

APPENDIX 1

GENERIC INTERVIEW THEMES

Blue = Interviewer prompts

Green = University only

Red = Business partner only

Background

1. What is the purpose of the (KE) project and your own role (include any management responsibility) within it?
 - Deliverables to/from partner? Intended benefits to own/other organisation?
 - Working to/working with?
 - Prior knowledge of org/individuals?
2. How well do you think the deliverables achieve the intended knowledge exchange outcomes?

Initiation/Commencement of involvement

3. What were your initial motivations to pursue/get involved in this project at the outset?
4. When you began, what was your intended/hoped for contribution to the project (within or beyond the deliverables)?

Project Design

5. How was the project design determined (approach, outcomes, timescale, manpower, organisation)? [What, if any, opportunity did you have to influence the project design?]
6. How open are the intended outcomes?
7. What was your assessment of the University/business partner's level of prior knowledge and associated ability to engage in this *learning* collaboration? How did this shape the design of the project/your input? (Any preparatory stage – briefing, training, education?)
8. How well do you think you [and your team] were prepared to engage with the University/business partner(s) (i.e. to help them to learn and to learn from them) at the outset? Was any action taken where there were perceived deficits or concerns?
9. Did the nature of the key knowledge areas shape its design (organisation, methodologies for the conduct and reporting of activity)?

Delivery/Operation (Working Practices and Culture)

10. How do you interact with others to contribute to or achieve the intended knowledge outcomes?
11. Have you experienced any barriers or challenges in achieving the learning outcomes?
If so, to what extent are these down to the following?
- Working practices (systemic issues),
 - Differences in culture (attitudes and values) between the organisations
 - Inter-relationships (on an individual, group or organisational level)?
12. As a result of your involvement in the project, have the desirable outcomes that you seek from the project changed? (How? to what extent are they intrinsic/extrinsic?)

Outcomes (Met/meeting deliverables? Functionality? Unplanned/unexpected?)

13. How do you determine with others where and when planned learning outcomes are achieved? To what extent do you think the outcomes do/will provide functionality (i.e. the ability of the partner to apply the learning, as well as understand it)?
14. In the course of the knowledge exchange did you identify any additional learning opportunities beyond those expected or intended? If so, how did they arise and how did you and the wider participants respond to them?
15. For University: What have you learned from collaborating with the partner organisation during the project?
For business: what capability have you gained from working with the University?

Evaluation

16. As a learning process, how effective do you think this collaboration is for you personally, for your organisation, for your partner organisation?
17. What, in your view, are the critical success factors for this KE project? Has your view changed since the start of the project?
18. Could it be done differently to improve the learning outcomes?

APPENDIX 2

PRELIMINARY INVESTIGATIONS – KEY INTERNAL ENGAGEMENTS

Date	Activity	Details	Purpose
Feb 17	Meeting, University Offices	University's Senior KE Administrator, Research Services	Explored wide-ranging aspects of my research interest with the University's KE lead in a very constructive meeting. Directed to some useful literature sources and several potential contacts.
Apr 17	Meeting, Oxford University Innovation (OUI) Offices	Senior Project Manager, OUI	Discussed OUI role in supporting academic engagement with business. I was introduced to a current PI.
Apr 17	Meeting, Dept Engineering Science	Principal Investigator, Department of Engineering Science	Good opportunity to explore collaborative practices with a senior PI engaged with industry over an extended period.
Apr 17	Meeting, Environmental Change Institute (ECI)	Programme lead, ECI	Exposure to a very different type of collaboration, which underlined to me the need to consider the wider range of activities.
May 17	Consultation attendee, Divisional Offices	Social Sciences Division Business Engagement Consultation	All other attendees were academics and it was useful to hear the range of perspectives on and confidence in engaging businesses. Made some excellent contacts.
May 17	Conference attendee, Department of Statistics	Innovation and Entrepreneurship Conference (organised by Mathematical, Physical and Life Sciences Division)	Useful perspectives from both University and business speakers but also a very good networking opportunity: several attendees were also involved in KE and a very useful introduction followed.
Jun 17	Meeting, KE Offices	Head of KE Team	Initial meeting to outline my research interest and to discuss the realities of KE within Oxford, which helped to shape my thinking.
Jun 17	Meeting, KE Offices	Head of KE Team	Second meeting to present revised project proposals and seek support. These were very positively received and as a result I was introduced to further members of the team and the Head wrote to a number of PIs asking them to engage with me.
Jul 17	Meeting, Laboratory offices, Department of Clinical Medicine	Principal Investigator, Department of Clinical Medicine	Initial meeting to discuss this major and highly innovative programme. PI was highly supportive and was happy for me to follow up.
Jul 17	Meeting, KE offices	Senior KE Officer	Extended meeting to discuss project proposals, focusing on specific areas where the KE team may be able to assist. KE officer agreed to review records to help identify potential projects.
Sep 17	Innovate UK Open Session, Begbroke Science Park	Innovate UK team	Update on Innovate UK funding priorities and interesting responses from the business community, on the challenges they face. Useful networking opportunity that led to further introductions.

APPENDIX 3

CASE STUDY SUMMARY

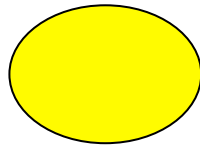
Case Study Code	Case Study Title	Commercial Footing	Collaborator Sector(s)	Collaboration Relationship	Funding Source	Time period	General Description
Hum 1	Informing Heritage	KTP (Government and Employer co-sponsored)	Third Sector (UK heritage sector charity)	One-to-one (originally)	Public/Employer (Innovate UK/Charity) University – internal staff	2 years (just completed at time of interviews)	KTP to develop a University-fed knowledge bank to increase engagement on-line and at properties
MPLS 1	Supporting a Corporate Biodiversity Strategy	Non-commercial collaboration	Private Sector (multinational oil and gas company)	One-to-one	University– Research Council Fellowship. Company – internal staff.	Open-ended (within Fellowship tenure)	Provide specialist conservation input to the development of a corporate biodiversity strategy
MPLS 2	Biodiversity Tools	Non-commercial project collaboration	Third Sector (international organisation - conservation)	One-to-one	University– Research Council Fellowship. IO – internal project funding	Open-ended (within Fellowship tenure)	Co-develop a taxonomy of biodiversity tools to support better IO/NGO engagement with industry
MPLS 3	Promoting Industry Engagement in Conservation	Non-commercial project collaboration supported by a publicly funded intern under a Government scheme	Collaborating partner is a UK public sector body	One-to-one	University– Research Council Fellowship Public body – internal funding Intern funded by Government scheme	4 months funded. Just expired at time of interviews (but work on-going)	Co-develop a report to make conservation targets more accessible, supported by case studies, to support further industrial engagement
MPLS 4	Global Data Analytics	Non-commercial (informal) collaboration	Third Sector (UK charity – disaster risk reduction and response)	One-to-one	Within own resources – some development supported by grants from third parties	Open-ended	Apply machine learning expertise to the analysis of remote sensing data to support a charity engaged in real-time relief operations

