high quality version of the image has been located and downloaded or whether a lower-resolution version must suffice due to constraints on bandwidth or space; and which file type has been chosen for download and storage. Knowledge and skill are also required to make

sound decisions with respect to how the file is stored: whether it is legal to have accessed or stored a copy of the digital object at all; whether a digital text or database containing sensitive or personal information is kept in sufficiently secure storage; whether drives containing material are stored in appropriate physical conditions and far from threats such as temperature extremes, flooding or theft; whether material is kept on highly-losable USB sticks, or on commercial cloud services with security or IPR issues; how to ensure an appropriate number, nature and location of back-up copies of downloaded objects; and how to systematically label and structure file stores in order to be able to reliably find the right version of the correct file in the future.

These are all decisions that can be taken with lesser or greater skill. As we have seen from the discussion above, digital file use is deeply embedded in contemporary art practice, a point that demonstrates these skills are of fundamental importance to artists across all the digital activities they undertake at work. The quality of decision-making in these areas can have long-lasting impacts upon the artist, what can and cannot be done with the curation and sharing of their work over time, and the likelihood of running into legal or technical difficulties in the future. Digital object handling skills are researched and taught in the information sciences, and there are currently efforts to inculcate them more broadly – for example, in the publicly-funded research sector. However, as discussed more fully in chapter 7, 'Lack', most artists are currently working without having received training in these skills.

Do artists attempt to compensate for this by delegating these tasks to another? Not often, not often as we are not working in an organisational context here. Delegation did happen in one case where the artist is also an agency director and has IT staff to call upon to help with putting digital artworks online in an appropriate format and resolution. When help with digital tasks is sought or provided, it is usually in the form of peer skill-sharing rather than the senior-to-junior implications of 'delegating' as it usually occurs in the organisational work context. Peer skill-sharing occurs whether paid or as an

unpaid reciprocal action, as discussed in section 5.5, 'Workflow analysis model: Fourth layer – Resources', section 5.6.1, 'Network', and touched on in section 6.2.2, 'Communications with technical collaborators, makers, installers, suppliers'.

The digital tasks with which artists reported most commonly seeking help were related to the design and/or content of artists' personal websites. Brian Grimwood seeks expertise to upload new material efficiently; Lucy Stopford, Katriona Beales and Alexander Hamilton have each hired professional website designers – who variously may or may not be from their existing peer networks – to redesign their own site. Stopford and Ros Rixon both report hiring professional photographers to produce digital photographs as documentation for use on their respective websites. This investment may reflect the value placed on getting the highest quality of documentation possible, due to the critical role such imagery plays in the selection of artists for opportunities and the representation of the artist's practice to the public.

Artists have mixed responses to the notion of digital object handling skills having specific value. Many digital information and communication technologies currently in wide use in this professional community – notably Apple Mac products – are marketed around the suggestion that they are so easy to use that specific guidance in the form of manuals or training is unnecessary. This is a sales strategy, but it also helps to diffuse the notion more broadly that the use of personal ICTs – effectively, the skills around the creation, storage, transmission and use of digital objects - is not something that is either teachable or that can be done to a greater or lesser level of quality. In this way they become invisible skills and certainly not something that is a high priority on the tertiary education curriculum. To a certain extent, artists are just as susceptible to these misapprehensions as anyone else.

Interviewing artists for this study necessarily involved asking questions around their engagement with digital information handling tasks to assess how familiar artists were

with these tasks, how frequently they engaged in them, and how confident they felt about their ability in each skill area. The notion of 'confidence' is used deliberately here, as there was no structured test or observation during the interview in order to independently assess artists' competence in these information-handling tasks against an external benchmark. My research questions are focused on what digital object handling strategies artists develop, and what factors influence those strategies. As there is not a structural set of principles to guide artists in this space, it is important to base that enquiry on what artists do and why they make those decisions. So, clearly, their personal feelings of confidence or lack of knowledge about these skills and activities are important to elicit.

Artists discussed their existing skill level and their appetite for training / guidance in the following five key information literacy skills areas, which will be discussed in the following subsections:

1. Internet search
2. Digital object management
3. Sharing digital objects created by self
4. Sharing digital objects created by others
5. IPR and copyright

This part of the interview often resulted in a wide-ranging discussion about these skills which, to some extent, brought these activities into focus – often for the first time - as specific, teachable, learnable skill areas. Many artists were caught between the desire to understand more and to improve their own skills, and the fear of having yet another area in which they were required to demonstrate competence without any additional support or resourcing.

Perhaps unsurprisingly, artists were broadly in favour of access to support, guidance or training for improving digital object handling skills for artists in general, but were less likely to specifically say they themselves would undertake such training or use such guidance, even when they had already self-identified a skills gap in this area that such training or guidance would ameliorate.

6.4.1 The value of skills: Internet search

Artists are daily users of Internet search engines, with the majority performing search online for a work-related information task more than once per day. How much do artists know about search term combinations, keyword use and the co-created nature of online search engine results? Artists self-assessed their level of knowledge about effective Internet search techniques using a five-point Likert item as follows:

1. 'absolutely not knowledgeable'
2. 'not really knowledgeable'
3. 'not sure'
4. 'fairly knowledgeable'
5. 'definitely knowledgeable'

Most claimed to be "fairly knowledgeable" about effective online search, but often coupled this with comments that indicated no particular approach to or specific skills in the formulation of Internet search strategies. Susan Stockwell's response is typical of this point of view:

> "I think I'm alright at it [Internet search]. It's not exactly rocket science is it? It's quite low level, isn't it? But I could probably be better if I had some training, as in, understood what I was doing really. I've just picked it up as I've gone along."
>
> (SS int 26/1/17)

There was some spread of opinion on the usefulness of training in Internet search skills, with a tendency to be in favour of this type of guidance and support being available to artists. Several artists noted that they had not considered the idea of Internet search as something learnable or improvable before. Lucy Stopford's response was typical of this as she thought through the perceived tension between being able to search effectively, on the one hand, and the potential value of accidental online discoveries, on the other:

> "That's interesting. It's a bit like art. If you got there immediately, you wouldn't discover things on the detours. So yes, it would always be good to have that [training or guidance on Internet search strategies] as an option. But not having it would mean you – no, it would be good. Because failure's not great, is it?"
>
> (LS int 10/5/2017)

Those who had received any instruction on Internet search strategies were a very small minority of artists interviewed and accredited their university library induction with having provided an introduction to the topic in the context of searching for journal articles and other academic publications. Ergin Çavuşoğlu, as an artist who holds a position as a university professor, discussed this point from the perspective of the educator:

> "I think it's important. It's more the case where students are taught about what is a primary and secondary source, what is reliable information. And the same thing applies to artists. Of course, you have the freedom to do whatever you want, but [...] you need to create the awareness of what this search engine produces."
>
> (EC int 12/5/2017)

It's unusual for artists to demonstrate an awareness of the co-created nature of online search engine returns in this way, and those who did usually had a university research or computing science connection. Sculptor Johannes von Stumm is an exception to this trend. With a long career working primarily in glass, metal and stone, von Stumm is a regular user of Internet search, looking online at least once per day, and describing his Internet use as "vital" to his work. He enjoys comparing the respective results returned from more than one search engine. Part of his motivation for these experiments is to limit the amount of data that each engine is able to gather from him by avoiding giving any particular search engine all of the inputs for his online searches. "I don't want to have all my information stored by one place", he explains. "They [search engine providers] will do it anyway [store my information] but I try to play tricks on them […] because I don't want to be completely see-through." (JS int 1/6/2017).

6.4.2 The value of skills: Digital object management

Most artists routinely search for, retrieve and create digital objects as part of their working practices, resulting in a collection of digital objects that must be managed in some way over time if they are to remain available for use and reference. These digital objects are fragile and highly susceptible to neglect (as discussed in Chapter 1), particularly as the majority of artists' digital objects are not routinely deposited in a managed archive (see chapter 7, 'Lack', for more discussion of this point).

Many – but not all - artists asked questions about what was involved in digital object management before they were comfortable assessing their own level of knowledge. We talked about the key skills involved, including selection and appraisal of items to retain, provenance of digital items, description and file format selection, choosing a storage environment, preservation, and understanding the legal aspects of use and reuse. The structure of this definition of digital object management is provided by the Digital Curation Lifecycle Model (Higgins 2008) which is widely used as a definition of digital curation in the UK. As discussed in chapter 1 (section 2.1.4.2), digital curation is

expressed here as a whole-lifecycle view of digital object handling, including the skills involved in seeking, receiving and creating digital objects, and including the processes of selecting which digital objects to keep, before addressing the management of the resulting collection in a preservation environment. In this way, digital curation presents a practical, comprehensible view of digital object care tasks that runs alongside the workflow modelling with which artists had already engaged. Digital object management is often assumed to be simply about storage. Here, the concept is clearly expanded to include the entire lifecycle of the object from when it enters the workflow onwards, including - but not limited to - storage-related decisions and activities.

There was very little evidence that any sort of training in these digital object care processes had been provided to any of the participating artists, despite the range of ages, educational backgrounds, artforms and schooling locations, and the training that had been received by only two of the participating artists was, in both cases, provided by preparation for an employed role in an art-related post. Further, and as also seen in the discussion of Internet search strategies, artists were often surprised by or initially resistant to the idea that this is a discrete skillset that can be taught, learned or improved.

Again, artists self-assessed their level of knowledge about effective digital object management using a five-point Likert item, ranging from ‘absolutely not knowledgeable’ through ‘not really knowledgeable’, ‘not sure’ and ‘fairly knowledgeable’ to ‘definitely knowledgeable’. To most artists, the idea of digital object management usually equated to having a file hierarchy with which they were familiar (or another way of knowing where their files were) across their data-holding ICTs; putting things on external plug in hard drives; and creating back-ups. Many artists use Mac laptops in their daily work, and many of those artists use the Time Machine back-up application but expressed concern that they did not know how it worked, if they were using it properly, or how they would retrieve a specific file from the back-ups created. Despite

most artists claiming to back-up their data regularly, there was very little awareness of the digital preservation obligations created by the making of back-ups: the general consensus was that having created a back-up, the job of preservation was complete (rather than just begun).

The use of external plug-in hard drives is widespread in this population, with these appliances widely viewed as reliable solutions for all storage and back-up requirements. This is not surprising given the relatively affordable and portable nature of external hard drives and the lack of existing sector-wide solutions for digital curation and preservation. There was limited indication of awareness of the risks of using these drives, although most users reported that they had more than one external plug-in drive and there was in some cases evidence of creating multiple copies of the same object on across different drives to guard against media failure.

Two artists discussed the obsolescence of carrier media such as magnetic tape, floppy disks, videotape etc. Simon Pope was one of the early UK generation of Internet artists and, emerging from a longstanding interest in computing, it is perhaps unsurprising that he is aware of preservation challenges for some of the interactive web art he was involved in creating including the problems caused by the obsolescence of physical media. Coming from a different generation and artistic community, landscape painter Ethel Walker-Murray is also aware of the dangers of carrier media obsolescence, having been warned about it by her son. But in general there was little awareness of the risks presented by physical loss or obsolescence of plug-in external hard drives despite their almost ubiquitous use. In addition, several artists reported use of plug-in USB sticks as a preservation strategy, despite the multiple problems with reliance upon these as a long-term preservation solution: they have all the risks of physical obsolescence and damage, but are also much more likely to be lost due to their small size. They are also often built to a lower quality than external plug-in hard drives as they are widely manufactured and distributed as promotional items rather

than as a storage option that has been tested for a certain level of durability. But of course, the bigger problem here is the difference between the concept of *storage* and that of *preservation*. This problem is unpacked further in chapter 7, 'Lack'.

6.4.3 The value of skills: Sharing digital objects

As discussed earlier, much art work is done in partnership with other artists, or stakeholders such as friends, curators, fabricators and dealers. This applies across many activities in the Project, Practice, and Art Work Beyond the Practice layers. As this implies, information and communication practices are discussed above and clearly show the extent to which online communication is critical to contemporary art working practices. We know there are various ways in which artists use online means to communicate. We know they value email as a key communication mode – primarily a textual means of communication. But we also know that art making and art research are heavily dependent on images and visual methods of research. This implies that the sharing of visual digital objects is likely to be important.

This turns out to be the case: most participating artists regularly share digital objects, including visual digital objects such as digital images and video clips, with their contacts either by email or by a file-sharing service, and many 'share' them with a wider public by posting them to social media or on a website or platform. In conversation with artists, however, I attempted to focus on the first mode, i.e. sharing with a known other person (thinking of this as 'one-to-one' rather than 'one-to-many' sharing) as, whilst there are many seminars and some training on how to share your work on social media, this seems a particularly pervasive yet underexamined activity in art work.

Digital object sharing cuts across communication, research and promotional activities; as a result, discussions of each of these activities necessarily overlap. There are two types of digital object sharing – the sharing of digital objects created by self or created

by others – and in the minds of artists, both are closely bound up with issues around intellectual property rights (IPR) and copyright. As with most questions that are connected to IPR and copyright, artists simultaneously did and didn't want to discuss it. Few expressed calm clarity on the issue – reporting high confidence in knowledge of good practice in digital object sharing was much rarer than reporting confusion, uncertainty or a conflicted or contradictory attitude.

Illustrators in general seem to be more versed in knowing how to share, in the sense of a technical solution for delivery of their work to a client, as well as in the sense of how to express and protect their copyright and the use of appropriate licenses. Concerns from illustrators were more around clients using the wrong file – for example, a low-resolution preview, instead of the high-resolution print final – rather than concerns around copyright per se. It is clear that the Association of Illustrators and DACS have each been a useful source of expertise for illustrators in clarifying their copyright and IPR issues. Illustrators quickly need to establish and agree delivery methods with clients within the timescale of a given job – these are often in-house solutions provided by the client for final work, with email for the smaller preparatory files and upload to private FTP servers run by large art agencies, or use of commercial platforms such as Dropbox and WeTransfer for clients without their own file-sharing solution.

Film makers also showed evidence of having thought carefully about the technical aspect of digital object sharing – presumably the large size of digital video objects make it a higher-profile issue than for some other artform communities, but the confidence of film makers in IPR and copyright-related issues was not as uniformly high as that of the illustrators.

Artists working in other forms showed a more mixed set of responses to the issue of sharing digital objects, either created by themselves or by another. On the technical side, a fairly uniform set of tools were used to share digital objects: Dropbox,

WeTransfer and YouSendIt[32] were popular file-sharing platforms, all free at the point of use, with some uptake of Google Drive for textual documents, particularly collaborative texts. Email was another obvious option for smaller objects. It's clear that that artists using these online file sharing platforms are doing so due to their free-at-the-point-of-use appeal, as well as the low cognitive barrier required for their use. But there was very little indication that artists were aware of or understood – or wanted to engage with – the risks and liabilities introduced to the safety and privacy of their digital objects by the use of these platforms.

There was a marked level of anxiety about unauthorised reuse of artists' digital objects, but this often co-existed with an appetite to use the digital objects of others. Attitudes varied towards the importance of respecting intellectual property rights and IPR. Some artists proclaimed that they had no interest in whether someone else reused work that they have posted online. Other artists were very anxious about the possibility, to the extent that it stopped them posting visual material online at all. Some artists claimed to not care but then when asked whether they would be happy with another person claiming authorship, showed agitation. One artist explained at some length how he is happy for anyone to counterfeit his work, if they considered themselves able to do so, and that he was not interested in copyright issues at all. But later, this same artist recounted a long and painful legal case that resulted from his taking action against a copyright infringement.

In general, some - but a minority of - artists demonstrated an informed grasp of IPR issues and were able to talk about them confidently. It is clear that DACS is an important source of expertise on IPR for this set of artists. Whilst noting that the sample is drawn entirely from artists who have signed up to the DACS Payback scheme for royalty payments, which makes DACS clearly more likely to be recognised

[32] In 2013, that is to say several years before interviewing, YouSendIt was renamed Hightail, but the platform was uniformly referred to by artists by its earlier name.

as a source of expertise, it is worth also noting that IPR is an area of expertise offered by DACS which is particularly appreciated by artist members.

It is likely that a working understanding of applicable aspects of copyright and IPR legislation will continue to be important for the contemporary artist working in the emerging digitally-based cultural heritage sector. The idea of copyright is often approached with rather blunt ideological positions. Copyright can have negative connotations for some communities (Helprin 2009) on the basis that it can be toxically deployed in favour of oppressive, arguably unethical big business practices - for example, in some parts of the academic publishing world, or by media conglomerates in such a way as can suppress creativity or deny the collaborative practices underpinning some creative processes (Zemer 2017, Madison 2003). These arguments are, in many cases, sound and important. Like any tool, copyright can be used well or badly, helpfully or oppressively. However, these narratives rarely specifically account for the very specific communities to whom copyright is ultimately of great significance - such as working artists - from a practitioner-focussed point of view. If copyright royalties are a major strand of income from art work, to declare that we should all practice copyleft approaches to our own and others' digital objects is to take away a critical income from many individual artists. Tools such as Creative Commons licenses[33] and GNU copyleft licences[34] are potentially very useful for the machine- and human-readable marking of creative or intellectual work of various sorts, but access to a tool is not the equivalent of a sound knowledge of how to use it well and appropriately, to achieve the outcomes required and intended by the user. This is a core point that often seems to be overlooked or misunderstood in art world wrangles about copyright and the use of licenses.

[33] https://creativecommons.org/
[34] https://www.gnu.org/licenses/copyleft.en.html

As such, and as discussed later in 'Recommendations', artists would benefit from a robust working knowledge of the basic rights involved in their copyright jurisdiction (and noting that copyright law varies in different parts of the globe), how to handle these rights and respect the rights of other artists, and the ability to advocate within the art world for the application of sound copyright practice - including respect for artists' IPR - in such a way as to protect artists' work and incomes. In this way, copyright and IPR skills can provide value to artists in their efforts to sustain practice.

6.5 Value: Concluding remarks

This chapter presented and discussed the key thematic findings that emerge from the data gathered for this study. As seen in chapter 3, there is a limited amount of practitioner-centred research in information practices within the creative arts, but the results here are consistent with what other scholars have found. In line with Cobbledick (1996), for example, it is clear from the above description of artists' research tasks that their work responds to and draws upon the full complexity of the world. Artists do not only seek information on existing artworks or artists but on a wide range of topics and phenomena. Accordingly, information retrieval for artists includes this wide sweep of subjects, and artists want to be able to retrieve information from textual (academic and non-academic), visual, video and sound sources.

As Hemmig (2008) notes, "There has been very little discussion of multimedia and Web-based resources in even the most recent literature" (Hemmig 2008, p. 359) - even in this decade-old study, he found that "only 9.5 percent of respondents who answered the question reported having no home computer" and certainly his prediction - that the use of electronic resources amongst visual artists is likely to rise - was an astute one. Hemmig's study found that inspiration and technical information were two key reasons for artists to seek electronic resources and this is certainly echoed by the key categories for information seeking online, as found here.

But artists appear to be using digital information for a wider spread of activities. When art work is considered, the important tasks enumerated do not usually include communication and collaboration activities, yet every artist in the current study spent a substantial amount of time in their interview discussing communication activities, and it was clear that almost all artists were communicating digitally in support of one form or other of collaboration. Collaboration and communication take place at all layers of the Value model presented in chapter 5; they are clearly implied by the existence of 'Network' as one of the elements of the Foundation level of the model, which supports all the layers higher up the stack. Further, communication is part of most of the activities on the Practice and Art Work Beyond the Practice layers; and is present at the Project level, in order to muster ideas, give and receive feedback, and carry out project management.

The excerpts given here corroborate the basic proposition of Becker's Art World theory as discussed in chapter 3; namely, that art - even when apparently produced by a single individual - is a practice arising from, and shaped by, collaboration. This can take the form of 'collaboration' in the sense of building in time and resource for listening to, and acting upon, the input from local communities in order - to varying extents – to co-create the artwork.

Results as discussed in this chapter, then, build upon the little existing literature there is on the topic of visual artists' digital information needs and strategies, and provide progress towards answering the research questions introduced in chapter 1.

In reference to RQ1[35], the current strategies employed by artists to seek, manage and disseminate digital information including digital objects and information retrieved from

[35] RQ1: "What are the current strategies employed by professional visual artists to seek, manage and disseminate digital information objects, including those obtained and disseminated as a result of Internet use?"

the Internet, become clear through the extensive narratives supplied by artists here. 'Strategies' is perhaps a slightly ambitious phrasing for the sometimes rather extemporaneous actions reported by artists, and perhaps 'habits' might be a more appropriate term, but the point remains that artists do build up ways and patterns of seeking for information online, saving and - to some extent - managing these digital information assets, and sharing digital objects with their networks, and that these activities both consume a great deal of artworking time and effort, and also underpin almost every key set of activities undertaken in art work. This chapter's discussion lays out the main groupings of digital information-related activities and the attitudes towards these - for example, the resignation towards the necessity of proposal writing or the enthusiasm for engaging with one's community of fellow artists and peer collaborators.