Case Study Code	Case Study Title	Commercial Footing	Collaborator Sector(s)	Collaboration Relationship	Funding Source	Time period	General Description
MPLS 5	Flood Management Tool	Contract research	Multi-agency, led by two Public Sector bodies. University partnered with an environmental charity	Two collaborating partnerships	Public funding (under contract) for all project costs	6 months (in latter stages when interviews held)	Develop a workable tool for a field trial, to support more efficient allocation of resources for practical flood measures
Med 1	Product Packaging Design	Contract research	Private Sector: Major UK Fast Moving Consumer Goods (FMCG) company	One-to-one (but the funding partner involved its commercial partners in the collaboration)	FMCG company	2 years, initially	Apply scientific methodologies to improve the marketing of FMCGs in a highly competitive environment
Med 2	Drug Development	Contract research within a long-term consortium	Private, Third Sector and Public funding (case study organisation is a private sector pharmaceutical company)	University Laboratory is part of an international Public Private Partnership of universities collaborating with private, public and Third Sector organisations	Public Private Partnership funded research with University staff and infrastructure	On-going with periodic review points	Conduct collaborative research and development in highly specialised areas to increase the rate of commercial development of therapeutic medicine using an Open Science model (final results from projects published)
Soc Sc 1	Developing an Economic Model for Business	Contract Research	Private Sector (major multi-national manufacturer of FMCG)	One-to-one partnership	Funded by partnering private sector organisation	5 years (in 4 th year at time of research)	Research and co-development of business economics theory with the Company's Think Tank- contract also includes an educational component and business forum

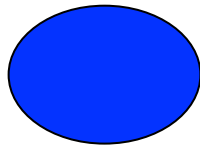
Case Study Code	Case Study Title	Commercial Footing	Collaborator Sector(s)	Collaboration Relationship	Funding Source	Time period	General Description
Soc Sc 2	Evaluating Smart Energy Applications	Contract Research sponsored by a major Inter-Governmental Executive Body	Multinational project involving HEIs and private sector companies (manufacturing and energy) across multiple countries - the case study focused on one country	Multi-partner collaboration as part of a sponsored project	Inter-Governmental Executive Body funded the programme	2 years (just completed at time of interviews)	Demonstration project to assess the impact of technological innovation on energy use as part of a publicly funded project involving academic and commercial partners - University tasked with Customer Impact Study

CASE STUDY EVENT-STATE NETWORKS

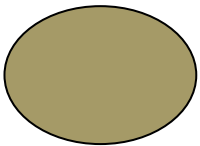
1. Key



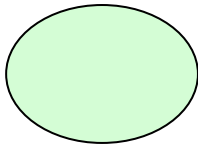
= Individual level influence event



= Organisational level (University) influence event



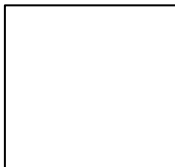
= Organisational level (Business) influence event



= Inter-organisational level influence event



= Direction of influence

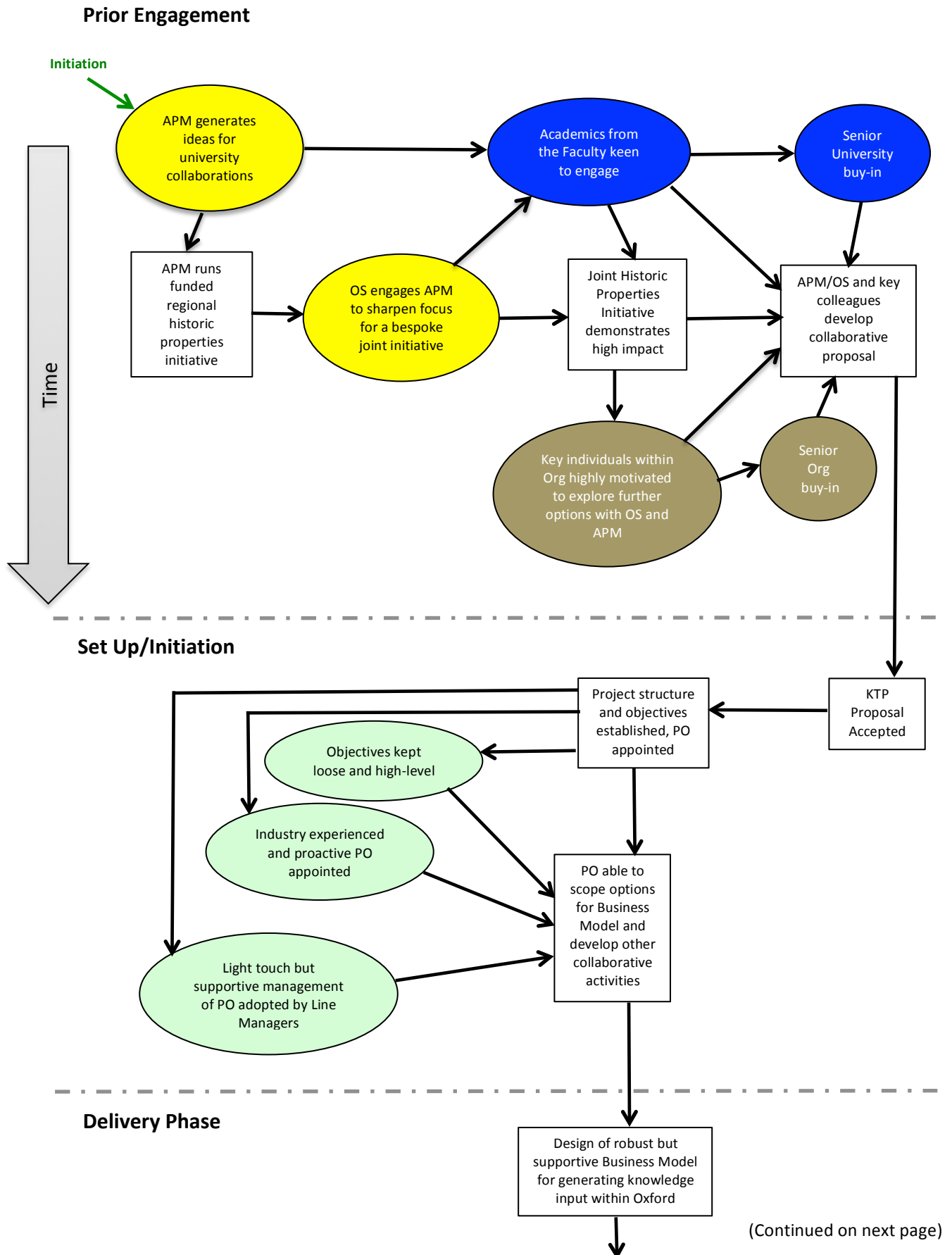


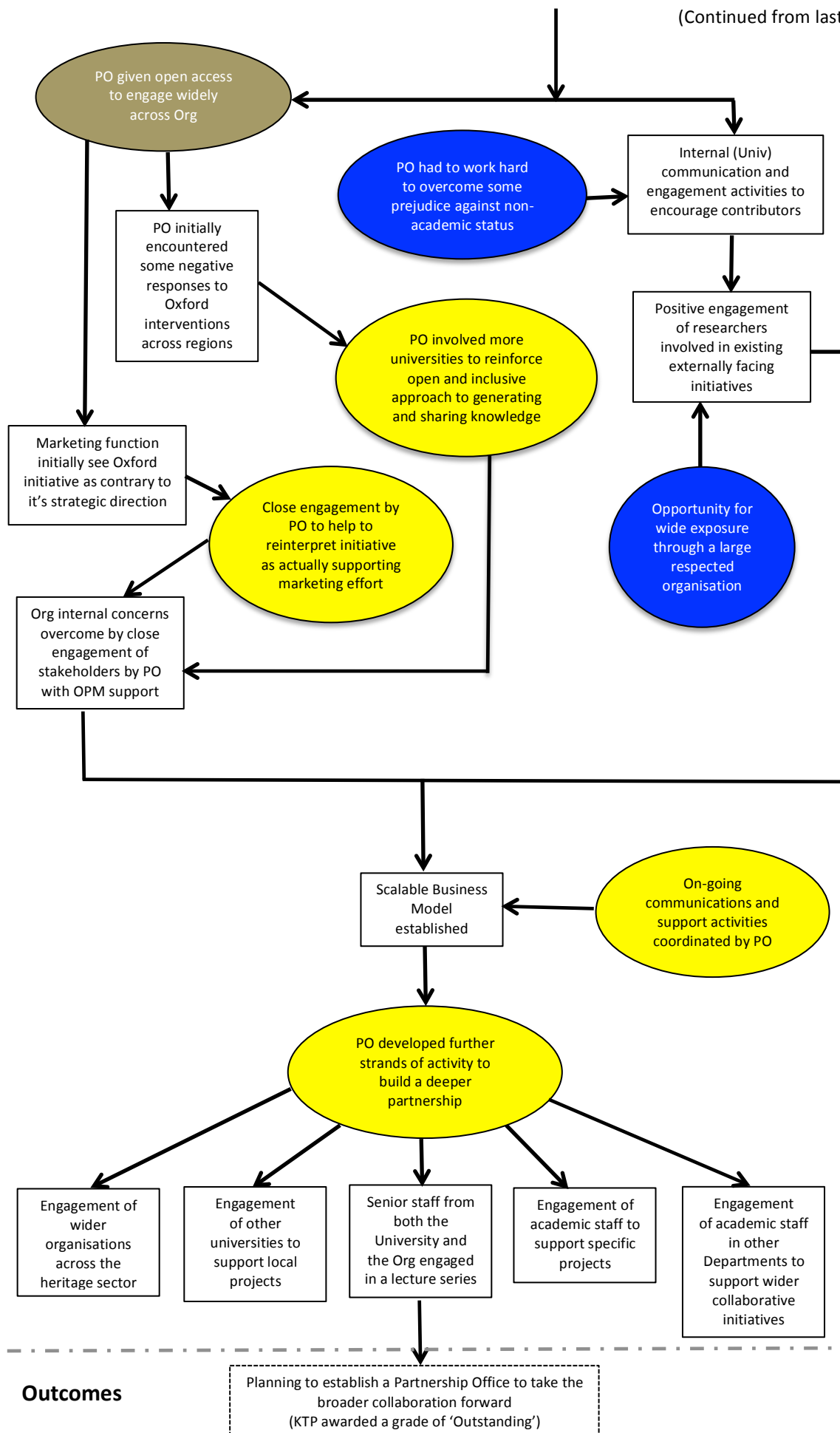
= Event or State

2. Case Study Event-State Network Order

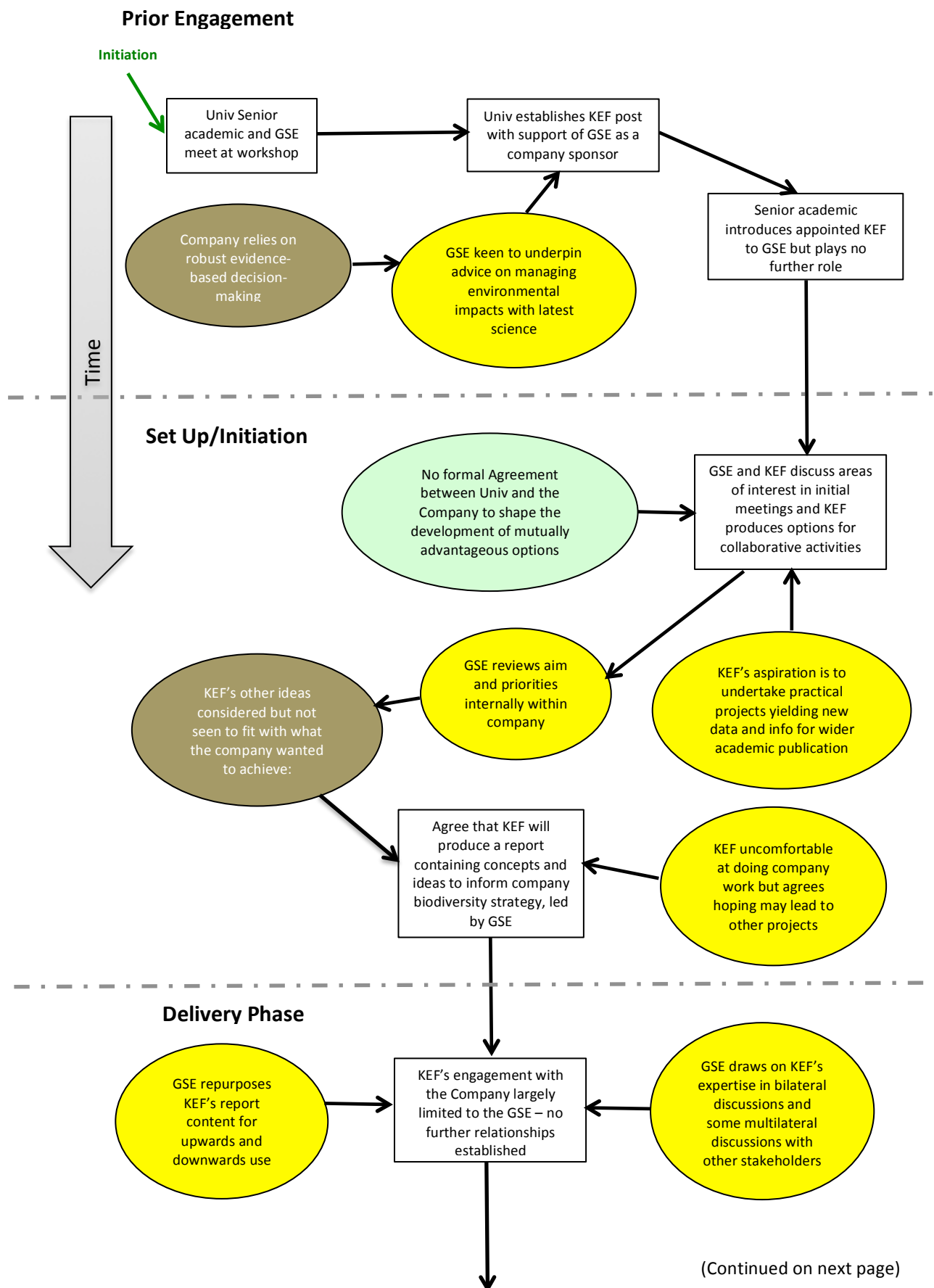
- i. Hum 1: Informing Heritage
- ii. MPLS 1: Supporting A Corporate Biodiversity Strategy
- iii. MPLS 2: Biodiversity Tools
- iv. MPLS 3: Promoting Industrial Engagement In Conservation
- v. MPLS 4: Global Data Analytics
- vi. MPLS 5: Flood Management Tool
- vii. Med 1: Product Packaging Design
- viii. Med 2: Drug Development
- ix. Soc Sc 1: Developing An Economic Model For Business
- x. Soc Sc 2: Evaluating Smart Energy Applications