When we turn to RQ2[36], we see that the art school curriculum, and funder policy, are both conspicuous by their absence as sources of influence on the formation of these strategies or habits of digital object handling. In contrast, the majority of artists are working with digital objects in an improvised way, relying upon advice from peers, friends and relations when the issue of digital object management has been discussed at all. There is a sense of discomfort across the sample group, including artists from all age brackets and genders, about the reliability of their digital object management arrangements, and only in a few cases is there evidence of a considered and informed, structured approach which may confidently be called a 'strategy' for these tasks.

The central paradox is that the sample of artists who engaged in this study is notable for the high level of thoughtfulness and intelligence applied to the complexities of their work, as well as the high level of formal educational achievement by the vast majority of the sample. For this professional group, then, to be so reliant upon *ad hoc* systems

[36] RQ2: "What are the influences upon contemporary visual artists when making decisions about the management of their digital objects, and how far do their decisions support the sustainability of those objects?"

of care for digital resources they frequently describe as highly valued or essential, seems to me to demonstrate a vulnerability for which there is an urgent need for support in the form of infrastructure and skills.

Chapter 7: Findings and analysis – Lack

The previous two chapters have unpacked, respectively, a new analytical model of art making and the value to artists of digital objects in the tasks and activities that populate this model. These chapters have set out the value that is produced by analysis of art workflows, the value of digital objects and digital information skills to those workflows and how these contribute to the sustainability of contemporary art practice.

This chapter will work as a companion to these preceding chapters on value by completing the picture: whilst artists participating in this study have identified many types of value, they also drew attention to areas where there are important gaps of various kinds. These constitute the other main theme of our findings: that of 'lack'. The theme of lack in no way implies a failing on the part of artists, or reasons for which they should be pitied, patronised or judged. Rather, the theme emerged from a desire to group together the various strands of participants' narratives that deal with ideas around emerging knowledge, new tasks and responsibilities required of artists by developments in the digital cultural heritage around them, and the need for further resources in order to successfully carry out these new tasks and meet these new responsibilities. In all of these cases, artists experience a lack. In particular, four key areas emerge in which artists are facing a lack of support for the sustainability of their digital objects and - by extension - their practice:

1. Digital skills as 'invisible labour': the lack of visibility of digital skills as discrete skill area
2. Lack of foundational knowledge of information literacy and digital object management
3. Lack of training infrastructure for digital skills
4. Lack of specific resource for digital infrastructure for artists

The separations between these four factors are to a certain extent artificial. For example, in a situation where digital object management and preservation issues are invisible to the commissioner and the commissioned artists involved in a project, it is clear that no specific resourcing will be made available for digital infrastructure. Where there is a lack of foundational knowledge, i.e. to the extent of understanding the skills that are lacking to undertake high quality information retrieval or digital object care, then it is highly unlikely that efforts will be taken to engage with or agitate for training provision. With the proviso that these issues closely interrelate, then, each of these four topics will be discussed in this chapter.

7.1 Digital skills as 'invisible labour': the lack of visibility of digital skills as discrete skill area

Invisible labour is a conceptual analysis which has been applied to various worlds of work including domestic, office, research and service jobs, and unofficial labour structures (Hochschild 1983; Daniels 1987; Cox 1997; Creamer 1999; Toksöz and Erdoğdu 2013; Poster et al 2016, Magoqwana et al 2020). Labour can be invisible in several different ways. One of the most obvious is when workers are placed out of sight of customers or users, such as farm work performed by undocumented migrant workers, Amazon warehouse pickers, or knowledge workers online (Poster et al 2016). Another form is work without the dignifying label of 'work' yet the worker "can be sanctioned for not doing" these non-leisure activities (Daniels 1987, p. 413). In some cases, the work is instead understood by the recipients - and sometimes by the worker herself - as being a 'natural' behaviour or a gift or expression of love - for example, cleaning the home, caring for family members, and preparing food; or domestic 'emotional labour' (Hochschild 1983) such as encouraging and supporting a partner with problems, resolving conflicts and negotiating for reasonable treatment from family members (Daniels 1987, p. 407-8). Related forms of this are the work involved in

appearance preparation for women in roles such as fashion salesperson, air steward, 'breastaurant' server, or cheerleader (Poster et al 2016).

Another type of invisible labour is the sort of workplace emotional labour carried out by secretaries, receptionists, service and care industry workers and some university faculty members. Here, the labour is not part of the formal definition of the role, but those who are obliged to carry it out face sanctions if they are not skilled in these tasks (Hochschild 1983, Poster et al 2016), and are expected to devote time and effort to these tasks without additional resource or professional recognition in order to be considered competent at their formal role (Magoqwana et al 2020).

One binding theme of these different case studies is the presence of a "discrepancy between formally acknowledged roles and actual labour performed" (Wichroski 1994), whether or not the labour is paid for (Cox 1997)[37]. Visibility of labour can be signalled by whether or how much is paid, but also whether the work is recognised as work by society, by regulation and by the worker (Poster 2016).

Most of the existing scholarship on invisible labour examines either the unpaid and unrecognised work of women in the home, or unremunerated tasks required by employers in addition to the formalised tasks of a paid role. However, the concept of invisible labour can also be applied to a further setting: the self-employed individual who enjoys freedom from the obligations of a direct line manager, but remains subject to certain assumptions by influential actors in their field that certain tasks will be performed but not specifically resourced (for example, artists are obliged to accept the terms of commissioning bodies). When applied to the world of art making, then,

[37] The other prominent binding theme in invisible labour scholarship is of invisible labour as bound up with misogynist and/or racist discrimination: multiple studies including those cited here have found that women of all races, and people of Black and minority ethnicities are disproportionately disempowered by obligations to engage in labour which is not professionally recognised or made visible as work, whilst continuing to be held to the same standards of performance as other workers.

invisible labour provides a way to think about the range, complexity, and number of tasks that must be performed, and yet are not budgeted for or ordinarily recognised, in order for a project (the most visible layer of art work; see chapter 5) to come to fruition.

To take an obvious example: the appearance of a painting in an exhibition is not simply a matter for the artist of the task of brushing some paint onto a canvas in a moment of inspiration, as is so often imagined by non-artists. In practice, firstly the relationship with the gallery, curator and / or venue must be initiated. Communication must be made between those actors resulting in an agreement to show a work to certain specifications (and of course the venue itself must attend to its own range of tasks in order to open and run an exhibition including fundraising, communications and advertising.) The concept for the work must be researched and developed, the materials bought or negotiated for, the tools and equipment gathered, and the necessary time and appropriate space required for painting must also be found. Once the painting process is complete, the work may need to be varnished and / or framed, and must be safely transported which often includes making and paying for insurance arrangements as well as shipping decisions, and the placement or hanging arrangements must be negotiated and produced. The artist will probably have to prepare an artist's statement or text along with a statement of media and measurements. The artist may be required to participate in publicity including offline and online activities, and any sales paperwork will be required to be dealt with along with tax-related records. If the work is not sold, the packaging and transport back to the artist must also be arranged, and suitable storage located. In this example of what appears to be a relatively basic art process, it is clear that a detailed, pragmatic view of a given art work activity brings a long list of tasks and responsibilities into the light, all of which must be attended to for the work to appear in exhibition.

As suggested by the value model of chapter 5, this range of tasks and activities take place in layers beneath the most visible, 'Project' layer and as a result are less visible to others, particularly non-artists.

Artists perform what Bourdieu has extensively analysed as cultural production: working within their contemporary economic and social circumstances to produce value – here, cultural capital - to the agents of greatest political and economic power in their society (Bourdieu 1993, 1996; Harker et al 2016). Much of this cultural production takes the form of the creation of art objects, and these making practices concur with the popular idea of how artists spend their time and the kind of things they do in their working day. But as we see in the example above, there is more to art working than the creation of objects. Participants in this research have discussed the range of activities and responsibilities required by the labour of art making, as recounted in detail in the last two chapters. Many of these tasks are comparable with tasks in other professions: for example, the scheduling, paperwork, communication, negotiation and financial management responsibilities of project management which are required by professional art practice as they are by work in research, the financial sector, government or business. It has been made clear that these tasks frequently arise in contemporary art labour, are carried out largely by the artists themselves[38], and have been shown in the past few chapters to be essential, alongside conceptual and creative tasks, in order for art to be made. Given the digitalisation of artists' interactions with the cultural heritage economy, it is likely that artists are taking on even more of the tasks involved in negotiating, promoting and communicating about their artwork than in the previous century, when the traditional notion of being represented by a gallery meant that such tasks were taken care of by gallery personnel in order to justify their cut of sales revenue[39].

[38] In contrast with the perhaps slightly oversimplified assumption by Howard Becker that such tasks do not require "the sensibility of an artist" and thus will be carried out by "support personnel" (Becker 2008, pp. 16-17).
[39] Investigation of this proposal is suggested in chapter 8 as a potential area of further work.

Artists also undertake research (as analysed in detail in section 6.1): whether conceptualised as research-as-practice, practice-led research or practice-as-research, the research aspect of professional art practice is now more or less accepted by tertiary education in the visual arts (Barrett and Bolt 2014; Sullivan 2010) and is also a prominent feature of the artists' narratives gathered in this study, but is to some extent still invisible in popular impressions of the work that artists do. The persistent notion that art making is the result of involuntary inspiration mobilising a naturally talented individual discounts the methodical, focused nature of artists' research labour, and is perhaps one of the reasons that artists' information needs are to some extent neglected in the library sector (Cobbledick 1996).

So, unlike conceptual and creative tasks, these tasks relating to project management, finance, communications and research appear to be to a certain extent invisible. It is therefore unsurprising that according to the testimonies of artists in the current study, there appears to be a reluctance in the art school curriculum to devote teaching time to these skills. During the interview process, artists were, on some occasions, surprised to be asked about those skills and competences rather than their conceptual and creative skills. One of the aims of this work in general, and the value model presented in chapter 5 in particular, is to attempt to make all tasks and skills involved in contemporary art practice equally visible and equally supportable via funding and skills development. Only in this way can we have a clear view of exactly what needs to be sustained for contemporary art practice to be sustainable. Any skillset that lacks visibility will continue to lack support.

And this visibility must be to all actors in the field. As Cox (1997) has highlighted, it is not only the onlooker or employer - when there is one - who does not recognise some types of tasks as visible, discreet activities. In some cases, labour can also be experienced as invisible to the person undertaking it. Another of the motivations of the

current research was to understand how artists experienced their lived daily range of tasks and activities, and the extent to which these were understood as deliberate, valuable, trainable tasks that can be learned and performed to a better or worse level of execution - in other words, how visible the entire range of identified activities undertaken by artists were to themselves.

Individual artist's practices vary in the way these aspects of their work interoperate, as has been set out in chapters 5 and 6, but it is clear that digital tasks and skills, which are often less visible or indeed entirely invisible in considerations of art work, are threaded through all the dimensions of art work identified in the value model, including tasks that constitute invisible labour. The interviews clarified that the work of an artist in contemporary practice consists largely of invisible labour - particularly the labour relating to behind-the-scenes computer-based tasks. Several artists raised the issue themselves.

> "There's so much work involved in putting on exhibitions. It looks like it's seamless. The public don't see the hours slaving at 4 a.m. on the computer. We're often working seven days a week."
>
> [JU int 17/7/2017]

> "I did this interview with Radio 4 and they asked, 'What does it mean to be an artist?' And I said, 'Project management.' Most of that happens with a laptop. And you get this tiny window of creative freedom at the end which is, like, your reward."
>
> [AG int 13/2/2018]

Many artists had previously been interviewed (including by other researchers), and those interviews had concentrated on the creative, conceptual and intuitive aspects of their practice. Accordingly, some were surprised that the focus of this interview was on

information retrieval, storage, description and re-use activities, as these were not the expected topics for an interview to pursue. For some these were tasks that the artist had not previously been asked to reflect upon.

> "You'll need to prompt me because it's not that it doesn't sound exciting; it's just that I don't normally have to talk about it, and it's slightly difficult to speak about because it's something that's evolved over a long period of time."
>
> [GP int 5/5/2017]

On several occasions the questions had to be repeated or re-emphasised until the artist provided a response to the question asked, rather than another topic. For example, it was very common for the artist to go into extensive detail about the philosophical, political or intellectual motivation for a particular piece of art before they reached the point of being able to tell me what format the resulting file was in. This made for very long, rich, interesting interviews, but also suggested the extent to which the tasks of digital information search, retrieval, management and use lack visibility to the artists themselves.

This may be an outcome of the current prevalent model of art school training with its emphasis on learning how to talk about one's art in terms of its conceptual, political or intellectual roots, and its relationship to other existing works or movements, but a lack of teaching in how to discuss file management and information retrieval and use strategies. These hesitant responses flag the extent to which artists are enculturated - either implicitly or explicitly - through the art school curriculum to talk about some parts of their work and lack encouragement to acknowledge other necessary tasks of art labour. In a way, these roundabout or hesitant responses also strengthen support for the methodology used here - they suggest that as these topics were beyond the scope of the usual conceptual or methodological statements given by artists about their work, participants were entering into new areas of discussion in the interviews for this study

and so were unable to rely upon any stock answers or explanations they may have previously or habitually used about their work.

There were two main responses to the questions on previously non-visible digital information tasks. One group of artists - happily, for me, the majority of the sample - found this unexpected line of questioning to be illuminating and interesting. This sculptor from the median age-band reflects on the value of considering the use of digital ICTs in his professional communication and research activities:

> "I think my work is very traditional so it's really interesting to explore this part of it. All these fairly contemporary technologies are essential to a process that I think of as quite old-fashioned in a way."
>
> [GP int 5/5/2017]

Whereas another, smaller group questioned the value of this focus, and some showed resistance or hostility to discussing these previously unconsidered tasks. This artist was clear in his view of these tasks as trivial and unimportant compared to the creative and imaginative tasks of art making:

> "You don't need to be trained [in creating, managing or sharing digital files]. It's got to be instinctive and you just need to keep it very simple. Those technical things are invented by IT guys who don't have any imagination." [BG int 28/7/2017]

These indications are the most tangible traces of the surprise shown by some artists when asked to discuss the literal, step-by-step procedures followed in their digital object management activities - a discussion that brings these activities, sometimes abruptly, into focus. It is clear that in the case of most participants, this was not a topic they had previously reflected upon. To some, the introduction of this topic is new and

troubling - particularly for those who are low in confidence or knowledge about digital tasks.

Artists expressing anxiety about digital tasks is confluent with the finding that artists do not receive baseline training on digital information management tasks from their main sources of professional education. Until these digital tasks are clearly seen, and seen as teachable, learnable and important, artists will continue to learn basic information skills on the job, usually in a piecemeal way, and often unintentionally leaving valued digital objects at risk.

7.2 Lack of foundational knowledge of information literacy and digital object management

One of the key themes that emerges from the interviews with artists, as alluded to in the previous chapter, is the current lack of familiarity with the key concepts of information literacy and digital object management in this professional population. This is not an unusual or unexpected situation – the same could probably be said of most people in most professions, but artists are unusual in the proximity between the ability to deploy digital objects and economic and professional survival. So noting this lack of familiarity with digital object management here is done as an act of support for artists rather than criticism of them: digital information literacy and digital object management, as noted in the previous section, are not yet routinely taught in the schooling system and are currently only likely to be taught at tertiary education level to individuals who are undertaking a library, archive or information science programme. As long as this state of affairs continues, there will remain a lack of basic knowledge of digital information retrieval and digital object care across the professional artist population. The problem is complicated by the current status of information skills as unknown unknowns - more often than not, artists not only have gaps in their information skills but

also are unaware that these skills exist, can be performed to a greater or lesser standard of quality, and are teachable and learnable.

Fundamental differences are often presumed in levels of ability to access and use digital tools based on age band. These presumptions are often overstated, including by some members of the participant group in this study. Concretely, there was often an expectation from participants older than me that as a younger person I would naturally have a better grasp of the use of various digital technologies and infrastructures due to my age rather than, for example, my research interests or training. In contrast, one of the factors that makes a genuine difference to digital skill level is education level rather than age (Helsper and Enyon 2009). However, it is important to note that discussions of digital skills in the 'digital native' debate are only partly useful to us here as they are concerned with levels of familiarity with the use of digital and networked technologies, but do not include benchmarked skill levels, or specific engagement with information literacy or digital object management.

That being said, there are some observable differences in approaches to digital / non-digital workflows across age bands in the current study but from our findings here, and in line with Helsper and Enyon's findings, any differences are related to familiarity with the use of ICTs. It is worth noting that familiarity does not have a direct correlation to skill level.

Study participants who have been in practice for a longer time have developed their working methods across all layers of the model in the period before digital technologies were as widespread as they are now. In those cases, the digital methods that they now use are very central to current practices, as demonstrated in the previous chapter, and have been added into an existing set of information-handling practices. Maryclare Foà's wall-mounted paper filing system (see figure 6.2) and Joanna Kinnersly-Taylor's

plan chests (see figure 4.1) are good examples of longstanding information storage activities that are now maintained alongside the storage of digital files.

The levels of skill in digital information handling that I observed during interviewing varied widely and some widespread practices, in which the artists reported high confidence, were not practices that represent good practice in digital object management. For example, many artists were very confident in their use of USB sticks or commercial digital storage platforms as 'archive' or 'preservation' solutions, whereas these strategies do not usually result in stable long-term preservation of digital objects. Another example was presented in chapter 6: that the free-to-use basic accounts and apparently simple user-end functionality of many widely-used digital object storage and transfer platforms make them very popular with artists. However, there is little evidence of awareness of the information security and IP challenges introduced by the use of these and other similar platforms.

Artists in lower age bands or with a shorter length of time in practice do not systematically demonstrate higher levels of knowledge or confidence in use of digital tools and management of digital objects, compared to more senior artists. The choice of a digital method or tool is more likely to be the assumed starting point for those younger or more junior artists, but there is no evidence of any higher levels of knowledge in, for example, digital preservation, digital rights management or the implications of digital infrastructure choice than in the older group. A number of participants whose working process is almost entirely digital - for example, researching and creating entirely with a digital tablet or camera, and showing or licensing the resulting work online - demonstrated low levels of knowledge of digital object care and low awareness of issues around information literacy and information retrieval. Familiarity does not always create expertise, when it comes to the use of ICTs. This means that training is a) urgently required to be part of the art school curriculum; and b) should derive basic principles from digital preservation and digital curation scholarship

to present an existing model of the foundational knowledge and applicable skills for good practice in digital object care. Such training interventions are likely to challenge long-standing assumptions made by artists about what is necessary for high-quality methods of retrieval and safeguarding of digital material, and so those providing this training must be familiar with the principles of information literacy, and digital curation and preservation in order to justify these new practices. This is a tall order, but the lack of training in these skills appears to be a significant one. The next section discusses realistic ways in how this may be approached.

7.3 Lack of training infrastructure for digital skills

As unpacked in the previous section, there is no evidence from participant narratives in this study of information literacy or digital object care being formally, routinely taught in tertiary-level art school curricula. Artists' information needs have also been neglected by information professionals (Gorichanaz 2019, Cobbledick 1996). So where do artists and others go for help with the skills required for the management and care of digital objects, particularly over a long timeframe?

There is no centralised UK service to advise specifically on these skills; arts advocacy organisations such as DACS, Artquest and artists' unions and associations such as the Association of Illustrators step in to help with parts of the picture, e.g. by providing advice on rights issues and other legal issues, and supporting their artist members with advice and training on some of the issues related to digital information handling. A prominent recent example of this is the DACS-related Art360 Foundation which launched in 2016. The Art360 project has iteratively provided programmes of intense supported legacy-planning activity that artists could bid to take part in, with 45 artists having participated by the time of writing (Art360 Foundation n.d.). A downloadable app[40] followed in 2018 to help support UK-based artists and artists' estates who wish to

[40] https://www.art360foundation.org.uk/art360-app

undertake an auditing and documentation process on their own holdings of artworks and art work-related materials. The app provides accessible checklists and suggested activities to help artists audit and describe what they have. The guidance does not strongly differentiate between the concepts of collection, audit, storage, description and publication of assets, on the one hand, and preservation of digital assets on the other. The material closest to dealing with digital preservation issues is text recommending that users note whether formats are "out of date" and that if so, users should "find out what to do to preserve them" (Art360 Foundation 2018). The app material also advises users to "back up" their digital files. There are no specific activities or guides offered to users on how to perform back-up or digital preservation tasks, but the app does raise the important and useful issues of audit and documentation and breaks down these activities in an approachable way, which is invaluable for these early stages of the journey towards preservation.