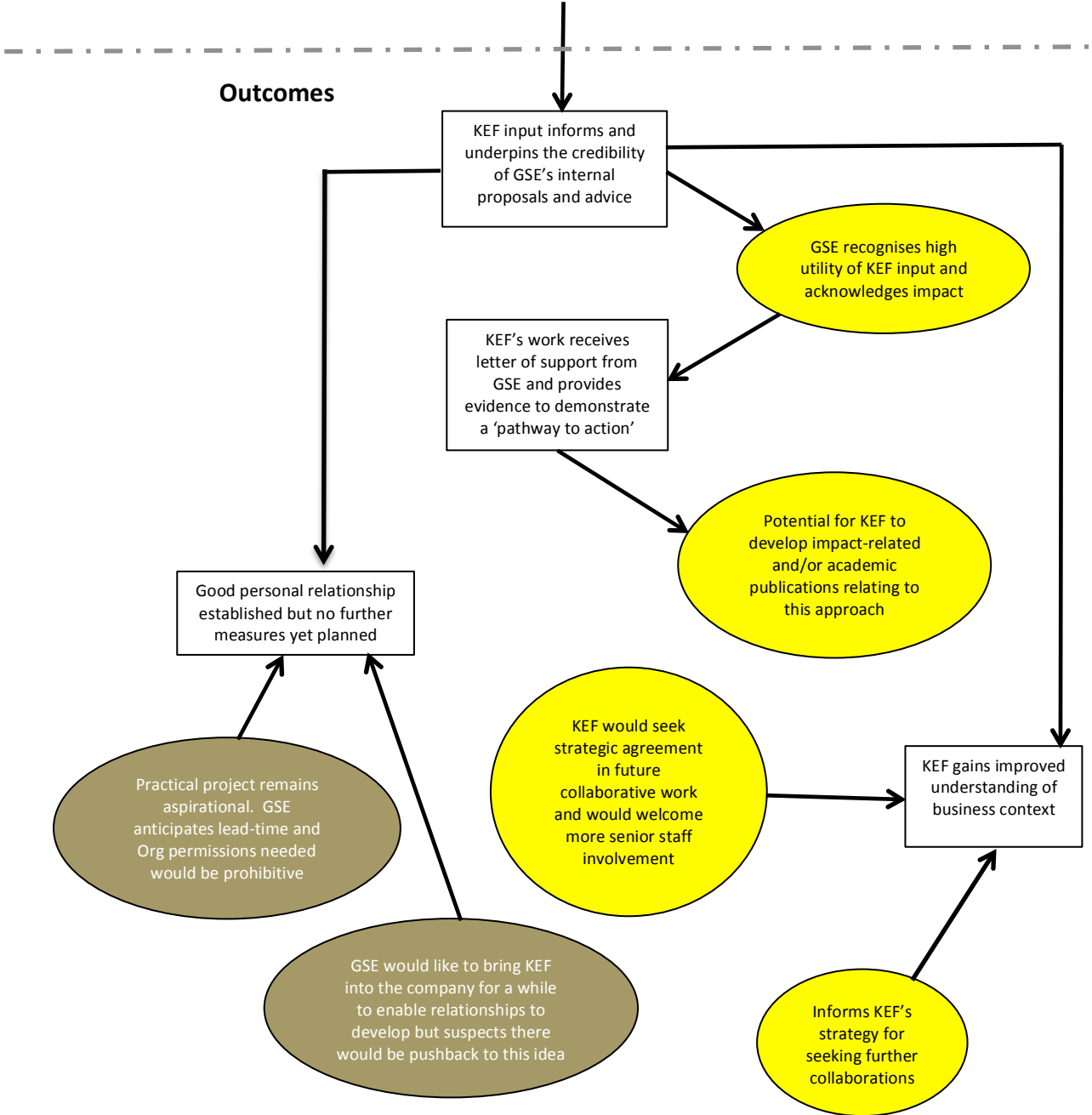
I: EVENT-STATE NETWORK FOR CASE STUDY HUM 1: INFORMING HERITAGE