Even when looking internationally, there is limited provision of accessible material for artists on how to do digital preservation and, importantly, what constitutes good quality practice. The US-based Artists' Studio Archives project[41] probably comes closest to those aims, at least in the English-language resources I have been able to find, and directly tackles digital preservation both in the downloadable workbook (Ambrose-Smith et al 2016) and in workshop handouts, all openly available online[42]. The active phase of the project appears to be complete; it is to be hoped that the project website will be maintained on an ongoing basis. Another important initiative from the USA, the Joan Mitchell Foundation, provides a Digital Media Guidelines and Resources guide that includes useful critical information on digital asset management, digital preservation, file naming, metadata, cataloguing and platform and infrastructure selection as part of their Creating A Living Legacy program (2007-2016) suite of resources (Joan Mitchell Foundation 2015).

[41] https://artiststudioarchives.org/
[42] https://artiststudioarchives.org/resources-2/

These initiatives, whilst critically important to working artists given the dearth of resources, are often charitable, nearly always run on precarious budgets and dependent on funding appeals, and are sometimes funded only for a specific, time-limited project. There is a need for a more stable, systematic approach to meet the needs of art work now, so that these training interventions can be reliably made. Art schools could help achieve this by starting development of a curriculum framework for teaching the digital skills now needed by artists, including detailed digital object preservation and curation and information literacy skills. There is also room for the national funding schemes such as those enacted by the UK arts councils to think more strategically about how they can support artists' skills development. Arts Council England (ACE) has funded a team of 'Tech Champions'[43] with a remit of supporting digital skills for those benefiting from ACE funding, but expertise offered is focused on use of social media and data-driven promotional activities. At the time of writing, none of the UK arts councils report offering support with digital object care or information retrieval skills development.

As mentioned in chapter 6, information literacy training, as taught in library and information sciences (CILIP, n.d.) and, at a more introductory level in university library inductions, can benefit from wider understanding of the applicability of these skills to artists. A sprinkling of workshops and events have started to engage with the ideas of how to best operate as an artist in the emerging digital economy, some of which include strategic and considered use of the Internet for e.g. promotional tasks and the creation of high quality digital objects, but the solution to many of the skills gaps identified in the current study is the widespread adoption of structured and sustained pedagogical frameworks which include advocacy for and teaching of digital curation and preservation, and information literacy.

[43] https://www.artscouncil.org.uk/digital-culture-network/tech-champions

7.4 Lack of specific resource for digital infrastructure for artists

Most artists routinely search for, retrieve and create digital objects as part of their working practices, resulting in a collection of digital objects that must be managed in some way over time if they are to remain available for use and reference. These digital objects are fragile and highly susceptible to neglect (as discussed in chapter 1) particularly as the majority of artists' digital objects are not routinely deposited in a managed archive. The precariousness of this situation is not always fully realised by artists at this point in time, given the extent to which the term 'archive' is widely used by participants when talking about a storage platform or storage device such as a plug-in external hard drive, or the use of such a platform or device (when 'archive' is used as a verb), rather than an archive in the sense of a planned, managed, sustainable archival environment for sustained preservation of objects, or the use of such an environment. This is no mere battle of epistemologies: in this slippage of use, we can see that commercial storage platforms and sub-£100 external hard drives are being endowed with the ability to keep valued digital objects preserved – that is to say safe, complete, findable, accessible and reusable over a long period of time such as multiple decades. Meanwhile, the factors realistically required to achieve these goals remain invisible to the user audience most in need. This is due to the absence of resourcing and policy.

As discussed in chapter 6, self-funding of projects is commonplace, and is a major factor in the systematic economic challenges to contemporary art making. If supporting infrastructure such as archiving services infrastructure is to be put in place for the outputs of such projects, it will only currently happen on a self-funded basis. This is a fundamental challenge to changing practice within this type of project and is possibly the area that is most dependent on individual artists understanding the need for high quality digital object care and marshalling the resources to bring this about. This only has a chance of happening if artists connect the urgency of digital object management

tasks with the value that they personally place on their digital objects, and understand the risks faced by these fragile resources.

The lack of specific resourcing for digital infrastructure and policy - including digital object management and preservation infrastructure and policy - also occurs when the artist is working on a publicly funded project, as the major UK public funders such as the arts councils do not currently provide these tools for well-managed digital objects. There is also a complex landscape of private or institution-based commissioning, some of which may offer individual digital object management infrastructure but there is no evidence of a cohesive UK-wide or even nation-level approach to the provision of this infrastructure or policy development to make it available and stimulate its use.

This situation is one driver of the enthusiastic uptake by artists of free-to-use and low-cost digital tools and services which allow the artist to research, retrieve, create, repurpose and communicate their work when there is little to no budget available. The use of these platforms and services, however, can bring risks; many online services and platforms that allow users to upload, store and share digital objects also bring with them possibilities of digital privacy or digital information security breaches, harvesting and re-selling of personal data, and a problematic approach to intellectual property. Common platforms now publish terms and conditions or terms of use documents outlining the contract into which new users are entering by use of the service. A quick review of these terms of use documents of the most popular content platforms reported by the participant group show that they are documents of between 2,442 and 9,642 words, often rich in legal terminology[44]. Although it is notable that some services have made a specific effort, especially since EU and UK investigations into digital platforms and their approach to consumers in the mid-to-late 2010s (European Commission

[44] Word counts for introductory terms and conditions / terms of use documents (English language versions, at 15 May 2020), for the most popular platforms mentioned by participants, are: Facebook: 4,117 words; Soundcloud: 9,642; Instagram: 2,442; Flickr: 9,102; Google Services (including Drive and search): 3,076; WeTransfer: 4,445. In some cases, such as Google Services, these primary policy documents link to further policy documents covering specific dimensions of the user terms.

2018, House of Lords 2016), to both simplify these contract documents and to bring them to the attention of users, participants in the current study demonstrated very limited awareness of these issues, which is in line with the low levels of information literacy reported by this population despite their high levels of education and demonstrable intelligence across a wide range of other competences. For many artists these problems may be a lesser concern than the ability to quickly and affordably find, send and receive digital objects. This leaves artists particularly vulnerable to substantive problems if entrusting highly valued, fragile, and in many cases irreplaceable digital artwork and documentation to such systems.

Digital infrastructure is - like other infrastructure types - most visible to users when there is an issue or fault. Our power or water or WIFI connection is never keenly observed by us until it goes on the blink. The rest of the time, we passively learn as much about how it works as we need to know in order to carry out our daily tasks. A similar approach is present here. The types of digital infrastructures used by artists are mainly commercial platforms (for example, Dropbox and Google Drive) for the storage and sharing of digital objects, and general search engines such as Google for digital information search and retrieval. These choices were very rarely reflected upon consciously by artist participants; platforms were selected largely due to the choices already made by peers and / or specified by funders or commissioning organisations. The possibility of making an active choice for oneself was not usually entertained, and when presumptions were challenged, e.g. by collaborators, this could cause frustration. For example, one participant expressed his frustration when dealing with a local authority commission for public art, where the commissioning body asked him not to send Dropbox links for his large digital images but instead to use an alternative file-sharing service. He attributed this to the commissioning body being overly concerned about computer viruses. We discussed the problem during his interview and after realising there may be security issues with the use of Dropbox, and that Dropbox may hold his digital objects on a server outwith the EU, a situation which potentially brings

risks to the protection of that data, the participant began to indicate that he saw the commissioner's position as more reasonable. He also indicated that he was considering those data protection issues for the first time in relation to his own digital assets.

This relatively passive approach to infrastructure choice is not absolutely unilateral. For example, it is notable that the two of the three filmmakers were noticeably knowledgeable about digital curation practices for digital video objects - and both of those filmmakers were amongst the small cluster of participants who reported use of an external professional archive facility for their digital objects.

What explains this passivity amongst many artists to their choices of infrastructure? Several causes suggest themselves. One possible answer is the current state of artists' training as discussed in the sections above - in basic terms, very few participants reported having received file management training from a university or equivalent institution. It seems clear that there is a lack of teaching in the tertiary education sector about these critical skills areas, which also links us back to the issue of 'invisible labour' discussed in the previous section. If you are not aware that you have choices here, that you have no training in the ramifications of the various options available to you, and what to look out for in reviewing the various terms and conditions of platforms before you entrust your valuable digital objects to them, then it is not surprising that many artists will go ahead with whatever is free or cheap to access and/or is familiar from peers' practices. And of course, with social media, whatever is used by peers is most probably exactly what motivates the new user to join up if they, like Jacqueline Utley and her recent adoption of Instagram (JU int 17/7/17), want to engage with a like-minded digital community – the motivating factor is precisely that peers are already using the platform.

Of course, these reasons could also be applied to many other sections of the general public. What makes the case different with artists is threefold: firstly, many artists fiercely question many other societal norms or assumptions in their work - not so much in the sense of the clichéd ideas that artists refuse to dress or act like other people, but rather in more subtle and useful ways for those who wish to question passivity in our everyday choices within global capitalism. Examples include Susan Stockwell's highlighting of the ethical problems embedded in our use of certain everyday materials, and Katriona Beales's attempt to draw attention to the way addiction is designed into many popular online platforms and websites. From a population so sensitive to the value of questioning norms, then, it is notable how few artists seem to have previously considered the ethical and economic models to which they are currently submitting their data.

Secondly - and linked to the previous point - the unusually high level of tertiary education in this profession means that there is a substantial opportunity for artists to receive training in all the skills they need not just to make art but to survive and sustain themselves as artists. But this training has not been supplied, at least to the participant group for this research.

Thirdly, another factor may be the particularly low level of resource (time, money, space) and high level of precarity on which many artists operate. Sometimes the only option is to use whatever may meet the immediate need. If it is quick and cheap or free now, there is no policy telling us to act otherwise, and we have practically no margin within which to live, we are likely to postpone any concerns about ethics of the platform's business model, or data security, to a hypothetical future moment.

These considerations, then, build up a picture of a lack of basic infrastructure due to - I would suggest - a lack of funding for practice in the sector as a whole; a lack of awareness that there is a specific nameable problem here; and a lack of willingness to

acknowledge the essential importance of digital information skills (including digital literacy and digital object management) which are needed to make the more visible - and possibly more alluring - creative tasks of art labour happen. I will discuss some possible strategies for tackling these problems in the next chapter.

7.5 Lack: Conclusion

Artists have different levels of comfort with discussion of the nuts and bolts of their entire workflow. All participants in this study - most of whom have received tertiary-level art education - were familiar with the discussion of the creative and conceptual aspects of their daily work. Talking about these issues is one of the skillsets inculcated in art school training. For some artists, discussion of the invisible tasks of their art work, as unpacked above, was a welcome change; for others it invoked tension and resistance. Is this in line with a divide between those who argue, like Becker, that art is simply the work that some people do [Becker 2008, p. ix) versus those who may prefer to perpetuate the attractive myth that heroic solitary talent and inspiration are the mystical factors that make an artist? Or is it an outcome of the influence of the field of cultural production which specifies the conventions of the art world - including that artists don't talk about spreadsheets?

Artists - even apparently successful ones - endure unusual hardships: underpaid or not paid; careers subject to the vagaries of unpredictable, trend-led markets and the favour of a few powerful art market actors; regular rejection; regular and substantial speculative effort; much of their labour unaccounted for in project budgets; no sick pay or health insurance; very little scope of career planning; and the multiple complications of working in a spottily-regulated industry. In the face of all this, the myth of art making as individualistic creative inspiration and expression of exceptional personal talent might be powerful compensating ideas that help some artists to keep turning up at work. And to others, the romantic glamour of the artist - or in Bourdieusian terms, the cultural capital - drives interest and sales.

These perspectives combine to create a self-reinforcing system that values creativity, inspiration and perceived talent, but with the unintended consequence of leaving the necessary, invisible labour of art work invisible and unvalued - unfunded, unregulated, undiscussed, unsustained - compared to the seductive allure of acts such as painting, sculpting or drawing. This idea of the self-reinforcing system would be amenable to further analysis by Bourdieu's concept of the "feel for the game" (Bourdieu 1990, p. 108) and / or the theory of the hidden curriculum of the art school (Martin 2019, Houghton 2016) as previously discussed in chapter 2. For our current purposes, however, it suffices to say that this system is visible in the narratives of participants and is relatively unquestioned, hence the expressions of surprise and uncertainty when interview questioning breached the usual focus of questions on method and conceptualisation and ventured into the tasks of information retrieval and digital object management.

In the standard art biopic, we see many shots of the artist either at the easel or talking about what happens at the easel. The Tracey Emin documentary made by the BBC (BBC 2015) is the only art film I have seen where we see the artist being just as preoccupied by meetings, discussing details of project management with colleagues, or making cups of tea (although we also see her at the easel.) As Alexander Hamilton testifies, the expectations of what art making looks like are so strong that there can even be pressure to perform them when working on a public-facing commission or residency:

> AH: "The studio becomes a control centre for whatever the activity is, but around that control hub – there's a lot of stuff, which may be nice to have around because it seems to demonstrate that one is an artist as opposed to being anything else, but the reality of it is that a lot of it you're never going to use in relation to the project you're carrying out."

> Interviewer: “It's almost necessary to, like, set the tone?” [laughs]
>
> AH: “Yes [laughs], it sets the tone. So when people visit they say, ‘Oh, it’s an artist’s studio. Great.’ And you sit in the corner with the computer and get on with this bit of the project.”
>
> (AH int 7/8/17)

As participants report and as the Emin documentary shows, some of the physical and mental tasks of expressive making can also be repetitive, difficult, laborious, and perhaps even sometimes boring. But they are still generally understood as taking place within the bounds of expressive creativity. It may be harder to justify to most people the inclusion of tasks like project planning, preparing budgets or adding metadata to digital files as expressive work, but it is important to distinguish them as art labour. To separate them off and lose sight of the case for their support is to allow a weakness at the root of contemporary workflows to continue. This separation is furthered by influential commentators such as Howard Becker explicitly categorising such tasks as “other activities” (as distinct from “core activities”), properly in the purview of “support personnel” (Becker 2008, p. 17)[45].

In this way, then, a system of perception and reward that only responds to expressive, creative acts does not generate systems to support or value tasks that are positioned as mundane or non-artistic, and the current problems persist: artists must continue to face down a lack of systemic resourcing for the full range of their work tasks and skills; training, policy and infrastructure continues to lack attention to digital object retrieval, creation, and management; and fragile valued digital objects continue to be at risk.

[45] Although perhaps this is also to some extent a sign of analysis taking place prior to the digitalisation of art communications and promotional work and particularly the mass uptake of social media, generally considered to have occurred from 2008 onwards; see e.g. Ortiz-Ospina (2019).

Chapter 8: Conclusions, recommendations and future work

Throughout this study, we have seen a number of main themes, including: the widespread view of art making and how this differs from the pragmatic lived reality of contemporary UK art practice now; how value within and of art making is understood by artists in the digital era; and how these collide in a detailed understanding of the extent to which artists value and care for their digital objects, and how this helps or challenges their efforts to sustain themselves in practice.

In this chapter, we will reflect on the process of carrying out this study, where these thoughts are connected to the main themes of the research; and section 8.1 offers concluding thoughts on how the research questions have been answered. These conclusions summarise the problems found, reiterate the key findings of the research and demonstrate how these findings move the discussion forward.

In addition, and given the cross-sector, multi-stakeholder funding environment for this work and my own experience and personal commitments as a researcher, it is inevitable that my thesis would not only include suggestions of future work in terms of the possible new theoretical directions that interested scholars may find fruitful, but also some practical recommendations for the world of policy and practice beyond the thesis and indeed beyond the academy. I owe it to those who have funded me and worked with me to deliver something of practical value. Sections 8.2 and 8.3 set out these recommendations. The first recommendation, discussed in section 8.2, addresses what I have come to see as the elephant in the room: I can advocate to artists and art representative organisations as much as I like about the value of skills for digital object management but if the current lack of trustworthy, ethical, appropriate repositories or

digital archive services continues, we cannot move forward significantly with sustainable digital object care for UK contemporary art practice at a sector-wide level.

This is an important proposal to make to the stakeholders of this project, but my experience as a researcher and skills advocate in the research data field over the last ten years or so has taught me that people can have unexpectedly strong prejudices towards innovations that are ultimately being proposed to help protect things they value. My apparently technical problems are relatively susceptible to technical solutions; it is often the social aspect where a solution founders. So it is worth taking time to set out exactly what I mean when I propose that we need a collaborative approach to a repository service for artists and particularly for artists in receipt of public funds. Section 8.2 sets out this case.

Following this discussion, in section 8.3 I present a set of smaller innovations that have been tailored for the categories of stakeholders that were introduced in chapter 1, figure 1.1:

1. art funders;
2. art education providers;
3. art advocacy organisations;
4. Information science and research data advocacy organisations and researchers;
5. artists;
6. UK Government.

These recommendations are, for the most part, relatively easy to action by an individual or a single organisation. This stands in contrast with the single large recommendation of section 8.2 which by its nature would require sector-wide effort. The recommendations of section 8.3 have been written as an attempt to be helpful and pragmatic in dialogue with individual artists and organisations as together we struggle

to sustain artists in practice. The last thing I want to do is confront over-extended artists and organisations with yet more things to worry about; rather, if we are to move forward in the digital cultural heritage economy, I am convinced that topics introduced here are at the very least useful points for individual reflection and group discussion.

I have shared these recommendations for feedback with DACS, the Scottish Contemporary Art Network (SCAN), and a number of individual artists who indicated interest in receiving such a list and providing feedback. At the time of writing, I am continuing to offer these recommendations to organisations and individuals and actively seeking further feedback. Accordingly, the recommendations section exists here as a reasonably mature snapshot of the recommendation set, pending any substantive alterations resulting from feedback received. All versions of the recommendations set will be linked to my ORCID as they are made available.

The final section (8.4) of this chapter suggests some potential future research directions which would usefully build on and develop the findings of this study or address some areas within this research that deserve fuller exploration.

8.1 Conclusions and reflections

This section summarises and reflects on new knowledge gained by this study and demonstrates how these sets of thematic findings provide a coherent response to the research questions.

8.1.1 Answering the Research Questions

Research Question 1 is as follows:

‘What are the current strategies employed by professional visual artists to seek, manage and disseminate digital information objects, including those obtained and disseminated as a result of Internet use?’

This question was the basis for the detailed semi-structured interviewing which allowed each artist to step through their workflow in the way they chose, whilst guided by my specific questions on their information handling within the context of their work (see Appendix 3 for the interview instrument). The most striking and consistent themes emerging from this data gathering were as follows:

1. Artists are already performing digital information retrieval and digital object management tasks very regularly i.e. multiple times per day;
2. These information tasks are important to artists. As chapters 5 and 6 discuss:
    a. Artists report high time use on these information tasks;
    b. These information tasks are of foundational importance for art work beyond the practice as well as within the practice and within individual projects, i.e. they are reported throughout layers 1 - 3 of the Value Model;
    c. Artists report that the digital objects being sought, created, used and stored have high value to the artist;
    d. Artists demonstrate anxiety related to the tasks; for example, through emphatic declarations of interest, antipathy or uncertainty; and physical reactions such as groaning, sighing or clutching the abdomen.
3. These tasks seem to constitute invisible labour for the majority of artists; many expressed surprise at the scope of questioning. When asked directly about information tasks, many repeatedly talked about method or concept in their work before being brought back to the question by the interviewer. Some artists classified the tasks as somehow separate from their art work, despite also supplying a narrative clearly situating the information tasks as central to their work day and necessary for the rest of their art labour to be able to happen.

Given point 1 and point 2, it is concerning to see point 3 appearing so consistently in artists' narratives - but it is not surprising given the factors outlined in the discussion in chapter 7 of lack and particularly the current lack of formal training provision. As a

result, the ways in which artists seek, manage and disseminate digital information objects are largely formed individually and in ad-hoc, on-the-job ways, i.e. sometimes with support from family members or artist peers, but predominantly without formal training.

Almost all artists interviewed undertake these tasks themselves although some artists with higher levels of income are able to hire assistance for some of these information tasks, as discussed in section 6.4 (p. 216). Those – the vast majority - that perform digital information tasks themselves perform them to varied levels of quality and confidence; these two factors (quality and confidence) do not correlate in this sample, as discussed in chapter 6. This *ad hoc* approach coupled with the invisible nature of this labour makes it hard to justify calling these approaches 'strategies'. As defined in section 6.5 (p. 215), a strategy here indicates a considered and informed, structured and probably iterative approach, whereas the majority of artists in this study are working with digital objects in an improvised way, relying upon advice from peers, friends and relations when a digital object management problem has arisen; and in most cases there is very little evidence of planning or specific resourcing for this work, given the more immediate and compelling pressures on artists in everyday life. These approaches are more accurately characterised as contingent responses to the prevailing conditions in which artists work, within the range of possibilities made available by the field of cultural production, and influenced by each artist's individual habitus.