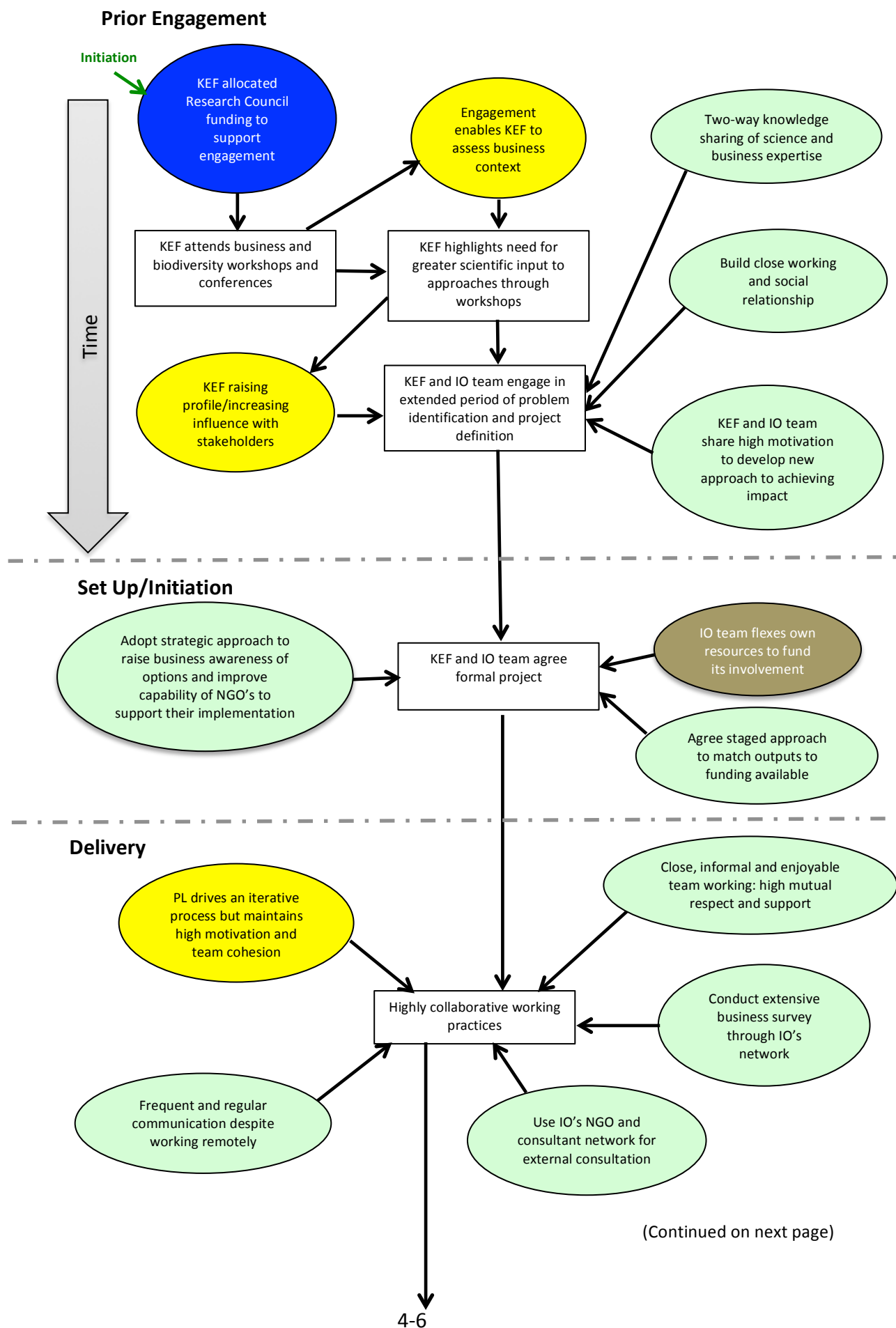


II: EVENT-STATE NETWORK FOR CASE STUDY MPLS 1: SUPPORTING A CORPORATE BIODIVERSITY STRATEGY

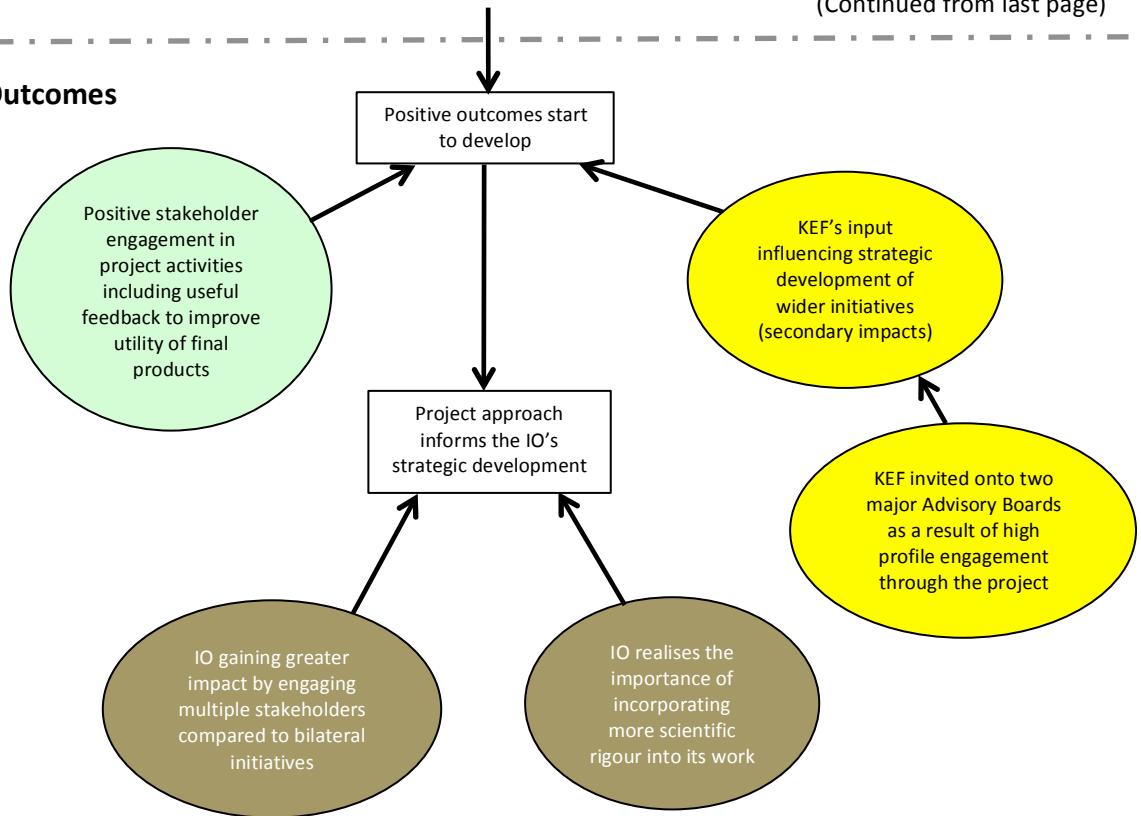




III: EVENT-STATE NETWORK FOR CASE STUDY MPLS 2: BIODIVERSITY TOOLS

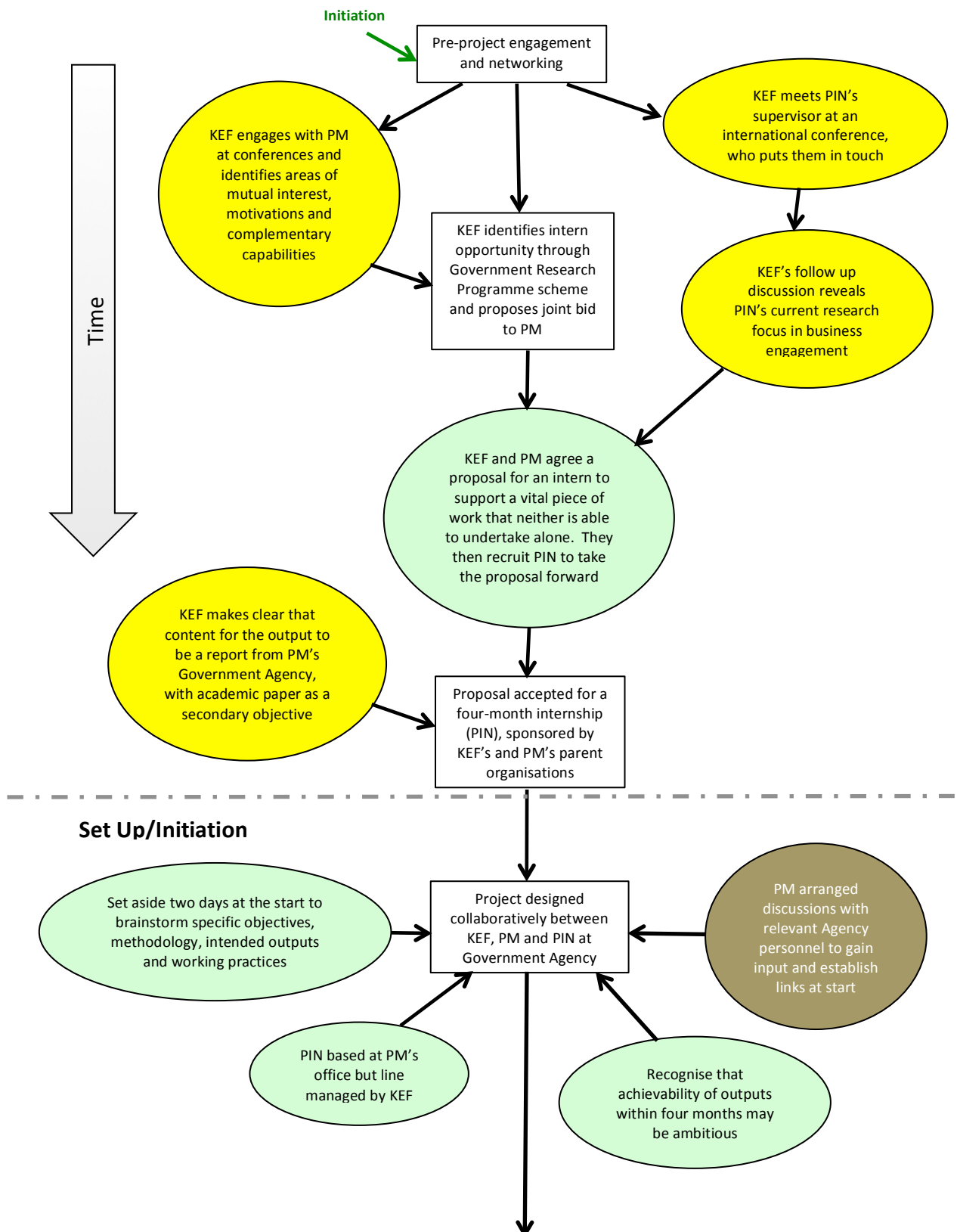


Outcomes



IV: EVENT-STATE NETWORK FOR CASE STUDY MPLS 3: PROMOTING INDUSTRIAL ENGAGEMENT IN CONSERVATION