In contrast, organisational approaches to the sustainable curation and preservation of digital objects, which rely upon the availability of infrastructure and skilled staff members, also rely upon a planned, iterative pattern of curation and preservation actions (see section 2.1.4, Conceptual Models in Digital Object Management, p. 44-47). A useful finding of the current study is this important point: that in this way, and by being largely unable to accommodate the contingent action as well as the planned

iterative preservation strategy, the existing organisational conceptualisations of digital curation and preservation currently fail to meet the needs of the individual working outside the organisational context.

Research Question 2 is as follows:
'What are the influences upon contemporary visual artists when making decisions about the management of their digital objects, and how far do their decisions support the sustainability of those objects?'

For clarity, this question was reconfigured as two discrete but connected sub-questions:

RQ2a): 'What are the influences upon contemporary visual artists when making decisions about the management of their digital objects?'

The data provides a straightforward answer: artists are directly and consciously influenced by friends, peers, partners and family members. They also learn from experience - for example, an artist who has lost an external plug-in hard drive is more likely to have decided to make more than one set of backups. As mentioned above, the field of cultural production is an influence in the sense that the artist observes and learns from the choices made by artist peers, and produces the kind of digital objects that are expected by the rules of the field - for example, the creation of funding bids including detailed visual elements - and which require description and preservation.

There is limited evidence of direct influence from art organisations, and the influence reported is usually advice gained by direct request initiated by the artist. There is also limited evidence that artists draw upon professional employment training which, on the rare occasions it is accessed, seemed to have only been available from an employer teaching on the job. There is also limited evidence of having learned digital information

skills from the university/college environment; despite the wealth of information literacy and research data curation expertise in some parts of the HEI sector, only one artist reported having received online information search instruction which was subsequently helpful in their art work. This suggests that the expertise that does exist in the UK research data management, information literacy, and library and information science sectors is not being accessed by artists, and the RDM / IL / LIS sectors are not benefitting from the experience of artists' information practices and the expertise of artists in any systematic way in the UK.

As noted throughout this thesis[46], policy development for this area is needed but appears to be missing - especially from art funders and commissioning bodies. Following the case study of the UK research sector, funder policies have a particular ability to influence practice, and policy is often the driver of training and infrastructure development. At the moment, however, no respondents flagged policy generated by any actor in the field of cultural production as an influence on the artist's information behaviours[47], other than in practices around asserting copyright.

RQ2b): 'How far do artists' decisions about the management of their digital objects support the sustainability of those objects?'

The data identified some pockets of sustainable practice, generally in the work of those artists who had significant resources at layers 4 and 5 of the Value Model (see chapter 5, sections 5.5 and 5.6), specifically the resources and network (layer 5) which enabled them to identify the skills, equipment, help and advice (layer 4) required to develop a

[46] See particularly chapters 1, 5, 6, and 7.
[47] In one reported incident, one artist was asked to use a different method to share large digital objects with a commissioning body, which may have been a request resulting from the commissioning body's policy on digital communications or IT security. But this was not made clear to the artist, the artist was not given sight of the policy, and he did not have the policy explained to him. As a result his decision-making was not his choice, and so this cannot stand as an example of policy per se working as an influence on practice - rather, he was directly responding to instructions from a member of commissioning staff.

sustainable approach to digital object care. But for the majority of the participants, the evidence suggests serious and widespread risk to digital object survival over time. The current information-handling practices that were described in interviews demonstrate that artists are frequently choosing commercial platforms and fragile portable digital media to store and exchange their highly-valued digital objects, thus exposing these objects to the risks of loss, damage and unwanted reuse. Given the high value that is attached by artists to their digital objects, and artists' desires for long-term access to a reliable and stable iteration of these objects, we must conclude that the decisions currently taken by many artists in relation to digital information care may not ultimately support their ambitions for the sustained longevity of their digital objects; this constitutes a major finding of the current research.

8.1.2 Moving the conversation forward

One of the driving factors of the current research was the lack of interlocution identified between the information sciences and contemporary art practice, as discussed in detail in chapters 1 and 2. The completed research moves the conversation forward by creating new connections (hence the thesis title, "Creative connections") between these two domains, allowing and encouraging new dialogue to take place. In exposing each domain to the epistemology of the other, this research enhances understanding by artists of the relevance of the information sciences to their work and, conversely, allows information science practitioners, policymakers and researchers to accurately understand the actual information needs of contemporary visual artists. The identification of this gap in dialogue, and the case for the value of bridging it, is one of the key outcomes of this research.

In chapter 2, the existing literature from both academic and non-academic (i.e. policy, legislation, white papers and other 'grey literature') sources is examined (separately from the discussion of theoretical literature in chapter 3) to understand the current state of the UK visual art practice sector including contemporary government statistical work

on the economic value of the cultural heritage sector; the results of recent UK Government and European-level attempts at definition and analysis of the UK creative industries including the size, educational level, geographic dispersal, gender balance, ethnicity, and socioeconomic profile of UK artists; work by various artists' advocacy organisations on the existence and impact of the particular economic pressures faced by UK artists; and academic and professional analyses of contemporary working practices of UK artists including the recent history of art school curricula and the skills that are considered important and teachable in contemporary art schooling.

Chapter 2 also discusses the academic and non-academic literature from relevant areas of the information sciences. Again, both academic and non-academic policy work describes the limited extent to which digital scholarly infrastructure has been developed in the UK visual arts; explains the major conceptual models in digital object management; unpacks the role of the Internet in contemporary visual art in order to clarify that it is not only 'digital artists' who rely on digital tools for their work but rather that almost all artists now use digital methods and tools; and provides an overview of the current state of play in the management of digital objects in current UK research, specifically research data management and preservation infrastructure.

In this way, then, both academic and non-academic literature from a range of relevant sources are marshalled in the literature review of chapter 2, to provide a thorough survey of two domains – contemporary art practice and the information sciences – that are not generally in dialogue with each other. By stepping through these issues in detail, this study provides evidence that there is an important gap in dialogue between these two domains on the issue of information science practices in contemporary art practice – exactly how artists can (and can be supported to) effectively create, retrieve, manage, preserve and share their valued digital objects to meet their own expectations for the longevity and availability of these assets. The knowledge produced in the

current study identifies and addresses this gap directly in order to scope the problem space and to encourage the necessary inter-domain communication to happen.

Concretely, findings from this study are potentially useful for improving the way creative occupations are currently considered by UK Government analyses of the creative industries (see discussion of some problems of the current categorisation in chapter 2, p. 33-34); and can function as detailed case studies for art advocacy organisations when attempting to demonstrate the lived conditions and economic pressures under which art is made in the UK. From the information sciences perspective, this work can clearly flesh out the limited body of research that has examined the sorts of information that artists seek and want to retrieve, including the breadth of the range of topic areas sought and the importance of scholarly and scientific literature that artists draw upon for their research practices (findings which may be of particular interest to the library sector). There is also ongoing demand in the information sciences for case studies of information-handling practices and requirements in specific professions, to inform infrastructure, policy and training development: this thesis constitutes a large and detailed case study of a given profession with plenty of detail for these purposes.

When turning to the theoretical literature, it is useful to reflect on the contribution of the current study to relevant theoretical conversations. Scholarly work continues to emerge about the role of digital objects in art practice, the analysis of art practices and their social conditions, or the notion of value in art making, including useful work that has emerged during the period of carrying out this study. I hope this study can now contribute something to these discussions. The binding theme of such diverse areas of enquiry is the determination to put views of art making as solitary, heroic, effortless expression aside, and to dig into the daily labour of the artist – a determination that has also driven this study.

As this thesis is primarily situated in the information sciences, it is useful to reflect on the recent work by Colin Post, whose research, also situated in the information sciences, also engages with digital technologies used by artists in contemporary practice. Post has similarly reflected on the importance of digital technology use and digital objects to some artforms – in this case digital and new media art - and has similarly identified the urgent need for digital preservation skills and awareness in the contemporary art domain in order to preserve the cultural record. His useful analysis (Post 2017, 2018) does much that is in synergy with my own research, paying attention to artists working outside the scope of major collecting institutions, using a practitioner-focused approach, and working to bring together the heretofore rarely connected domains of the information sciences with the sociology of contemporary visual art. Our studies complement each other – he with the depth of focus on digital and new media art which the present thesis mentions only in passing, and mine in the broadening of focus across contemporary visual forms including and beyond digital and new media art to dig out the less apparent ways in which even those working in traditional art forms still rely upon digital technologies at work.

Economic sociologist Viviana Zelizer is another voice interested in connecting domains. Famously, her 'hostile worlds' paradigm (Zelizer 1985, 2000) describes a view of money and other valued assets (for example intimate relationships, babies) as separate spheres in a hostile tension where contact between them is perceived to contaminate or damage one or both. This paradigm has been deployed in several studies of art worlds, particularly in the analysis of collectors, gallerists and other investors as they grapple with whether and how the economic market for and of art despoils its cultural value (Velthuis 2005, Coslor 2010). It is interesting to note that the narratives that comprise the current study offer no evidence of such tension. Artists with whom I spoke were as comfortable discussing budget frustrations and concerns alongside and amongst conceptual matters or issues of technique. All participants were keen to make a living from their work and marketing one's work ('work' in the

sense of both ‘artworks’, i.e. objects and ‘art work’, i.e. labour) was accepted as part of the bundle of tasks discussed in chapter 3, albeit with various levels of enthusiasm. This contrast between widely accepted clichés that concepts of ‘purity’ are more important to artists than making their rent, and the pragmatic, budget-conscious, spreadsheet-wrangling artist of today suggests itself to me as a rich mine of further enquiry.

This thesis, whilst not a work of economic sociology, has to of course acknowledge this spreadsheet-wrangling aspect of contemporary art work and to this extent, profits from the work of scholars like Zelizer and her followers to understand more about how money and art correlate in daily lived practice. Alison Gerber (2017, 2017a) and Clayton Childress (2017a) identify as some of the many theorists building on Zelizer’s work. One of their contributions has been to shift focus, as is also the case in the current study, from examination of value in the art world through objects, sales data, and the perceptions of those in the field of power, to the perceptions and narratives of artists themselves, arguing convincingly that artists have varied ways of understanding and describing the value of the work that they do. They also factor the value of art labour as well as art objects into these narratives of value (Gerber and Childress 2017a) and Gerber (2017) notes that “doing [art] for love and doing it for money aren’t irreconcilable in arts practice” (p. 124). This resonates in the current study, which shows in detail that working artists are the last people in the art world to deny the importance of money given the systemic economic pressures they face. Where this study differs in focus is that it approaches value in a significantly different way - almost entirely in the sense of what is valued *by* artists, rather than what the value is *of* artists and art making which is Gerber’s main preoccupation.

Gerber provides important analysis of what is valued by artists to the extent that she considers the resources which constitute an investment into the practice in the hope of a return. This is an important narrative which includes the ways in which artists marshal

resources that must be found for art making to happen, including money, domestic labour (for example childcare), rent contributions from partners, time, and access to workspace. Most of these resources also occur in the data that I gathered, and there is a rich complementarity to our respective studies. However, as the emphasis on Gerber's work is the ways that the value *of* art work is understood by artists, this thesis can add value to the discussion by fleshing out the resources valued *by* artists as they go about their daily labour and in particular the role played by digital resources and digital objects.

8.1.3 Moving the conversation forward – theoretical contributions

This thesis makes its main theoretical contributions by testing some well-established theoretical works for their utility in the specific context of UK contemporary art making. Primarily this thesis tested the utility of Bourdieu's work on cultural production to see whether it contains the necessary flexibility for considerations of art making today including its embedded use of digital information and digital technologies. One of the main extensions provided by the current research project is the elaboration of the field of cultural production. This thesis found that artists varied their habitus to act within three distinct versions of the field of UK contemporary art making. These three versions or lenses of the common field are, 1. As a private individual; 2 as an artist outwith the practice; and 3. as an artist-within-practice. This elaboration enriches rather than contradicts Bourdieu's existing model by providing a further dimension of analysis whilst maintaining the field structure. The vertical placement of layers of the value model (see chapter 5) is no accident – this structure is deliberately transposable into the field of cultural production as it is visually laid out by Bourdieu (1996, p. 124) and as it is applied to contemporary UK visual art making. If we imagine the existing Bourdieusian fields of 'The Rules of Art' set out in their nested structure upon a flat plane, the added dimension of the value model can be applied as a vertical construct at specific points upon the field of cultural production. This brings benefits to the researcher in the project of eliciting information about and shining light upon all the

aspects of what artists do, and allows them to also communicate the way that practitioners think of or approach their labour, thus strengthening the practitioner-focused approach of this research.

For example, an artist could be understood by the analyst, due to evidence of her access to low levels of economic and symbolic capital but high levels of cultural capital, to be working at a particular point in time at the location of 'avant-garde bohemia' within 'small-scale production' (Bourdieu 1996, p. 124). The value model can then draw out a richer understanding of this artist's labour as experienced on a daily basis by providing a framework for interview or self-reflective activities which maps the artist's various activities according to the extent to which the artist understands each activity as constituting labour specifically only for a given project; or labour contributing to the practice more widely, or labour as work as an artist beyond the practice. This kind of modelling can only be done by the artist herself as it is at least partly dependent upon the individual's habitus and her internal, intensely personal sense of placement of each activity within this analytical structure, as amply demonstrated by the interview data. In this way, this study offers new theoretical tools that build upon major existing theoretical models to allow the possibility of rich new investigative strategies.

Another major theoretical resource deployed in the current study was Becker's 'art worlds' theory. As noted in chapter 3, this study found that the 'art worlds' proposition is of great value in its decentring of the importance of individual heroic solitary effort as a credible producer of artwork, and its preference for art as a product of a network of agents. Again, the current study found Becker's proposal to be a rich tool for progressing with understanding the lived realities of artists, and accurate in many of its presumptions, notwithstanding those noted in section 3.5. However, the work challenges the hierarchy of the 'support personnel', clearly showing that artists work as sources of expertise for each other in ways which in no way demote them to the subservience implied by the label of supporting personnel. As we see many tasks

move into the bundle of tasks proposed by Becker, such as promotion, communication, and documentation, and so the skillset required expands in variety and number of tasks, then the world as it was prior to the digital turn becomes a less likely scenario for many artists. For example, the craft of the gallerist is in some cases becoming replaced by the ability to provide striking digital images, write interesting captions and engage successfully on social media to build up critical respect and a buying audience for one's work. The artist peer who takes time from their own studio to come to yours and show you how to produce an effective Instagram story is another artist with their own comms tasks to do, rather than the coffee-fetching lackey of such importance to Trollope, as set out in Becker's book. The data from the current study tells of a flat hierarchy of skills-sharing which challenges the separation of 'support' tasks from other art tasks. Today's artists increasingly see their bundle of tasks as requiring the digital tasks scrutinised in section 6.2 – even whilst not necessarily seeing those tasks as visible – by which I mean here definable, fundable, learnable – in themselves. This specification of these aspects of invisible labour chimes with much of the existing work on this concept, discussed in detail in section 7.1, and confirms that there are tasks not only invisible to onlookers but also invisible to those performing the work. In the case of art labour, this study adds to the existing discussion by finding that the art practice sector, popularly imagined to be the last resort of those who only do the things they want to do, is not exempt from invisible labour. Indeed, given the specific systemic challenges with remuneration in the art sector, it is less able than most other professional sectors to sustain these unrecognised tasks – an important practical point which should be taken on board by art funders and policymakers.

8.2 Recommendations: The case for a collaborative solution to artists' digital object needs

There is much evidence from interviewing that many projects are commissioned by an organisation or funded by the national funding councils or arts funding schemes. Art

supported by the UK arts councils is ultimately paid for by public money. To some extent, the situation is comparable with the university research sector where major funders of research across the social and natural sciences - and to some extent the humanities - are funded via Government by public funds. The major UK research funders are signatories of the 2016 UK Concordat on Open Research Data. In its simplest terms, the Concordat mandates the deposit of data and other digital objects which emerge from projects funded by public money to be deposited in an appropriate digital repository for the common good - implying that they will be "as open as possible, as closed as necessary" (European Commission 2018) for reuse with accreditation by other researchers and also - and importantly - by the depositing researcher in the future. It is worth noting that the UK research councils and other research organisations have invested for decades in the establishment of discipline-specific research data repositories with specialist curation staff, and universities and other research-performing institutions are also currently at various stages of development of discipline-agnostic research publication and data repositories mainly for those researcher who cannot access a discipline-specific facility.

This model may not be suitable for wholesale, direct adoption in the creative arts, although solid arguments in favour of this may be constructed. But certainly the underlying aims are worth serious consideration - including the approach to resourcing. The major achievements of the Concordat on Open Research Data are the commitment to funding for training in digital object management; for the quality of a researcher's digital object management strategy to be taken into account when considering promotion or reward as part of their overall labour; and the groundwork that the Concordat laid for further policy development such as the UKRI Common Principles on Data Policy (2011, updated 2015). This latter document stipulates that:

> It is appropriate to use public funds to support the management and sharing of publicly-funded research data. To maximise the research benefit which can be

> gained from limited budgets, the mechanisms for these activities should be both efficient and cost-effective in the use of public funds.
>
> (UKRI 2011, 2015)

This statement is an important show of support for researchers to submit their costs for the management of digital data objects as part of the bidding process, and is specifically part of an attempt to get the most out of limited research budgets for the benefit of research (that is to say, to maximise the value of the funded project's outputs for the researchers themselves, other researchers, and the general public). As such, it represents a step-change in the level of serious, systematic commitment shown by the major UK research funders to the preservation of research data objects.

How could this set of ideas translate to art practice? The basic argument is that if a thing is worth funding, it is worth funding sustainably. To fund something is to see it as of value. Invisible labour by definition is not explicitly funded. But as this study has argued, digital object creation and management must be carried out to a high quality and on a continuous basis for art to happen. It is time for these skills to be made visible - and funded.

The work of artists has much in common with contemporary research practice. Whether we are artists or scientists or both, we pursue enquiries, both set by ourselves and others. In that pursuit, we seek, retrieve and use digital information, and to do so is to perform research. Both within and beyond the academy, art is often considered to be not entirely valid as a form of research and as such is systematically underfunded. I have argued in chapters 5 and 6 that research tasks are a central part of art work. The fruits of research of any kind are worth keeping findable, accessible, understandable and reusable to a future audience, otherwise we have to question whether there was indeed a sound case for undertaking the research. The more people now - and in the future - who can see what we have thought and what we have demonstrated or created

from these thoughts, the more chance we have of our work being influential, or at least remembered. This matters to artists and scientists alike. When represented digitally, all outputs of these processes become fragile digital objects. If money - particularly public money - has been paid into the processes of research and creation, it is appropriate for a realistic level of funding to also be invested in the stable preservation and curation for reuse of these valuable, fragile digital objects in a reliable, sustainably-funded curation and preservation environment.

This is not to attempt an argument to diminish the unique value of creative art work to society. I have argued continuously throughout this thesis for the distinctive value of the creative arts and specifically the need to identify means through which we understand the current systematic challenges to sustaining practice in the arts. These problems are real and widespread and must be taken seriously if we are to have any hope of a diverse, challenging, rich art sector in the UK that can sustain the careers of a range of artists rather than just those with sufficient personal wealth to enable participation. If we are to take these challenges seriously, we must propose serious solutions.

The model currently developing in the UK and EU higher education and research sectors to manage and preserve digital objects is being built to deal with the myriad and complex technical and social challenges involved in creating findable, accessible, reusable, reliable research data and other digital objects such as publications, laboratory notebooks, software and models. In this way, some of the groundwork has already been covered.

These efforts have much in common with what artists need: safe, inexpensive places to store and retrieve irreplaceable digital objects; a reliable way to assert the creator's IPR to anyone viewing their work; a persistent identifier for digital objects in order to unambiguously link the work, its documentation, and the person that made it; and a

reliable way to show the breadth and quality of one's practice to potential funders, clients, commissioners and the public.

The benefits of this are clear and manifold.

- **Artists** benefit from a secure place of deposit to keep their digital objects stable and reusable, with their accreditation intact and their intellectual property rights and licensing preferences clearly asserted. Where objects are open for use or view by others, access data can be retrieved, which may be of interest and/or strategic use to the artist. Working through the deposit process, artists are likely to develop their awareness of description, documentation, metadata, identifiers and the benefits these can bring. Artists who work in the higher education or research sectors will appreciate the fact that when a digital object such as a photograph, video clip or document is lodged in a trustworthy repository, it gains a persistent identifier which makes it very easy for other people to accurately cite and properly accredit the artist's work in their own research. This approach to curation and preservation of digital objects also broadens the horizons for interdisciplinary collaboration: artists and researchers from other disciplines and sectors can more easily find, use, cite and combine each other's work.
- **Creative sector funders** can easily demonstrate evidence of the quality, variety and reach of the activity they fund, more easily making the case to various stakeholders including their own funders, Government, and the general public for art funding in general and their specific funding activities in particular.
- **Research sector funders** improve the range of researchable collections available for funded researchers and as inspiration for powerfully impactful programmes of research.
- **Other artists and researchers** can locate and review art documentation and digital artworks complete with accreditation in a reliable, trustworthy repository environment, allowing for unambiguous, accurate and persistent citation using

the URL, DOI or other persistent identifier as stipulated by the repository. The currently popular collage or remix approaches to reuse of online visual and video information can be carried out with a more informed approach to ethical reuse and improved visibility for the creators of the original works.