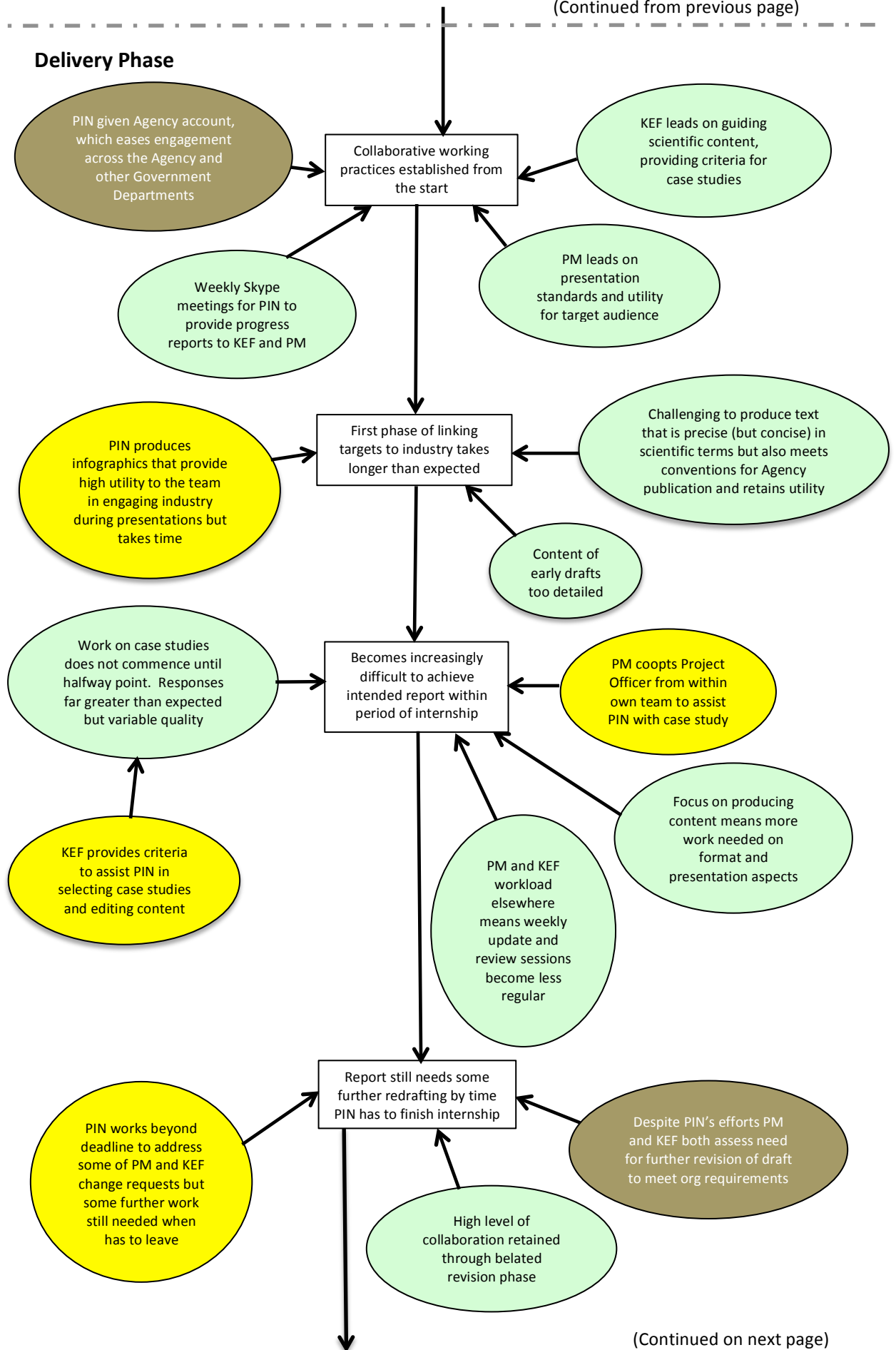
Prior Engagement



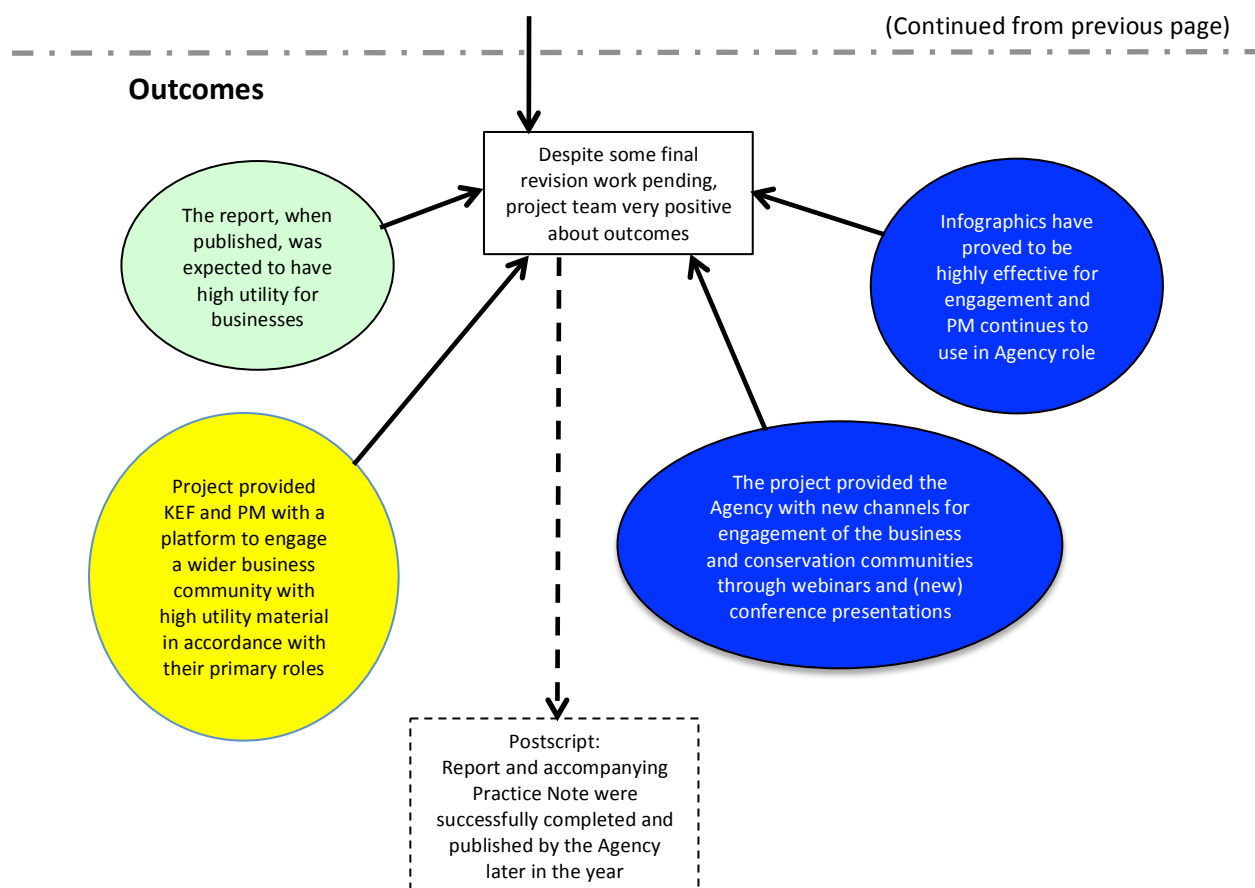
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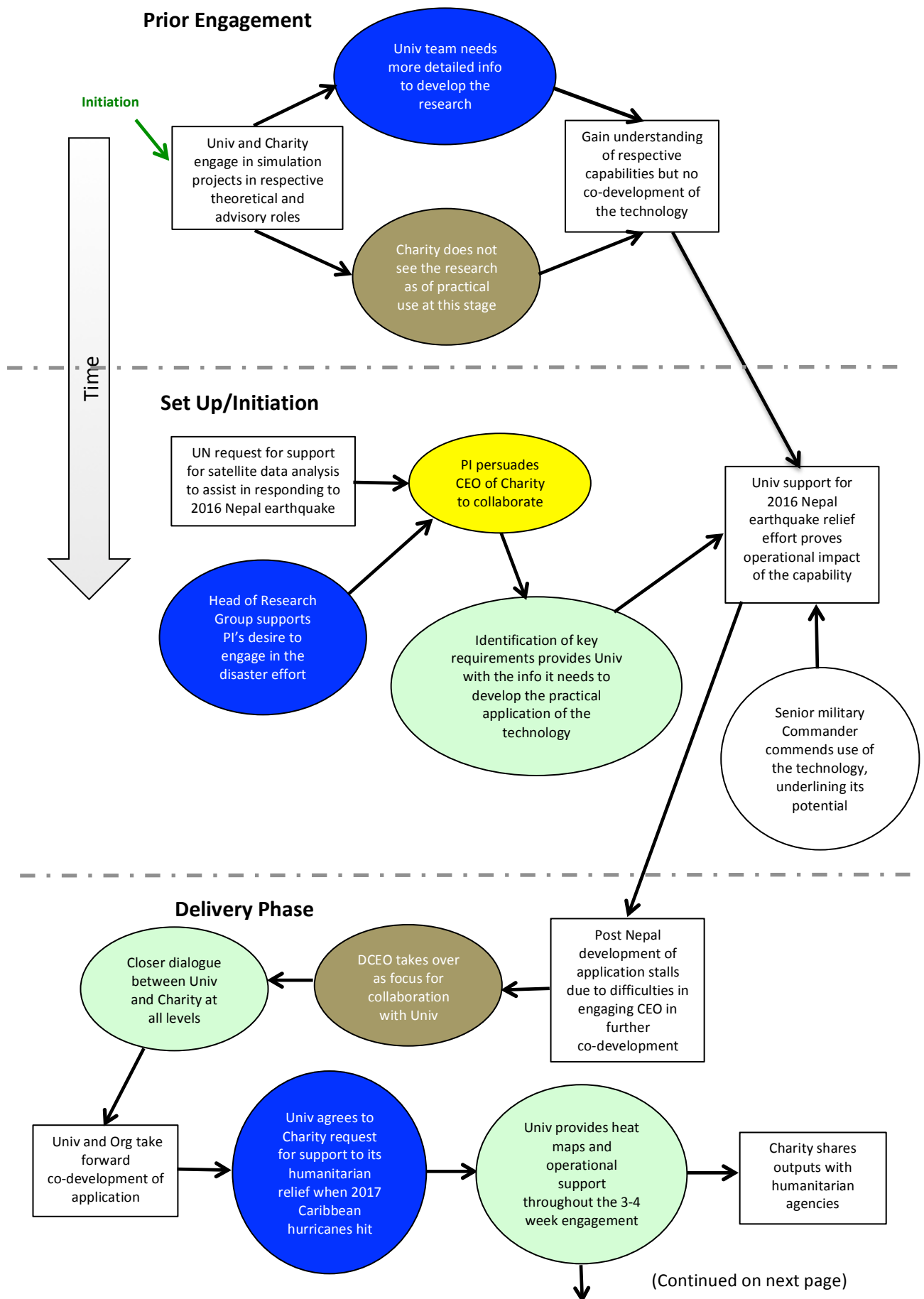
Delivery Phase