- **Major art collections and/or art teaching and research institutions** with significant investment in their digital holdings infrastructure could extend audience reach and research value of their own repositories by cross-indexing with the nationally-provided infrastructure.
- **Art schools and departments in the university sector** can take a greater part in research data policy formation to achieve better accommodation of their working conditions and discipline requirements; and are likely to find it more straightforward to deal with university and research funder requirements relating to research assessment, impact assessments and other research-focused obligations.
- **Information sciences professionals** including digital archivists, librarians, information literacy educators, and digital preservation and curation specialists have their expertise and relevance set out to a new professional audience as their work and input is sought to guide and advise on policy and infrastructure development.

The financial investment for this should not be borne by one actor alone. A collaborative approach across the creative arts sector is required including arts funders including the nation-level art councils, art research funders, Government, and funds and charities already investing in creative art production in the UK. Funding is already under pressure as it also is in the research sector, particularly after the loss of European funding post-Brexit, but if we look at the data on this point, the case for funding in the research sector has already been made. Indeed, recent work for the European Commission has found that *not* having well-managed digital outputs from research activity costs an estimated €10.2bn per year in Europe, and €16 billion in lost

innovation opportunities (European Commission 2018) not to mention the ethical aspects of double-spending public money on duplicate data-gathering, and wasting funded research time by inefficient methods for seeking, finding, checking and working to understand digital objects.

What sort of proportion of the research funding budget is appropriate to invest in digital object management in the research sector? As a guideline, it is estimated that 5% of the research budget administered by funders in the research sector should be invested into digital data preservation and curation for findability, interoperability, access and reuse[48]; this is not only the ethical thing to do, but will save researchers a significant amount of time (in the case of research students, up to 80%) in 'data munging', that is to say seeking, retrieving, and reformatting digital data objects for reuse (Mons 2020).

I do not propose that similar figures could necessarily be directly assumed or defended for the art sector, but there is much in the example of how digital objects are valued in the research sector that we should note. Investment in infrastructure is a sign of serious commitment to the user community it serves. The research sector, through funding collaborative initiatives and also funding the interlinking of separate institutional initiatives for digital object preservation, is taking its commitment to its user communities seriously. A similar level of seriousness is required in the task of valuing artists and their irreplaceable contributions to society. The current study has identified that seeking, retrieving, storing, preparing, and attempting to reuse digital information and digital objects - many of them from the research sector - are important and time-consuming activities for almost all contemporary visual artists in this study. The study has also established that significant sums of money are invested in art making by the

[48] As set out by The FAIR Guiding Principles for scientific data management and stewardship, commonly known as 'the FAIR principles' (Wilkinson et al 2016). 'Scientific' here is intended to include all types of research in principle. 'FAIR' data (including metadata) is a discrete set of conditions distinct from Open data but with some common aims: all Open data and metadata should be Findable, Accessible, Interoperable and Reusable, but not all FAIR data is Open (for example, there may be sound security or ethical reasons for restricting access, or there may be a commercial confidentiality agreement), although the metadata should be.

publicly-funded Arts Councils and local authorities. These bodies, alongside art schools and university art departments are under pressure to justify their budgets and demonstrate value delivered to society in return for public funding.

This line of thought is being advanced, at the time of writing, by the Arts and Humanities Research Council, the section of UKRI most relevant to creative arts research activity, which is making £19m available for research projects that will address “the lack of coordination between different online collections and catalogues, which constitutes a major barrier to research and public access”. This issue is being funded as a ‘Strategic Priority’ of UKRI. Frustratingly, it continues the UK research sector’s focus on the collecting institution rather than addressing what happens much earlier in the art work process: the long tail of precariously-funded artists making artworks and documentation vulnerable to loss or damage long before they are bought or collected.

8.3 Recommendations: For project stakeholders

This section presents a series of recommendations that can be actioned by individuals, small groups or individual organisations, in contrast with the sector-wide, collaborative step change proposed in the previous section. These smaller, pragmatic steps are nonetheless just as important. The most useful thing an artist can do to make improvements in their use and care of digital information and digital objects is to expand their understanding of digital curation and preservation, and digital information literacy, in order to be able to make the right decisions for their own situation, and to know when and whom to ask for help.

8.3.1 For art funders

1.01	Develop and share understanding of artists’ contemporary working practices now, on an iterative basis recognising that art work continues to evolve. This includes the full range of activities and skills required by artists to search for, retrieve information on, and respond to funding calls, and to effectively carry out communication activities.

	• Commission qualitative and quantitative research to achieve this where there are gaps in the knowledge landscape for your intended audiences.
1.02	Allow resources (funding, practical assistance) for artists to understand funding opportunities and develop quality proposals in response, particularly those with lower profile practices, those with challenges such as dyslexia; and under-represented groups.
1.03	Make policy, guidance, instructions and other communications available in dyslexia-friendly formats.
1.04	Allow resources (funding, time, guidance) for artists to create documentation of sufficient quality in appropriate formats, when this is required in order to submit a proposal.
1.05	Consider open submission platforms / methods when requesting documentation and other materials (including digital objects) as part of the proposal process. Use platforms with visible and usable licensing options for submitted content, rather than stipulating the use of commercial platforms with complex terms of use. Platforms that do not ensure protection of users' data and / or copyright in their submissions and / or do not allow visual and simple licensing indications of user contributions should be particularly avoided.
1.06	Be clear in all policy and relevant communications about your policy on user data including visual and other digital objects submitted as part of funding proposals: this includes specification of whether, when and how data and digital objects will be destroyed, whether and how data and digital objects will be kept and/or re-used, and a plain-language statement of any copyright or licensing implications for artists in regard to any material submitted to you.
1.07	Ensure all staff members understand your policies on user data including their individual responsibilities.
1.08	When designing submission and communication processes, aim to minimise the amount of unpaid labour these processes oblige artists to undertake.
1.09	Consider in consultation with artists whether in-person attendance is required at meetings, or whether digital communication methods might be more efficient or appropriate. If in-person presence is desired, make funding available for artists' time and for travel expenses where required.
1.10	Allow a budget line in project bid budgets specifically for medium to long-term archiving solutions for the safe preservation of key project outputs, in order to keep these digital cultural heritage objects findable, accessible, understandable and reusable for future generations.
1.11	Explore feasibility of an open, sustainable digital archive for deposit by funded artists which allows easy upload and description of a wide range of formats, provision of persistent identifiers for deposited items, and the provision of access to holdings – or at least metadata records - by the widest possible audience. Any such platform should also be publicly funded, have long-term digital preservation (including sustainability planning) in place, provide API functionality so holdings can be harvested to enhance findability, provide users with the means to apply clear unambiguous licences to uploads, and not demand any level of copyright in exchange for hosting, preservation, or access. Art funding organisations are often run on tight budgets themselves; free high-quality repository solutions are available for use and reuse, with no minimum contractual obligation, although budget is necessary for professional advice on set up, user support, and liaison.

	• Zenodo[49] provides an excellent example of such functionality with long-term, stable public funding, and is free to users who can create a collection on the current platform. If more specification is required, organisations can deploy the Invenio software framework[50] on which Zenodo is built, which is open-source and available for reuse[51].

Art funders are clearly one of the most powerful actors in the field of cultural production. Whether they are disbursing public funds, or are a charity or private foundation, they are also bound to demonstrate the value of what they do to the political and economic field in which they exist. Recommendations in this section take account of the two main relational positions occupied by funders: with the bodies to which they are responsible; and with the artists that they fund. Accordingly, suggested actions are largely a matter of reviewing policy in the light of the findings of this study which shed light on the extent to which artists exist in precarity; undertake extensive invisible labour; and currently rely largely upon unsustainable siloed digital object storage products rather than a cohesive sector-wide solution for digital object preservation. In this way, funders develop sustainable infrastructure to more effectively demonstrate the value of their activity to their own funders; they also meet the needs of the artists they support, which in turn supports more effective and sustainable practice.

8.3.2 For art education and training providers (including Higher Education (HE), Further Education (FE) and Continuing Professional Development (CPD) contexts

2.01	Acknowledge that there are currently real barriers to excellence in art making posed by economic and skills challenges that are not currently directly addressed by many art schools and other training providers.
2.02	Acknowledge that artists are already depending on effective digital object creation, retrieval, use and re-use to engage in the cultural heritage economy and sustain a career. These skills are no longer additional – they are central to survival in art making now. Fostering skills in this area is part of preparing students/learners to sustain a career in professional visual art making and underpins excellence across art forms.
2.03	Develop and share understanding of artists' contemporary working practices on an iterative basis, recognising that art working practices continue to evolve, including activities at all levels of the workflow analysis model presented in this study.

[49] https://about.zenodo.org/; https://www.openaire.eu/zenodo-guide
[50] https://inveniosoftware.org/
[51] https://github.com/inveniosoftware/invenio

2.04	Collaborate with funding bodies and art advocacy organisations to benefit from their research on members' / users' requirements and practices.
2.05	Commission qualitative and quantitative research to achieve up-to-date understanding of current art working practices where there are gaps in the knowledge landscape for your intended audiences.
2.06	Develop preliminary understanding of the basic concepts of digital curation, digital preservation and information literacy across the workforce in order to be able to advocate to/advise students and learners. In addition to the art-specific resources discussed in section 7.3 above, there are several key foundational texts: the Digital Curation Centre's Curation Lifecycle Model[52] lays out the idea of the reiterative, ongoing phases of digital object care; the Digital Preservation Coalition's Digital Preservation Topical Notes[53] provide an introductory overview of key terms and ideas in non-specialist language, and their Digital Preservation Handbook[54] includes an accessible glossary of terms and concepts; the CILIP Information Literacy Group's School Resource Sheets[55] – particularly those on undertaking online search and on copyright - are good starting points for staff awareness and also for use in the training room. The British Library also offers guides to copyright and IP[56] for general audiences. All these resources are free to access online.
2.07	Regularly review current curriculum offerings rigorously in the light of a full and up-to-date understanding of artists' skills requirements, and by mapping current regular curriculum coverage (excluding the content of occasional / guest lectures) to the activities and skills presented in the workflow analysis model presented in this study, in order to identify the gaps in training coverage.
2.08	Embed advocacy (i.e. awareness-raising) and training (i.e. skills provision) in digital information search, retrieval, creation, storage, use, re-use and archiving/preservation as credit-bearing core competences in the curriculum of undergraduate and graduate taught programmes.
2.09	Promote advocacy in digital information search, retrieval, creation, storage, use, re-use and archiving/preservation to individuals undertaking postgraduate research programmes (in the HEI or FE[57] context) and to artists in professional practice (in the CPD[58] context).
2.10	Collaborate with digital preservation, information literacy, digital curation, digital archive, digital librarian and research data management professionals to develop advocacy messaging and to locate or develop training materials and/or courses appropriate for your audience. These advocacy and training interventions should be prepared with relevant examples and delivered in language appropriate to the visual art making domain.
2.11	If you are operating within the higher education institutional (HEI) context, contact the university library, archives and research data management services departments to locate institutional expertise to support development of advocacy and training resources.

[52] https://www.dcc.ac.uk/resources/curation-lifecycle-model
[53] https://www.dpconline.org/digipres/discover-good-practice/tech-watch-reports
[54] https://www.dpconline.org/handbook
[55] https://infolit.org.uk/information-literacy-group/school-resource-sheets/
[56] https://www.bl.uk/business-and-ip-centre/protecting-your-ideas
[57] Higher Education Institution, i.e. university or college offering degree level education; and Further Education such as colleges and institutes that offer post-school, non-degree education and training.
[58] Continuing Professional Development: training received via an employer or a professional association or union.

2.12	Ensure all staff members understand your policies on user data including their individual responsibilities.

Art education and training is the site of indoctrination of socially reinforced norms and habitus in the field of cultural production, and the hidden curriculum of the art school exerts a powerful influence on how artists navigate the field of cultural production. These recommendations begin the task of challenging the authority of the art school curriculum and require the art education sector to listen and learn from artists and student artists in order to develop and maintain up-to-date and effective training curricula appropriate to the real social conditions in which the training takes place and in which art is actually made. These recommendations also encourage those providing our education to interoperate routinely with expertise from other areas of the institution in order to collaboratively deliver the skills that artists need to survive now.

8.3.3 For art advocacy organisations

3.01	Acknowledge that artists are already depending on effective digital object creation, retrieval, use and re-use to engage in the cultural heritage economy and sustain a career. These skills are no longer additional – they are central to survival in art making now. Fostering skills in this area is part of helping artists to sustain a career in professional visual art making and underpins excellence across art forms.
3.02	Develop preliminary understanding of the basic concepts of digital curation, digital preservation and information literacy across the workforce in order to be able to advocate to/advise students and learners. In addition to the art-specific resources discussed in section 7.3 above, there are several key foundational texts: the Digital Curation Centre's Curation Lifecycle Model[59] lays out the idea of the reiterative, ongoing phases of digital object care; the Digital Preservation Coalition's Digital Preservation Topical Notes[60] provide an introductory overview of key terms and ideas in non-specialist language, and their Digital Preservation Handbook[61] includes an accessible glossary of terms and concepts; the CILIP Information Literacy Group's School Resource Sheets[62] – particularly those on undertaking online search and on copyright - are good starting points for staff awareness and also for use in the training room. The British Library also offers guides to copyright and IP[63] for general audiences. All these resources are free to access online.
3.03	Advocate to funding bodies for development of cohesive, ethical policy in digital object creation, retrieval, storage, preservation, use, and re-use.

[59] https://www.dcc.ac.uk/resources/curation-lifecycle-model
[60] https://www.dpconline.org/digipres/discover-good-practice/tech-watch-reports
[61] https://www.dpconline.org/handbook
[62] https://infolit.org.uk/information-literacy-group/school-resource-sheets/
[63] https://www.bl.uk/business-and-ip-centre/protecting-your-ideas

3.04	Make policy, guidance, instructions and other communications available in dyslexia-friendly formats.
3.05	Ensure all staff members understand your policies on user data including their individual responsibilities.

Recommendations to art advocacy organisations are kept to a minimal set in recognition of the strict budgets within which such organisations are usually obliged to work. the recommendations provided encourage art advocacy organisations to ensure that they are accommodating the basic needs off their artists and that there is a recognition of the digital turn in art making as described in this study.

8.3.4 For information science and research data advocacy organisations and researchers

4.01	Remember that not everyone who might benefit from your work / research findings / training materials / advocacy resources identifies as working within the sciences. Further, some potential users (including lone researchers, citizen scientists, sole traders and artists) are not working in the institutional context but could still learn a lot from your expertise. Truly useful principles can be applicable in new contexts: consider your language and terminology in order to be as broadly applicable as possible and ideally get feedback on your final text from a mixture of users from different domains before publication.
4.02	Devote some resource specifically to the production of non-specialist language versions of deliverables including research reports, training materials and policy advice, so that these resources are accessible to and usable by those who are not from an information sciences, library and archives, or computing background. This could be in the form of a non-specialist language summary, the inclusion of a glossary at the beginning of the deliverable, or by creating versions of the entire deliverable written for different user groups. Collaboration with artists and those who advocate for artists is likely to help with finding terminology and examples meaningful to artists.
4.03	Expand sustainability efforts to support long-term access to digital preservation, digital curation, research data management and information literacy guidance, advice, training materials and research reports online. Too many projects and programmes of activity disappear from online access a year or two after funding ends. The key deliverables at least should be deposited in a digital object repository such as an institutional research repository with public open access to its holdings, or another long-term stable storage environment that provides a stable online identifier such as a DOI or URI. We need your expertise to be available, for you to get the credit for your work, and for new audiences to be able to build upon it in the future!

Recommendations supplied in this section for information science and research data advocacy organisations and researchers aim to challenge the reluctance of this research and infrastructure sector to take seriously the needs and epistemologies of

visual art making, and the implications of these needs and epistemologies for research data and other areas of information science. Too often, valuable expertise in the information science sector is rendered unattractive or unintelligible to non-science audiences by the choice of language and terminology, and the assumption of certain foundational concepts which are not routinely taught in the art school. Substantive further work is required in order to communicate the value of this sector and its highly relevant expertise on data management to the visual arts practice sector.

8.3.5 For artists

5.01	Artists are encouraged to undertake reflective activity on their work on a regular basis as resources allow (e.g. annually) either alone or with peers, including mapping their tasks and activities to the workflow analysis model. This can deliver a clear view of current skills gaps, which can then be brought to the attention of art advocacy organisations and training organisations.
5.02	Artists who teach may also be able to consider using the model with their students and / or current curriculum in order to identify skills gaps.
5.03	Artists should consider costing the resources required to sustain their digital objects including digital artworks and documentation and ask funding bodies and commissioners to accept a budget line to cover this professional cost. This is the most direct way to make the case that if it is worth funding the creation of something, it is worth funding its digital curation.
5.04	Artists will benefit from familiarity with the basic principles of *IPR*, *digital curation* and *information literacy*. Some introductory resources are listed above in section 8.3.2. Basic knowledge in these areas will save the artist time in the long run by allowing the artist to confidently make good decisions that are appropriate for their specific situation, and will help avoid the loss of money and time that are caused by copyright infringements, data loss or the use of unreliable information.

My research has found that artists generally already produce immense cultural and economic value on very limited resources (time, money, energy) and it is important to avoid imposing an apparently heavy burden of new responsibilities on this group. Instead, the suggestions are intended to support existing practice, and to respond to points that were raised regularly by interview participants. Recommendations in this section are focused upon non-cost activities which can support individual artists in their professional activities, including in personal reflective activities – such as the suggested regular reflection and skills mapping, and learning digital curation and digital preservation basics - and in communication with other actors

in the field – for example, by bringing digital skills knowledge into the budget and initiating a conversation with funders about the costs of sustainability.

8.3.6 For Government

6.01	Government professes to value the cultural heritage sector. The growth of this sector is partly based upon unfunded labour of artists. In order to ensure that visual art talent can be identified and supported as sustainably and ethically as possible, government funding for the arts, particularly those funds made available to artists themselves, must be protected in real terms, and opportunities identified for expansion of such funds;
6.02	The current granulation of published data on the visual art sector is so large as to be almost useless for understanding the profession. In particular, the current UK Government approach of subsuming the entire 'cultural sector' into the enormous spread of the DCMS expanded remit is a backwards step and shows very little useful accommodation of the cultural heritage professions.

Clearly, many more of the above recommendations could be adapted for inclusion in this section, as the UK Government resides in a powerful position in relation to art funders, educational policy and other major tools of influence over the national social and economic space in which all other actors in the field of cultural production must operate, but does not currently embody a leadership role in digital information literacy, data transparency or high quality policymaking for individual art professionals. However, the most immediately obvious requirements identified in this study are the need for structured funding and the accessibility of UK-level statistical references in order to help understand and contextualise new research, and track the success or otherwise of funding policy development.

8.3.7 Community feedback to recommendations

At the time of writing the responses from stakeholders have generally been very positive. One response advocated for the recommendations to be rewritten in simpler language. One major national art advocacy organisation expressed interest in publishing the recommendations material reformatted as short practical guides for their members. A further response from another artists' advocacy organisation found the recommendations "incredibly useful" as they "propose the value of a properly joined up

approach that can not only be facilitated by artists but requires understanding and investment from institutions and funders". The same agency sounded caution about the need for thorough unpacking of the implications of irrevocable decisions taken on licensing and expressed through the medium of Creative Commons and similar licensing schemes. This reaffirms the utility and appropriateness of recommendations for the expansion of information literacy and digital curation skills for artists, art educators, and art advocacy organisations.

8.4 Future work

Many possible directions for future research within the scope of this study have cropped up tantalisingly. Some of these further develop the themes already addressed in the study. Others would open up new lines of enquiry for reanalysis of the dataset. A further few have been forcefully suggested by the particularly challenging world events taking place during the writing period.

8.4.1 Diversity

The most obvious – and urgent – potential step forward based upon the current study is further analysis of the data with sensitivity to neglected factors such as ethnicity and gender. Some powerful narratives could be built as a result of comparison of systematically privileged vs less privileged identities negotiating through the art world. Future studies could usefully delve deeper into the contexts of each of the four nations of the UK to broaden the sample and add nuance to this initial investigation.

8.4.2 Time use and interactions

A large-scale time use study of artists would provide data for an attempt to quantify the time spent by artists seeking, retrieving, managing and attempting to reuse digital objects and data from the Internet. This could support a more quantitative approach to inquiry into the relationship between value of skills and time spent, which may prove useful as evidence for policy development.

Another useful lens on the data would be the development of narratives with artists of longer experience (which is not necessarily commensurate with older age bands), focusing on how the balance of communications, project management, and promotional work has changed over time in terms of weighting between gallery and artist, tracing change as the field of cultural production has encountered the digital turn. This could be expanded by other useful work with curators and gallerists to understand their use of artists' digital objects, e.g. in selection, research and sales/promotional activities. This could examine the digital skills they use and the complementary skills they consider necessary in the artists with whom they work, and would contribute to the construction of an end-to-end visualisation of a digital object throughout its creation, use and exchange in the field of cultural production.

8.4.3 Geographical

There is much scope for geographical expansion of the analysis. The current study attempted a UK-wide geographical spread. It would be useful to supplement this with better representation from Wales and Northern Ireland. On a wider stage, comparative work with other major art market regions, e.g. USA, China, could investigate how well the model and findings developed here resonate within other major regions of the art world.

8.4.4 Expanding theoretical contributions

There is potential for development of Bourdieusian cultural production theory to account more clearly for the capital types striven for specifically by artists. Data here shows that artists undertake activities - and value their accumulated digital objects - for economic capital and social capital. However, I propose that there is mileage in exploring further with this population about what I might term *artistic capital* – resources such as the ability to usefully collaborate with someone (which emerges as important to artists in chapters 3, 5, 6); to find out if/how something works (chapter 6); or to see

what something looks/feels like (chapter 6). In the sense that capital is access to resources, and actors in a given field take action to gain access to those benefits, the findings of this study show artists seeking a range of resources in addition to or even instead of economic or social capital, respectively extending or challenging established understandings of Bourdieusian capital in this specific population. Relevant scholarship may include Massumi (2018)'s argument for alter-value, and Zelizer's theory of the social value of economic transactions, and typology of payments (Zelizer 1996). This work would ideally expand upon data already gathered in order to investigate whether artists participate in a "divided economy" (Zelizer 1996, p. 491), to further explore the potential feelings around money making discussed in section 4.3, and to investigate whether they hold differing attitudes to the use of money earned a) from art making; b) from other sources, and if so what these patterns may look like by e.g. overall income, gender, age, etc.

On another theoretical trajectory, Reckwitz's take on theories of practice advances that practices emerge in relation to materials (cf. Michael (2015): "materially mediated") - it would be useful to examine how far that can work in relation to the digital, particularly given the evidence in this study all the preference for personally malleable physical products in the choice of preservation strategy.

8.4.5 Advocacy

Ultimately, this work and all associated projects are aspects of advocacy for artists, and for the information sciences, and particularly for the benefit that can be gained when these areas of knowledge are carefully combined. In practice, artists need sustained programmatic advocacy for funding and upskilling for the vital information tasks in art making (both in the sense of advocacy *to* artists about these skills, and advocacy *on behalf of* artists to funders and educational institutions) and making visible - and fundable - the invisible labour of art making.

8.5 Closing reflections

My work with artists began as a project funded from public money as a Knowledge Exchange Scholarship to create a shared exchange of knowledge in some form between the UK art practice sector, as represented by DACS, and the university research sector, as represented by the UK Economic and Social Research Council and two departments at the University of Oxford: the Oxford Internet Institute and the Ruskin School of Art.

Part of the invisible labour of this interdisciplinary project has been to keep the flow of information going between these two departments, each situated in its own university division and its own epistemology, in addition to the monodisciplinary norms of delivering conference papers, seminar presentations, and so on. These experiences have strengthened my commitment to communicate the value and relevance of research which seems to lie outside the core interests of the audience. I have relished these challenges and the opportunities they have given me to deploy different epistemologies, vocabularies and tactics, and to have the chance to demonstrate the research value of bringing together apparently disparate epistemologies such as information sciences and visual art practice.

Carrying out this study has also deepened my commitment to the value of greater support for interdisciplinary research and recognition of the impact of university and research-sector structures, policies, systems and practices which frustrate, discourage, complicate, distrust or disallow cross-departmental, interdisciplinary scholarship. The process has also reaffirmed my interest in and commitment to this type of research. We can only make progress on urgent global research challenges such as the UN Sustainable Development Goals[64] if we normalise interdisciplinary collaboration and begin to prioritise our research practice in terms of the questions it responds to rather

[64] https://sustainabledevelopment.un.org/sdgs

than the discipline it emerges from. We need to support, recognise and advocate for this kind of research, including research performed by artists (which is frequently hampered by lack of access to academic literature and unfamiliarity with science-orientated research terminology and infrastructures), and the deeply interdisciplinary nature of the research that happens when artists and researchers engage meaningfully together.

My study of a group of workers who are affected by the issue of invisible labour in their daily workflows, albeit of a different sort from my own, has made me more aware of how this concept operates even in relatively highly-qualified (albeit still relatively low-paid or unpaid) roles such as PhD student and artist. There is an opportunity here to recognise, support and reward competence displayed in performing these invisible tasks. There is an inescapable social justice aspect to this too: as discussed in chapter 7, women, ethnic minorities and people on low incomes are disproportionately made responsible for the performance of invisible labour. To expand a focus on tackling invisible labour would revolutionise the working life of many people, including artists.

These reflections seem to have become even more urgent now in 2020 as the COVID-19 pandemic persists, science and research efforts to establish facts about the virus are attacked by populist pundits, structures of privilege and inequality are brutally exposed, and self-employed artists find themselves facing cancelled commissions, closed exhibition venues and cancelled art fairs whilst major economies contract. Even in this grim landscape, artists are somehow persisting. An example of this resourcefulness and courage is the Artist Support Pledge[65] initiative introduced by UK-based artist Matthew Burrows[66]. The Artist Support Pledge initiative is in some ways a microcosm of many of the key issues of this research: even in the face of market meltdown, it works as a supporting mechanism for a dispersed network of artists by

[65] https://www.artistsupportpledge.com
[66] https://www.instagram.com/matthewburrowsstudio/

encouraging a feeling of collegiality, and making sales possible even while formal sales venues are closed and studio visits are off (thus providing key forms of capital from the two foundational layers of the Value Model). It achieves all of this through the deployment of the Internet – specifically through using social media to disperse digital photographs of artworks and art objects in order to advertise them for sale directly from the artist to other artists and members of the public. With connected technology, any artist can participate – there are no gatekeeping galleries or selection committees. In this way, the Artist Support Pledge is allowing artists to continue to promote their work to new audiences, accrue some income[67] and maintain some sort of momentum in sustaining their practice.

When, in the last analysis, artists are thrown on their own resources to survive, as they so often are, we see the power of the digital does not diminish but rather grows in value for those seeking to maintain creative connections and sustain their practice. We need the work of high-quality information science expertise - including digital curation, digital preservation and information literacy - to be made visible and accessible in art making, to appear on the curriculum and to be recognised as a necessary part of contemporary art labour. We need art funders, trainers and policymakers to understand creative connectivity – both digital and social – as critical to art making now.

[67] The Artist Support Pledge has raised an estimated GBP60m directly for artists between 16 March and mid-August 2020, according to founder Matthew Burrows (Harris 2020).

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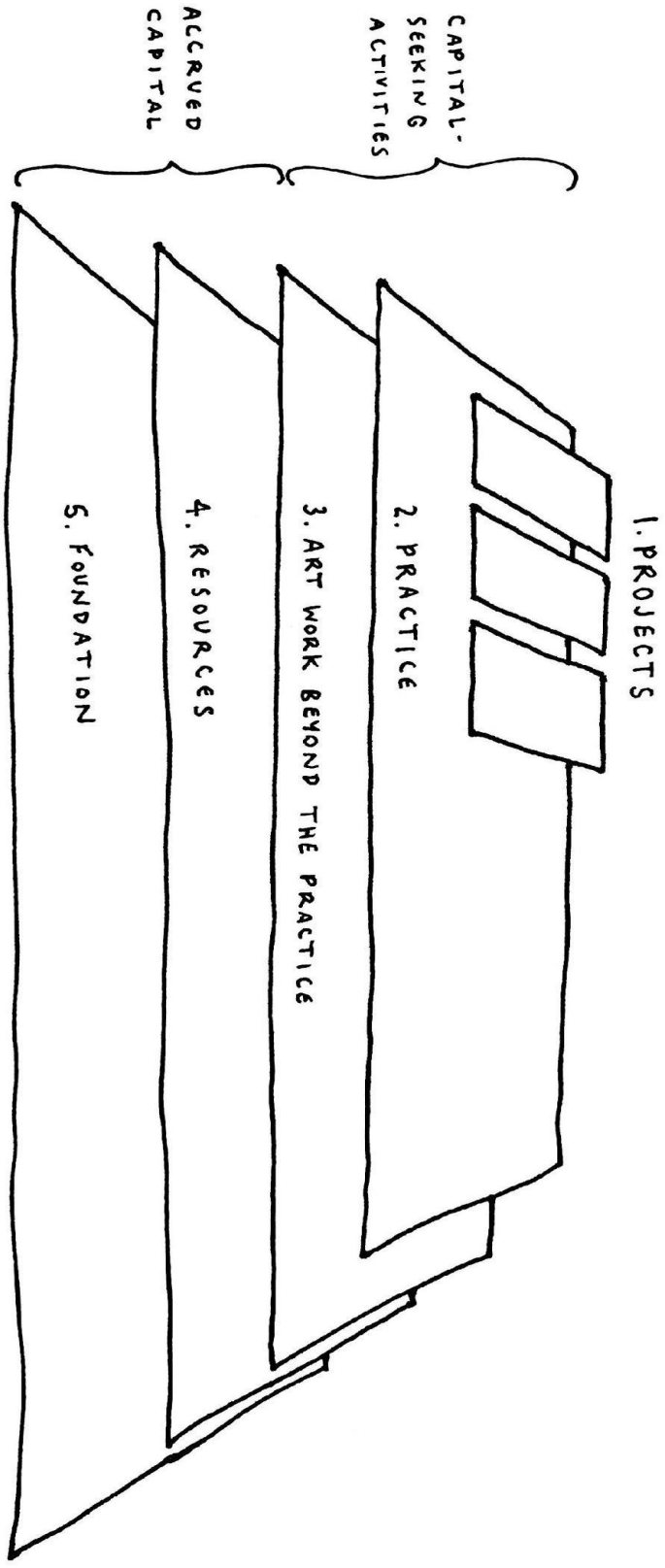
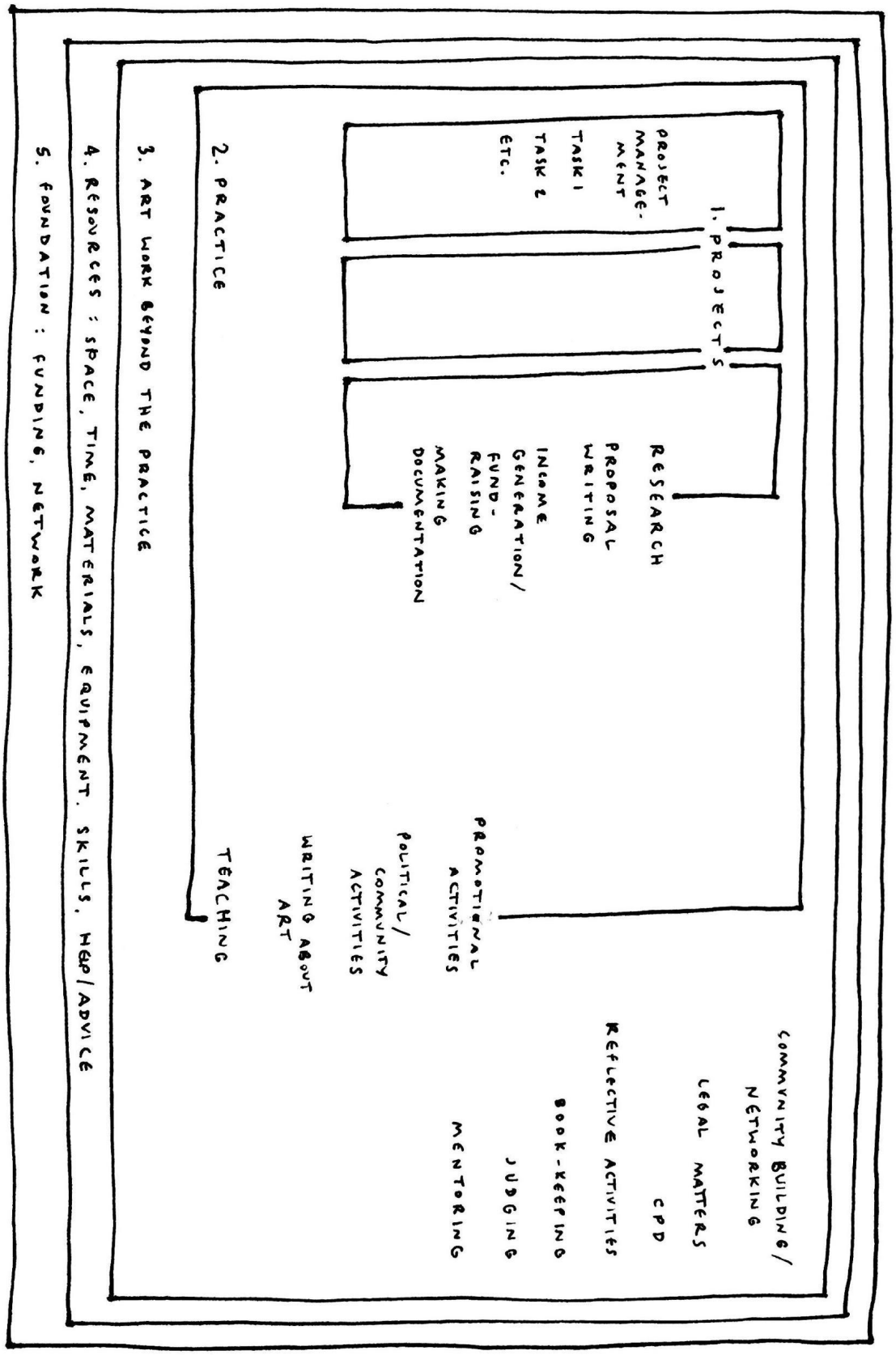
Appendix 1: Figure 5.1 (large scale version)



Appendix 2: Figure 5.2 (large version)



Appendix 3: Interview instrument

OII/Ruskin/DACS visual artist research interviews 2017-18: Question schema
Approved final version. CUREC ethical approval number: SSH_OII_C1A_16_051.
Laura Molloy e: laura.molloy@oii.ox.ac.uk
[Points for the researcher are noted in square brackets. All questions should be asked. Questions that can most easily be asked via Qualtrics are indicated in grey type; when online version of questions is used before interview, responses to these may be noted prior to the interview and referred to during discussion.]

"Thank you for participating in this interview. My aim is to gather information from you about your understanding, experience and use of the Internet in your working practices, and whether / how you download, use, store and share digital files in your professional activities."

Section A: Your work

1. *[QUALTRICS] What field, area or medium would you describe yourself as working in? E.g. printmaking, painting, sculpture, etc. (If you spend approximately equal amounts of time on more than one, please include all.)*

1. *Approximately how many years have you been in professional practice? This can be understood as making at least part of your living from your art practice. [Researcher: this could have been asked via Qualtrics, but it works as a conversation starter and helps get the participant comfortable.]*

1. *Are you solely responsible for the creative decisions about your art work or do you, for example, work as part of a partnership with joint creative responsibility?*

1. *What is / are your main source(s) of funding for your creative work? Include past and present sources. I don't want to know amounts of funding or any other details, simply the source or sources*
   a. *Main source:*
   b. *Supplementary sources:*

1. *Do you have any sources of income apart from your art practice, e.g. paid employment or other income sources?*

Section B: Your training and education

1. *[QUALTRICS] Would you describe yourself as primarily formally trained or self-taught?*
2. *[If formally trained] How many years were you in formal art training / art education?*
3. *[If formally trained] Where did you train?*
4. *[If formally trained] What level of qualification did you achieve?*

1. *[QUALTRICS] Have you ever received training on creating, managing or sharing digital files?*
2. *[If received training] Please indicate the topics covered as far as you remember.*
3. *[If received training] Where did you receive this training? (country, institution)*

Section C: Your working processes

1. *Please describe the typical processes for creating the kind of work you most often make. If there are many possibilities, please describe the processes in your most recent project, and the order in which they happen.*

[Researcher: these may fall into the following phases:

- *Conceptualisation*
- *Research*
- *Draft / trial / test*
- *Final version*
- *Share / disseminate / display / sell / license*
- *Promote*

Sketch these out with the agreement of the participant, as a form of elicitation interviewing.]

1. *Considering this workflow, please identify the tasks that use digital technology.*

Digital technology can mean, for example:

- *a computer, smartphone or tablet connected to the Internet;*
- *a digital camera (including the camera on a smartphone);*
- *digital audio or video recording equipment;*
- *a digital drawing tablet;*
- *a digital scanner.*

Examples of tasks using digital technology might be:

- *'I take photos with my phone of other people's work that interests me';*
- *'I photograph my finished work and save those photos to my laptop';*
- *'I upload images of my finished work to my website';*
- *'I share rough sketches by FTP with the art director';*
- *'I send and receive emails with my collaborator regularly throughout the project',*
- *'I email a PDF about my work to curators',*
- *'I tweet about an upcoming exhibition',*
- *'I draw with a digital tablet'*
- *'I have Skype meetings with collaborators' etc.*

[Researcher: list tasks. For each task, identify

- *digital technologies in use*
- *digital objects that are in play.]*

1. *Are there any other important professional activities you regularly do which we haven't covered yet? E.g. tax returns, sending out promotional material, reading trade magazines/websites, regular meeting with other artists, visiting galleries, judging exhibition entries, etc. We don't need to list everything, just some of the* ***key activities and tasks that are important to your working practices on a regular basis****.*

1. [If there are other professional activities] Which of these uses digital technology? [Researcher: list tasks, identify digital object in use.]

*1. [QUALTRICS] Are there any apps, social media sites or interactive websites you regularly use for **professional** purposes? For example, Instagram, Facebook, Twitter, Flickr, Soundcloud, Pinterest, Tumblr, etc. [Researcher: compare with earlier discussion of tasks.]*

Section D: Looking for / finding digital materials online

1. [QUALTRICS] Do you look for digital resources online as part of your working practices?
1. [If yes] Please specify what you look for.
1. [If yes] Please specify how you search.

- *I visit the website of a particular institution or organisation (e.g. British Council, V&A, Tate, etc.) and use their 'Search' box.*
- *I open my web browser (e.g. Internet Explorer, Firefox, etc.) and enter key words into a search engine (such as Google, Bing, etc.)*
- *I do something else (please specify)*

1. [If yes] Why do you search for these resources? E.g. for factual information, for inspiration, for fun, other (please specify).
1. [If yes] How often do you search, on average? (More than once a day / About once per day / Probably 1 – 2 times per week / A couple of times per month or fewer)
1. [If yes] How important is the use of digital material from the Internet in research and preparation for your own work? (Extremely / Very / Moderately / Slightly / Not at all).

1. [QUALTRICS] Do you feel you are knowledgeable about searching the Internet effectively? (Yes definitely knowledgeable / Yes fairly knowledgeable / Not sure / Not really knowledgeable / Absolutely not knowledgeable)

1. [QUALTRICS] Would you find it useful to access training, advice or guidance on searching for digital materials? (Yes / no / maybe)

1. [QUALTRICS] Do you receive digital materials any way other than by searching online? E.g. given by friends or collaborators on CD / on a USB stick / via email.

Section E: Managing digital materials

We have talked about your workflow. From that we identified the file types you work with.

27. The files you create are: [researcher: list, check with participant].
[Examples: .psd, .pdf, .jpg, received tiffs from professional photographers. Administrative email all the time. Vector files. Word for admin. Excel for tax. Powerpoint for presentations.]

28. The files you seek or access are: [researcher: list, check with participant].

1. Where do you store these files? Please list all locations.

1. Do you have any copies/back-ups of any of these files? Please note there is no correct answer. I am interested in a realistic idea of how you actually work.

1. *[If there are copies] Where are these copies stored?*
[Researcher: identify
- *storage environment*
- *whether different location from initial version of the file.]*

1. *Approximately how long ago did you create or receive the oldest of these files? That is to say, approximately how old is the oldest of your files?*

1. *Thinking about all the files you have: if you were to lose these files in some way, what effect would that have on you or your work?*

1. *[QUALTRICS] In this section we are thinking about managing digital resources. Do you feel you are knowledgeable about managing your digital resources effectively? This includes organising files, labelling files so they can be found again, choosing file formats for particular purposes, thinking about where and how to store files and whether to make back-up copies, etc. (Yes definitely knowledgeable / Yes fairly knowledgeable / Not sure / Not really knowledgeable / Absolutely not knowledgeable)*

1. *[QUALTRICS] Would you find it useful to access training, advice or guidance on managing your digital materials? (Yes / no / maybe)*

Section F: Using digital resources

Thinking about all the digital files in your possession:

1. *[QUALTRICS] What do you usually use these files for? (e.g. Keep for research purposes; / Keep and disseminate as evidence for funders; / Keep for personal reflection; / Disseminate for commercial sale; / Disseminate for promotional purposes; / Other [specify])*
[Researcher: bring up this answer in interview to set the scene for following questions]

1. *Think about the files that are most important to you. In general terms, what is their value to your practice? (High / medium / low)*
[Researcher: this helps validate against q33 above, 'If you were to lose these files...'.]

1. *[QUALTRICS] What is your level of expertise about licensing, IPR and copyright? (Definitely knowledgeable / Fairly knowledgeable / Not sure / Not really knowledgeable / Absolutely not knowledgeable)*

1. *[QUALTRICS] Do you feel confident about how to use and share digital materials that you have created yourself?*

1. *[QUALTRICS] Do you feel confident about reusing and sharing the digital materials created by someone else? These might be materials found online, or shared by contacts.*

1. *[QUALTRICS] Would you find it useful to access training, advice or guidance on using digital materials, including licensing, IPR or copyright? (Yes / no / maybe)*

Section G: About you

2. *[QUALTRICS] Please choose your age group: 30 or under / 31 – 49 / 50 - 65 / 66+*
3. *[QUALTRICS] Please choose your gender: Female / male / trans* / other (specify)*

General remarks

4. *Are there any other comments you would like to make?*
5. *Would you be willing to be contacted in the future to provide me with more feedback?*
6. *Who else do you recommend that I should speak to about this?*

Many thanks for your participation!
Laura Molloy, e: Laura.Molloy@oii.ox.ac.uk

Appendix 4: Consent form

CUREC ethical approval number: SSH_OII_C1A_16_051

INFORMED CONSENT STATEMENT

Supporting Sustainable Visual Art Practice through Digital Skills Enhancement

You are invited to participate in a research study to understand digital information practices of UK visual artists. This study is a doctoral project of the University of Oxford and is funded by the Economic and Social Research Council (ESRC) and DACS.

INFORMATION: This study may involve the following procedures:

1. Personal interviews, either in person or by telephone, of 60 minutes (on average), which may include observations of your workplace/studio environment and how you use the Internet and other digital resources;
2. For some participants, focus group discussion of practices.

Interviews will be recorded and transcribed for the purpose of research. Also, photographs may be made in the course of this research.

RISKS: No risks are foreseen from this research other than the potential that comments you make in the course of this research could be misconstrued. In order to minimize this potential risk, if identifying information is published you will be contacted and allowed to see the context in which this information is being used. Information likely to be damaging to your reputation will not be reported. You will not be asked any questions about sensitive or personal topics.

BENEFITS: The benefits of this research are that it will contribute to a scholarly and practical understanding of how contemporary visual artists use the Internet and digital resources. Benefits for visual artists will come from the findings of this research being used to recommend improvements to training, policy and guidance from funders, art schools and other stakeholders.

CONFIDENTIALITY: The information you provide for this research will not be treated as confidential unless you request it. Your participation in the project may be acknowledged by name. While much of the information you provide will be reported in a way that does not identify you individually, when the information you provide is reported in a way that links you by name to a direct quote, you will be notified in advance of its publication to check the accuracy of the reporting.

Please **choose one** of these four options on any restrictions you would like to place on the information you provide:

☐None: You may be identified and quoted in reports about this research

☐Minimum: While you do not request anonymity, any part of the interview may be off the record at your request

☐Medium: You will not be personally identified unless I have sought your permission specifically to do so

☐Maximum: Complete anonymity for yourself and your project or organization

In addition, please **tick each box you agree to**:

☐ agree to allow **voice recordings** of my participation in this research to be used in presentations and publication

☐ agree to allow **still images** collected during this research to be used in presentations and publication

CONTACT: If you have questions at any time about the study or the procedures, you may contact me, the researcher, Laura Molloy by phone, +44(0)7989883076 or email at laura.molloy@rsa.ox.ac.uk; or my supervisor, Eric Meyer, by phone +44 (0)1865 287218, or by email at eric.meyer@oii.ox.ac.uk.

PARTICIPATION: Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty. If you withdraw from the study, your data will be destroyed at your request.

AUDIO, VIDEO AND IMAGES: Audio and/or photographs may be collected during your participation in this research. This information will be used primarily for research purposes, and only researchers working on this project will have access to the original files storing this information. If you withdraw from this study, the files containing your data will be destroyed at your request. Edited versions of audio and photographic information

from this research may be used in instruction, public talks, and publications of this research if you consent to your data being used in this way. The images and audio will not be used for any additional purposes without your additional permission.

CONSENT: I have read this form and received a copy of it. I have had my questions answered to my satisfaction. I agree to take part in this study.

Participant name (please print): _____ e-mail:

_____

Signature: _____ Date: _____

Researcher name: LAURA MOLLOY e-mail: laura.molloy@oii.ox.ac.uk

Signature: _____ Date: _____

Appendix 5: Participants

Artists expect and deserve accreditation for their contributions to a project. The following artists, ordered A-Z by surname, contributed to the data gathered by this project whether or not they have been directly quoted.

Katriona Beales: http://www.katrionabeales.com/

Lucy Bergonzi: https://www.lucybergonzi.co.uk/

Chris Biddlecombe: https://uk.linkedin.com/public-profile/in/chris-biddlecombe-9801b11a

Judith Bromley: http://www.askrigg-studios.co.uk/judith-bromley/

Ergin Çavuşoğlu: https://www.ergincavusoglu.com/

Kathryn Cooper: http://www.kathryncooper.com/

Gordon Dalton: http://gordondalton.com/

Owen Davey: https://owendavey.com/

Hydar Dewachi: http://www.hydardewachi.com/

R & F Mo (aka Maryclare Foá): http://randfmo.com; https://www.instagram.com/r.andf.mo/

Amy Gear: https://www.amygear.com/

Brian Grimwood: http://briangrimwood.com/

Alexander Hamilton: http://www.alexanderhamilton.co.uk/

Sue Hofman: http://www.suehofman.com/

Joe Ingleby: http://www.josephingleby.com/

Joanna Kinnersly-Taylor: http://www.joannakinnerslytaylor.com/

Carali McCall: https://www.woolffgallery.co.uk/carali-mccall

Isabella (Izzy) McEvoy: https://izzymcevoy.com/

Jonathan Meuli: https://jonathanmeuli.com/

Naomi Mishkin: https://naominomi.com/

Janie Nicoll: http://www.janienicoll.co.uk/

Tamarin Norwood: https://tamarinnorwood.co.uk/

Simon Pope: https://sites.google.com/site/ambulantscience/

Guyan Porter: http://www.guyanporter.com/

Ros Rixon: https://www.heartbreakpublishing.com/content/79-ros-rixon

Jade Sarson: https://teahermit.co.uk/

Jennifer Shellard: https://www.caa.org.uk/artists/jennifer-shellard/

Martin Smith: https://www.martinsmithsculpture.co.uk/

Susan Stockwell: http://www.susanstockwell.co.uk/

Lucy Stopford: http://www.lucystopford.com/

Jaqueline Utley: http://www.jacquelineutley.com/

Johannes von Stumm: https://vonstumm.co.uk/

Ethel Walker-Murray: https://www.ethelwalker.co.uk/

Liz West: https://www.liz-west.com/

Jane Wildgoose: http://www.janewildgoose.co.uk/

Appendix 6: Overview tables

Age bracket

30 or under	4
31 – 49	12
50 - 65	15
66+	6
Not disclosed	0

Gender

Female	23
Male	14
Trans-identified	0
Other	0
Not disclosed	0

Highest level of art qualification

Non-degree	3
First / undergraduate degree, e.g. BFA	11
Postgraduate degree, e.g. MFA, PhD	20
Not disclosed	3

Length of time in practice

Years <10	10
Years 10-20	6
Years 20+	21
Not disclosed	0

Appendix 7: Codebook

NB:

- Some entries in 'Description' column indicate that the 'Name' entry is a child node of the previous entry-with-description. E.g. 'A-N/AIR' through to 'Wellcome Trust' are all child nodes of the parent category, 'Art world roles, responsibilities, agents'.
- Analytical categories arising from third-round coding (see chapter 4) are indicated in the Description field.

Name	**Description**
Academic literature	Academic literature either sought or produced by participant. This can be academic literature searched for online, or mention of use of academic libraries or journals, or problems in gaining access to academic literature.
Admin, fin, purchasing, business activities (not promotional, comms)	Administrative, business and entrepreneurial activities, as required by art and nonart enterprises alike, e.g. financial reporting, tax returns, purchasing, insurance matters, etc. Excludes promotional or communications activities.
Age issues, generational difference, difference across time in practice	Difference observed in own practice across time, in technology use or where a different (older or younger) generation is described as having a different set of attitudes or practices.
Agreements	Act of agreeing or reaching agreement whether formally or informally, with peers, clients or suppliers. Particularly where participant discusses the time or effort going into reaching agreement as a visible activity in the workflow. Or where disagreements happen and/or effect project outcome.

Anxiety related to file, data safety, existence	ANALYTICAL CATEGORY. Anxiety, concern, worry, mild to severe, about file existence continuing, data being safe either from technological or human damage neglect or loss. Whether anxiety appears to already exist for participant or it is engendered by interview discussion.
App development	App development mentioned as part of practice or part of income.
Archive creation	Where participant talks about creating an 'archive'. This is whether use of term demonstrates awareness of the requirements of an archive (e.g. collection policy, access and preservation approaches, designated community, historical and themed nature of collection), or not, e.g. as synonym for storage.
Art making as dialogue, communication	ANALYTICAL CATEGORY. Art making as depicted or understood by participant as a way to conduct a dialogue or communication activity in itself as the primary - or one of the primary - functions of the art. (Does not refer to communication activities that are done in order to create the work.)
Art world roles, responsibilities, agents	Mention of art world roles and responsibilities at practice level (rather than individual duties or tasks done within a particular project) that should, could, or used to be, done by other professionals. For example, professional archivists working on preservation of an artist's output; professional agent working to promote artist; agency or individual who writes funding bids, etc.
A-N, AIR	Child node of 'Art world roles, responsibilities, agents'
AOI	Child node of 'Art world roles, responsibilities, agents'
AOP	Child node of 'Art world roles, responsibilities, agents'
Artists Union England	Child node of 'Art world roles, responsibilities, agents'
Artrabbit newsletter	Child node of 'Art world roles, responsibilities, agents'

Arts Council (England)	Child node of ‘Art world roles, responsibilities, agents’
Axisweb	Child node of ‘Art world roles, responsibilities, agents’
Contemporary Glass Society	Child node of ‘Art world roles, responsibilities, agents’
Creative Scotland	Child node of ‘Art world roles, responsibilities, agents’
DACS	Child node of ‘Art world roles, responsibilities, agents’
Galleries, dealers	Child node of ‘Art world roles, responsibilities, agents’
Interaction with galleries-showing, dealing	Child node of ‘Art world roles, responsibilities, agents’
Visiting galleries and exhibitions	Child node of ‘Art world roles, responsibilities, agents’
Hope-Scott Trust	Child node of ‘Art world roles, responsibilities, agents’
Oxford Art Society	Child node of ‘Art world roles, responsibilities, agents’
Publishers	Child node of ‘Art world roles, responsibilities, agents’
Royal British Society of Sculptors	Child node of ‘Art world roles, responsibilities, agents’
Scottish Artists' Union	Child node of ‘Art world roles, responsibilities, agents’

Sculpture Network	Child node of ‘Art world roles, responsibilities, agents’
Wellcome Trust	Child node of ‘Art world roles, responsibilities, agents’
Artform	Mention of artforms either worked in or trained in by participant. (This differs from case classification of 'artform', because the case classification is the primary artform with which the participant identifies. E.g. artist could have trained in textiles but now identifies as a sculptor.)
Book making	Child node of ‘Artform’
Collage	Child node of ‘Artform’
Drawing	Child node of ‘Artform’
Graphic novel or comics	Child node of ‘Artform’
Illustration	Child node of ‘Artform’
Installation	Child node of ‘Artform’
Intermedia or working across media	Child node of ‘Artform’
Painting	Child node of ‘Artform’
Participatory art	Child node of ‘Artform’
Performance-live	Child node of ‘Artform’

Photography	Child node of ‘Artform’
Print making	Child node of ‘Artform’
Sculpture	Child node of ‘Artform’
Sound work	Child node of ‘Artform’
Textiles, stitchwork	Child node of ‘Artform’
Video, film, animation (not live performance)	Child node of ‘Artform’
Writing (as part of practice)	Child node of ‘Artform’
Asking questions of interviewer re. skills	Participant asks interviewer question re. a digital skill or practice that has come up in discussion, e.g. why it is important or how to do it better.
Belief or lack of belief in own work	Participant shows lack of confidence or belief in their work as an artist. Not related to levels of confidence in digital object handling.
Books	Mention of books as important or relevant sources of information or research material either currently or formerly; or as a form of artistic output or income.
Boundary objects	ANALYTICAL CATEGORY. When participant describes object/s - either analogue or digital - as performing more than one information role (cf. Starr, Griesemer, Bowker etc.)
Brexit	The idea of the UK leaving the EU - a matter frequently in the news at the time of interviewing, and commonly referred to as 'Brexit'.

Building on, responding to own previous works	Discussion of work, whether processes or completed projects, drawing on themes, concepts, skills from artist or collaborator's earlier work, specifically when there is a sense within the practice that individual projects build on each other in time into a sequence or pattern.
Collaboration	Discussion of collaboration as an activity or goal which is visible to the participant as a discrete task or process needing effort or resource.
Communication activities (1-to-1 or 1-to-team)	Communication activities, tasks or processes - whether visible to the artist as discrete activities or not - which are part of the workflow. These can be digital or analogue forms of communication. Excludes promotional (1 to many) activities.
Competition entry	Discussion of the tendering process often used in the creative industries whereby the commissioner arranges a competition in order to attract entries from which to pick who will perform the commission. Obliges those interested to prepare and submit work for no remuneration.
Conceptualisation process	The ways in which artists formulate or concretise the idea or concept that induces them to create a piece of work ('inspiration' in popular terminology). This might be an internal mental process, or a series of physical steps, but is not as specific or focused as research activity focused on a specific outcome. Generally occurs before research, planning or fundraising activities.
Confidence, resilience	Issues of confidence or resilience are discussed. Whether that they are present, needed or lacking.
Conflation of data, file mgmt, search training with IT, software training	ANALYTICAL CATEGORY. Participants are asked about data management or file management, but respond as though the question is about e.g. learning Photoshop or any other particular software or computing system, e.g. IT, how to work a computer, using your iPad, etc.
Conflation of internet search with operation of computer	ANALYTICAL CATEGORY. Participant is asked about Internet search activity, and responds with account of computer operation.

Contented w level of competence in digital knowledge or skill	When participant appears to be satisfied with current level of knowledge or skill, whether or not they feel they know a lot about it.
Control or power structures	Discussion of control or power structures in operation in art world, in particular relationships or dynamics that artist has with other stakeholders, or when control is enforced by obligatory systems or policies.
Curating, judging art	When curating or judging art is mentioned as an activity performed by the artist or a skill they have trained in or developed.
Dependency on digital objects or tool	Artist indicates that a particular digital object/s or tool/s is/are necessary - rather than useful - for a particular task to be carried out.
Differences between art processes and other sectors	Discussion of differences between circumstances, resources, working methods, requirements, parameters, etc. between art labour and other forms of labour.
Differences between artforms	Differences perceived by the participant between one artform and another in which the participant works, or between the artform/s in which the participant works and a different artform in which a peer works. Not discussion of how final outputs differ - e.g. it's usually clear how a painting differs from a sculpture. Focus here is on the differences in necessary circumstances & working practices, particularly in terms of conceptualisation, research, fundraising, collaboration and communication, etc.
Digital files as consumables i.e. non final outputs	ANALYTICAL CATEGORY. When digital objects are not used in the final production but are necessary creations / outputs from working processes on the way to the production of the final output. Relates to BOUNDARY OBJECTS.

Digital information skills-desire to learn more	Participant shows desire to learn more about a digital information skill, either immediately or at some point in the future: e.g. 'I really should learn how to ...'.
Digital photography	Mention of digital photography / use of digital camera (whether in smartphone or self-contained), in documentation, research, reference gathering, production of final output etc.
Digital preservation awareness	When participant shows through description of knowledge, tasks or use of technical vocabulary that they are aware of any of the principles of digital preservation, i.e. the need for active management of digital assets beyond the limits of current technological infrastructure or personal circumstances.
Digital resource sharing, and re-use of materials shared by others	In response to questions under 'copyright and IPR' section re. confidence of sharing own and others' digital objects. Also when participant discusses at any point that they share digital objects with others, whether their own creations or things they've found online or received from another.
Digital tool choice, selection	Discussion of selecting a particular digital tool whether ICT or software, and factors influencing the choice made.
Cost of digital tool, software	Discussion of cost of digital tool or software, for example as a barrier to use.
Digital tool as artistic choice infl by other artists	Discussion of choice of digital tool or software chosen (or avoided) purely or partly due to opinions of other artists.
Informed refusal of specific ICT or platform	Participant presents considered reason(s) why they have chosen to not use a particular ICT or online service or software.
Digital tools incorporated part	Digital tool - whether ICT or software - is incorporated as a visible or tangible part or feature of the final output.

of presentation of final work	
Diversity or non-comparability of workflows across one person's practice	Participant deploys distinct, varying workflows. E.g. 'When I'm doing *this* sort of project I always do X; but for *that* sort of project I always do Y instead'.
Drawing as research or comm method	Drawing as a way to research, devise or experiment; or to communicate with peers, stakeholders, collaborators. Not specifically related to drawing as final output.
Dyslexia	Dyslexia mentioned either as a condition experienced by the participant or by peers, colleagues where it affects working practices.
Editing	Editing of text, sound or film is an artistic activity of the participant, or part of a larger art workflow, or in some way a source of income.
Educational, social value of arts	Art discussed as bearing educational or social value to society at large; when art education at any level (primary school, A-level, tertiary, nursery, CPD) is discussed as educationally valuable for people in general.
Ending, completion, drawing to a close	When ending, finishing, completing, giving up or closing down is discussed. Whether of a career, or an individual practice, or a project, or a process.
Enthusiasm for digital technologies	When digital technologies, whether Internet, ICTs or software, are talked of with enthusiasm.
Ethnicity or nationality-related issues	ANALYTICAL CATEGORY. When participant discusses issues or experiences related to their work or living as an artist that are influenced by or connected to their status as a person of a particular ethnicity or nationality.

Exhibiting physical works	Discussion of the point in workflow when physical works are exhibited.
Failure, mistakes	When participant identifies or reflects upon failures, mistakes, missed opportunities.
File loss - experience	Participant reports experience of file loss.
File loss - impact	Participant reflects on impact of file loss whether this has actually happened or is only imagined. May be 1. impact on personal emotions - how did / would file loss make you feel?; 2. impact on work - what is more difficult or impossible as a result of file loss?
File management	Where participant discusses issues to do with the knowledge and skills of file management as defined by information literacy and digital curation literature and as specified in interview instrument. Particularly in relation to self-assessed level of knowledge / competence in these skills and this knowledge. 'File' here is broadly assumed to be digital but can in some cases also refer to physical / hard copy files.
Backing up	Child node of ‘File management’
Use-Time Machine	Child node of ‘File management’
Received file management training OTHER	When participant says something other than yes or no to 'Have you received any file management training?'. E.g. possibly, I can't remember, refuse answer, no answer, etc.
Visual information systems	Information storage and retrieval systems used by the artist, e.g. in the studio, which rely upon images, objects or colours (rather than written labelling) to identify categories.
File types	File types mentioned / clearly implied by participant in use in their workflow. E.g. 'most of my images are JPG' or 'most of my images are Photoshop format [i.e. PSD]'

.AFPHOTO (Affinity Photo)	Child node of ‘File types’
.POW	Child node of ‘File types’
AAC	Child node of ‘File types’
AC3	Child node of ‘File types’
AIFF	Child node of ‘File types’
AVI	Child node of ‘File types’
dwg, dxf (e.g. from Sketchup)	Child node of ‘File types’
Excel, Numbers, other spreadsheet software	Child node of ‘File types’
Gif	Child node of ‘File types’
JPG	Child node of ‘File types’
M4A	Child node of ‘File types’
Mov	Child node of ‘File types’
MP3	Child node of ‘File types’
MP4	Child node of ‘File types’

MTS (movie file)	Child node of ‘File types’
Notes	Child node of ‘File types’
pdf	Child node of ‘File types’
PMD (Pagemaker)	Child node of ‘File types’
PNG	Child node of ‘File types’
Presentation software, Powerpoint, Keynote	Child node of ‘File types’
psd	Child node of ‘File types’
RAW	Child node of ‘File types’
RTF	Child node of ‘File types’
TIFF	Child node of ‘File types’
Vector files-ai, eps	Child node of ‘File types’
WAV	Child node of ‘File types’
Word, Pages, ODT and similar	Child node of ‘File types’

Financial pressures, constraints	Mention of financial pressures contended with in relation to art practice, or decisions taken re. art making which are clearly influenced by financial considerations.
floppy disks	Mention of floppy disks as part of current or past file storage strategy.
Gendered issues in art world, practice, making	When gender is mentioned as an issue in art practice, reception of work, selling, resourcing etc.
Handwriting	Use of handwriting as part of practice: outputs or communication activities.
Ideas changing by end of project	When ideas that are being worked with / motivating the art making, change as the project progresses and / or the outcome is different from the outcome that was originally envisaged.
Importance of copyright for artists	Discussion of copyright and whether it is or is not important for artists: either in terms of whether it is important for artists to understand copyright legislation, and / or the effects of copyright law or infringement can have an impact on artists in general or the participant's own practice.
Importance of digital skills	Where digital skills are discussed, whether or not they are understood to be important to artists and their practices.
In practice since graduation	When artist reports being engaged in professional practice since they graduated from tertiary education, whether that is graduation from an art course or any other type of tertiary education.
Information security - offline	When participant discusses the security of their offline information, whether analogue or digital. Security can refer to concerns around physical safety of carrier media, or privacy concerns. Discussion may refer to concerns held by participant; or measures participant has taken to ensure the security of their offline information.
Innovative use or hack of digital tech	Participant discusses or demonstrates use of an ICT or software in an unusual or innovative way, or simply in a way that is not likely to be intended by the manufacturer.

Interaction with peer community, colleagues	Interaction in person with peers, colleagues, social group, other than skills sharing, and other than for communication or promotional tasks specific to a particular project.
Internet use	Primarily in relation to questions re. 'What do you search for online?' Also for any further discussion of why participant uses Internet in work context.
Internet and authenticity of information	Participant shows interest, concern or awareness about ideas of online propaganda, so-called 'fake news', trustworthiness of online information, etc.
Internet and tribalism, silos of opinion	Discussion by participant of ideas related to Internet as means of communication with only people holding similar views: concern, experience, interest in or awareness of those ideas.
Internet as source of film, video, moving image	Child node of 'Internet use'
Internet as source of fun	Child node of 'Internet use'
Internet as source of images	Child node of 'Internet use'
Internet as source of inspiration	Child node of 'Internet use'
Internet as source of making resources	Child node of 'Internet use'

Internet as source of sound resources, music	Child node of ‘Internet use’
Internet as source of stats, data	Child node of ‘Internet use’
Internet as source of written factual, textual information	Child node of ‘Internet use’
Internet necessary for fundraising	Child node of ‘Internet use’
Internet search	Specific discussion of search behaviour by participant online.
Internet search frequency	Responses to questions re. 'How often do you search online?'; any other comments re. frequency of Internet search. Sorted by subsidiary controlled range of responses.
Internet search importance	Discussion of importance of Internet search to artist's workflow. Responses sorted by subsidiary controlled range of responses.
Internet search strategies	Responses to question 'How do you usually search online?' Responses sorted by subsidiary controlled range of responses.
Internet search-guidance useful	Responses to question, 'Would you find it useful to access guidance, advice or training on effective Internet search?' Later interviews split this into '...useful for you personally?' and '...useful for artists in general?' Sorted into controlled range of responses.
Internet search-Academic literature	Participant reports attempts or desire to or successful use of online search to locate academic literature.

Internship	Mention of internship as model of art industry employment or education.
Interoperability of tools, software	Participant discussion of interoperability of digital tools or software. This can be where interoperability works, or where problems are caused because there is a lack of interoperability.
Invigilating	Participant discusses invigilation of exhibitions as a form of art labour.
Invisible labour	ANALYTICAL CATEGORY: discussion of tasks, activities or processes that constitute invisible labour (cf. Cox 1997; Reay 2004; Murray 2013, etc.). This is not just that something is more work than it is presumed to be, but rather that the labour is of a different nature and extent than is presumed. This can be labour invisible to the artist; or that is visible to the artist but not visible to others.
IPR and copyright	Discussion of IPR and / or copyright: whether as problems, skills, incidents, value etc.
Creative Commons, open licensing	Indicates awareness and / or use of open licensing schemes, whether in application to participant's own outputs or as an influence on their reuse of another's material.
Does not usually reuse another's work	Participant is unaware of / lacks experience of using the work of another artist where this material has been located online. Whether through ethical objection, lack of information retrieval competence, or in respect for others' intellectual property.
Reuses, would reuse another's work	Reuse of work made by someone else, whether original maker is 'artist' or not. Not just when the work is used as a reference or inspiration, but when there is identifiable material from the first work incorporated into the new work. Whether credited or not. When work is looked up/consulted as reference material, the activity should be coded as RESEARCH ACTIVITIES.
Unauthorised reuse of participant's work	Mention of unauthorised use by another of participant's work, whether technically in breach of copyright or not. e.g. photographer of work relicenses imagery to book publisher without notifying artist.

Lack of interest, motivation to learn digital skills	ANALYTICAL CATEGORY. Whether expressed re. participant or about artist population in general.
Large data volume	When participant considers / describes own data holdings as large. Usually expressed in terms of the effort required to procure suitable management infrastructure.
Learning style preferences	Expression of preference - either for participant or for artists in general - for one or more particular learning styles e.g. online guidance, phonecall, in person classes, etc.
Legacy	Consideration of legacy issues, e.g. how digital and / or physical issues might be handled after artist's death; how legacy of other artists is handled.
Legal issues	Legal problems, difficulties, considerations. Whether experienced by artist or not.
Library use	When libraries - university or public - are mentioned as resources for research or elsewhere in workflow.
Local storage	Discussion of local - as opposed to cloud-based - storage of digital assets. Whether this is carrier media, locally positioned hard drives, etc.
Logistics	Logistics as activity/task/process type in workflow.
Machine learning	Mention of machine learning, artificial intelligence, etc.
Making documentation	Processes of creating documentation - either of own or others' work. Whether informal or formally-planned documentation tasks. Creation of photography/film/sound documentation done in order to document an art output as opposed to photography/film/sound objects created as final output. Digital or analogue.
Making motivated by personal or emotional issues	Art making motivated primarily by personal or emotional issues.

Making motivated by political issues	Art making motivated primarily by political issues.
Meetings (in-person)	In-person meetings or interactions as part of workflow.
Mental and emotional health inc. anxiety, depression, agrophobia, loneliness	Mental / emotional health issues whether personally experienced or observed in wider artist population.
Metadata	Mention of metadata created, referred to or awareness of. Whether specific term used or clear alternate description.
Model making	Making processes including model making, maquette construction, etc. Manual output of model as opposed to CAD.
Multiple skills required for process	Discussion of processes (chain of tasks or activities for a specific outcome) that requires multiple skills to achieve.
Museum visits (aot gallery)	Museums mentioned as places of research or with other value in workflow.
Music whilst working	Role / value of music in studio / workspace whilst working.
Network formation	Deliberate formation of network of collaborators for the purposes of project/outcome. As opposed to networking (speculative outreach).
Networking	Speculative outreach as a professional entrepreneurial activity.

Oldest file age	Estimated/reported date from which earliest file in participant's storage dates. Usually estimated. Responses to 'how old is your oldest file?'
Oldest file-1990s	Child node of 'Oldest file age'
Oldest file-2000s	Child node of 'Oldest file age'
Oldest file-don't know	Child node of 'Oldest file age'
Online exhibition (not own website)	Online exhibition of work on site other than artist's own website.
Online information security, privacy	Discussion / awareness of issues around online security/privacy of information including value of, concerns about.
Paying for services	When skills or services are specifically paid for rather than being shared amongst peers or learned by artist themselves.
Payment and income	Includes discussion of income for participant including money received for art labour and nonart labour. Fundraising strategies and tasks. Self funding practices. Self funding to exhibit. Responses to questions in first section of interview that unpack those income streams. Responses organised into subsidiary sections.
Fundraising	Activities and processes to raise funds for production or research processes.
Self-funding of practice, making	Art practice partially or wholly self-funded i.e by funds accessed by the artist through means other than their art work. E.g. personal money, household income, salary, etc.
Self-funding to exhibit IRL	Art exhibiting costs partially or wholly self-funded i.e by funds accessed by the artist through means other than their art work. E.g. personal money, household income, salary, etc.
Ways of making income - as artist	Discussion of income streams accessed as an artist, both within and beyond the activities of the practice, i.e. model layers 1, 2 and 3.

Commissions	Child node of ‘Ways of making income - as artist’
Consultancy	Child node of ‘Ways of making income - as artist’
Funding - grants from public funds, charities, etc.	Child node of ‘Ways of making income - as artist’ Discussion related to public funding inc. importance, difficulty, attaining, etc. Not necessarily the processes or time spent on fundraising in general. Public funding as a noun, as opposed to fundraising as a verb.
Gallery sales, private sales, art fair sales	Child node of ‘Ways of making income - as artist’
Paid community projects	Child node of ‘Ways of making income - as artist’
Patronage	Child node of ‘Ways of making income - as artist’
Payment of royalties from publication	Child node of ‘Ways of making income - as artist’
Private funds	Child node of ‘Ways of making income - not as artist’
Professional mentoring, private tuition	Child node of ‘Ways of making income - as artist’
Residencies	Child node of ‘Ways of making income - as artist’
Selling art writing, art journalism	Child node of ‘Ways of making income - as artist’ or ‘... not as artist’ depending on participant’s conceptualisation.

Teaching, lectures, running workshops	Child node of ‘Ways of making income - as artist’
Ways of making income - not as artist	Discussion of income streams accessed by means other than as an artist.
Physical archives	Creation of or use of physical archives as part of research or making processes.
Physical health	Discussion of physical health issues, where they relate to work activities.
Physicality, materiality of digital resources	Materiality of the digital (see e.g. Dourish et al 2013): discussion when participant reflects on material qualities of their digital objects - information practices that 'entangle' (cf. Dourish et al) the digital and physical.
Plagiarism	Discussion of plagiarism: problems of artist's own work being plagiarised, awareness of plagiarism happening to other artists, or discussion of the abstract concept.
Press coverage and reviews	Where press coverage is discussed including reviews, or tasks relating to liaison with the press.
Pressure to work for free, or for less	Whether experienced by artist or aware of as issue.
Professionalism	Discussion on the abstract concept of professionalism as 1. an attitude or approach signifying a level of proficiency/consistency/attention to detail that defines the artist as working at a level distinct from someone creating art as a hobby. Or 2. discussion of tasks/activities in workflow that are part of presenting a reliably high-quality performance as an artist that are in addition to the creative labour.
Project management	Discussion of project management tasks within workflow.

Promotional and one-to-many comms activities	Promotional, one-to-many activities and tasks (not one to one communication tasks) such as writing artists statements, working with the media, public talks and engagement activities, etc.
Public engagement activities in person	Working with the public in face to face situations such as town hall-style meetings, one on one meetings, openings, public consultations, focus groups.
Public speaking, lectures as part of practice	Public speaking (lectures, Q and A sessions, panels) where participant considers this part of their practice.
proposal writing	Writing of proposals to funders, sponsors and other stakeholders.
Quality	Discussion of quality standards in execution of making and presentation of work.
Record keeping	Mention of record keeping as part of practice, analogue or digital.
Reflective activities	Need for or experience of reflective activities such as in person discussion, writing or reviewing documentation.
Research activities	Activities undertaken as part of research processes in the workflow. Usually occurring after conceptualisation and before making within a given project, although can continue throughout the practice as a strand of ongoing activity.
Led by materials	Making led by research into the capabilities, effects or symbolism of materials.
Responsibility and decision-making	Discussion of responsibility and / or ability to make decisions as part of practice.
Scanning, digitisation	Scanning or other digitisation of physical objects to create a digital object.
Scriptwriting, script development	Script writing and / or development as a skill or activity in workflow.

Self-publishing, exhib, dissem via Internet (aot social media)	Mention of self-organised publishing or exhibition or dissemination of work online. Includes uploading of work outputs (if work digital) or documentation (if work physical) on own website or on art exposure website like Axisweb or general user content-driven website like Flickr, Youtube. Not specifically social media use, but social media often used for similar purposes.
Self-teaching, upskilling, self-guided learning	Where participant notes skills they have learned have been learned without supervision, whether learned from a peer, or by looking up how to do something online, or by self-guided courses.
Selling physical merchandise	Selling of physical work, and / or supplementary merchandise such as models, books, reproductions. Selling online or in person.
Similarities recognised across practice	Discussion of similarities across different projects or processes within practice.
Skill or knowledge sharing amongst peers	Artist participating in, or aware of, skill or knowledge exchange amongst artist peers (not via training courses or other formalised routes).
Space, location	Discussion of issues related to space: e.g. the studio as a physical location, working in one place or another, pressures on space, cost of space, etc. Not specifically about site-specific work as an artform.
Working at home (aot in a studio)	Issues related to art-related work being carried out at home instead of or in addition to a separate studio space outside the home. In boundary cases, e.g. the studio being located in a garage, shed or summer house at home, definition of home / work boundary lies with the artist.
Stress, pressure, being overwhelmed	Stress, pressure, overwhelm, whether experienced by participant or observed in others.
Success	Discussion of success: experience of success, estimating a project as successful, effect of success on career, what constitutes success in project, etc.

Temporality, transience of work	Issues related to work deliberately or accidentally being or ending up as temporal.
Tertiary art education	Responses to early questions about art training: responses sorted into subsidiary categories.
Curricula at art schools, what is and is not taught	Discussion of art school curricula; what is taught, what is missing, what should be added.
Highest art qualification	Highest art qualification achieved by participant. Not asked to those who have previously indicated they have no formal art qualifications (such participants coded as self taught).
Highest qualification-first degree, undergraduate degree	Child node of 'Highest art qualification'
Highest qualification-non degree	Child node of 'Highest art qualification'
Highest qualification-postgraduate	Child node of 'Highest art qualification'
Location art education	Where the participant attended tertiary-level art education (city, country).

Type of art education - formal art qualification	Participants have secondary or tertiary-level art qualification.
Type of art education - self taught	Participants do not have secondary or tertiary-level art qualification; or have qualification but identify as primarily self-taught.
the high point, the best bit of the process	Participant indicates a particular phase of work as the most enjoyable or motivating.
Theatre	Theatre as medium of output; as source of research or reference.
theoretical work, theory	Mention of participant drawing upon theoretical work from academic literature in their research; contributing theoretical writing as part of practice.
Therapeutic value of art making	Art making described as having therapeutic value for artist or for those being taught art.
Time pressures	Discussion of time pressures either experienced by participant or the effect of time pressure on other artists.
Training needs and or skills gaps	When a training need is identified and / or a skill is recognised as being either missing or not at a sufficiently developed level to carry out useful activity effectively.
Travel	Travel as part of practice: not nec as creative expression but more likely as part of working processes or circumstances. Effect of travel on technology choices.
Uncertainty or lack of confidence or lack of knowledge	Lack of confidence expressed in all or selected digital skills.

in digital skills or terminology	
Use of own digital materials	Responses to 'What do you usually use your files for?' Purposes for which participant keeps their valued digital objects, whether through choice or obligation. Responses sorted into subsidiary choices.
As source material	Child node of ‘Use of own digital materials’
Disseminate for commercial sale	Child node of ‘Use of own digital materials’
Disseminate for promotional purposes	Child node of ‘Use of own digital materials’
Evidence for funders, potential funders	Child node of ‘Use of own digital materials’
Other reasons	Child node of ‘Use of own digital materials’
Personal reflection	Child node of ‘Use of own digital materials’
Research purposes	Child node of ‘Use of own digital materials’
Use of tools, platforms	Digital tools, ICTs, platforms, softwares used by participant.
Email	Child node of ‘Use of tools, platforms’
telephone calling	Child node of ‘Use of tools, platforms’

text messaging	Child node of ‘Use of tools, platforms’
Use-Adobe Creative Suite	Child node of ‘Use of tools, platforms’
use-Adobe Premier	Child node of ‘Use of tools, platforms’
Use-Adobe Reader	Child node of ‘Use of tools, platforms’
Use-Affinity	Child node of ‘Use of tools, platforms’
use-Aftereffects	Child node of ‘Use of tools, platforms’
Use-Audacity	Child node of ‘Use of tools, platforms’
Use-CAD, 3D modelling, technical drawing sware	Child node of ‘Use of tools, platforms’
Use-CDs, DVDs	Child node of ‘Use of tools, platforms’
Use-databases	Child node of ‘Use of tools, platforms’
Use-desktop computer	Child node of ‘Use of tools, platforms’
use-Dragonframe animation	Child node of ‘Use of tools, platforms’
Use-Dropbox	Child node of ‘Use of tools, platforms’

Use-Evernote	Child node of ‘Use of tools, platforms’
Use-external plugin hard drive	Child node of ‘Use of tools, platforms’
Use-external professional archive	Child node of ‘Use of tools, platforms’
Use-file sharing platforms (not storage) i.e. Wetransfer, Yousendit, etc.	Child node of ‘Use of tools, platforms’
Use-Final Cut, Final Cut Pro	Child node of ‘Use of tools, platforms’
Use-Flickr	Child node of ‘Use of tools, platforms’
Use-Google Drive	Child node of ‘Use of tools, platforms’
use-Illustrator	Child node of ‘Use of tools, platforms’
Use-iMovie	Child node of ‘Use of tools, platforms’
use-indesign	Child node of ‘Use of tools, platforms’
Use-iPad or other tablet	Child node of ‘Use of tools, platforms’
Use-iPhoto	Child node of ‘Use of tools, platforms’

Use-laptop	Child node of ‘Use of tools, platforms’
use-linkedin	Child node of ‘Use of tools, platforms’
Use-Microsoft Office	Child node of ‘Use of tools, platforms’
Use-Mobile phone	Child node of ‘Use of tools, platforms’
Use-open office	Child node of ‘Use of tools, platforms’
Use-Patreon	Child node of ‘Use of tools, platforms’
Use-Paypal	Child node of ‘Use of tools, platforms’
Use-Photoshop	Child node of ‘Use of tools, platforms’
Use-postal service	Child node of ‘Use of tools, platforms’
Use-Preview	Child node of ‘Use of tools, platforms’
Use-Saatchiart.com	Child node of ‘Use of tools, platforms’
Use-Sketchup	Child node of ‘Use of tools, platforms’
Use-Skype or similar (Hangout, FaceTime, Whatsapp	Child node of ‘Use of tools, platforms’
Use-Slack	Child node of ‘Use of tools, platforms’

Use-Social media (Twitter, FB, Insta, tumblr, linkedin, pinterest)	Child node of ‘Use of tools, platforms’
Use-Soundcloud	Child node of ‘Use of tools, platforms’
Use-'the cloud', iCloud, remote storage unspecified	Child node of ‘Use of tools, platforms’
use-tumblr	Child node of ‘Use of tools, platforms’
Use-TV	Child node of ‘Use of tools, platforms’
Use-USB sticks	Child node of ‘Use of tools, platforms’
Use-Vimeo	Child node of ‘Use of tools, platforms’
Use-VLC	Child node of ‘Use of tools, platforms’
Use-YouTube	Child node of ‘Use of tools, platforms’
Use-Zotero	Child node of ‘Use of tools, platforms’
Wikipedia	Child node of ‘Use of tools, platforms’
Value of digital assets to practice	Role played by digital objects in research, making and communication activities. Includes but not limited to digital objects held by participant. Cf: 'Use of own digital materials'.
version control	Mention of / awareness of version control for digital objects.

Vulnerability of safeguarding digital assets	Vulnerability of digital assets to loss, unauthorised reuse, damage. Awareness of possibility, experience, (potential) impact.
Website development or maintenance	Website development or maintenance as part of practice. Whether carried out by participant, or participant ensures it is done by another.
Workflow organisation	Consideration of how workflow is organised, either throughout practice or in one specific project.
Working patterns	Discussion of working patterns, rhythms, pace and time-based habits.
working processes-making, thinking, looking-DIGITAL	Discussion of making, research, reflection relying on digital processes.
working processes-making, thinking, looking-INTEGRATED	This is exciting. Where an artist describes a process of making that can't happen without the qualities or abilities brought by both the digital and manual elements. Can vary between slightly integrated (for something that is easily replicable via all-digital or all-manual means without changing the significant features of the work, to highly integrated where the work in its current form is impossible or highly difficult to produce without both manual and digital skills.
working processes-making, thinking, looking-MANUAL	Discussion of manual processes underpinning making, thinking, research.