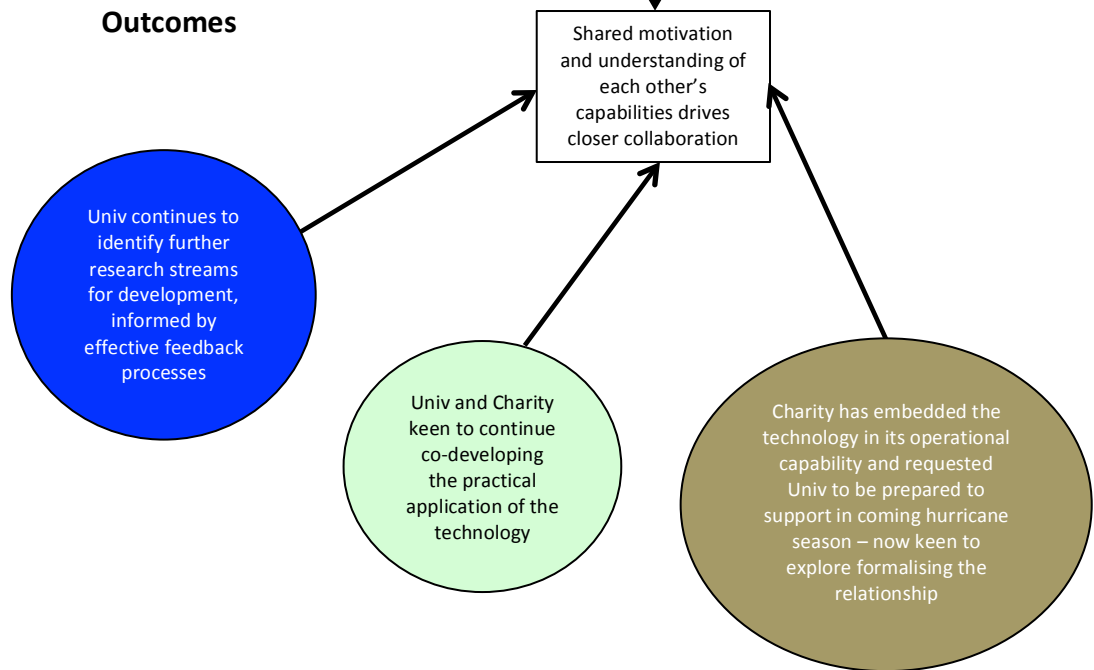
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V: EVENT-STATE NETWORK FOR CASE STUDY MPLS 4: GLOBAL DATA ANALYTICS

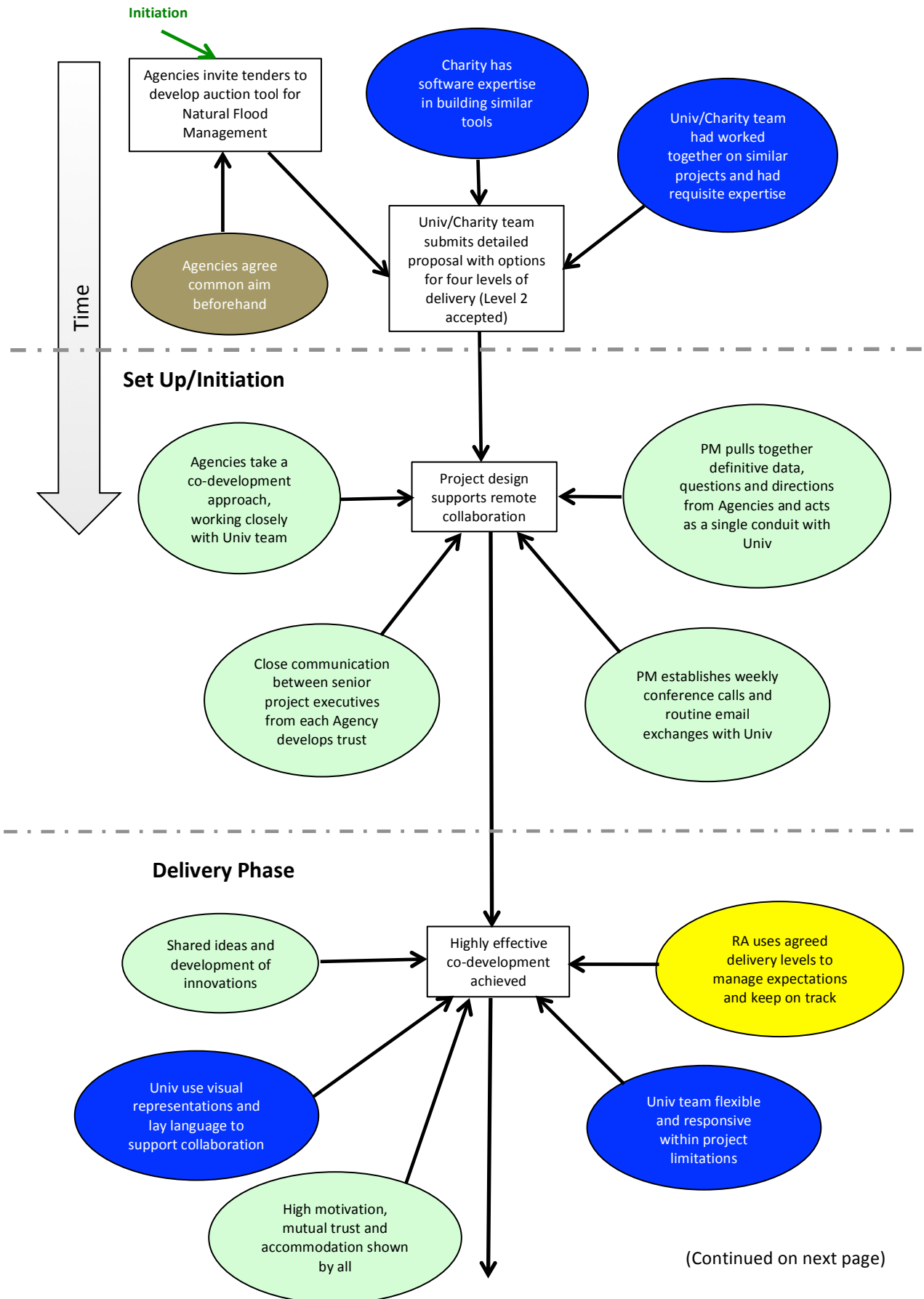


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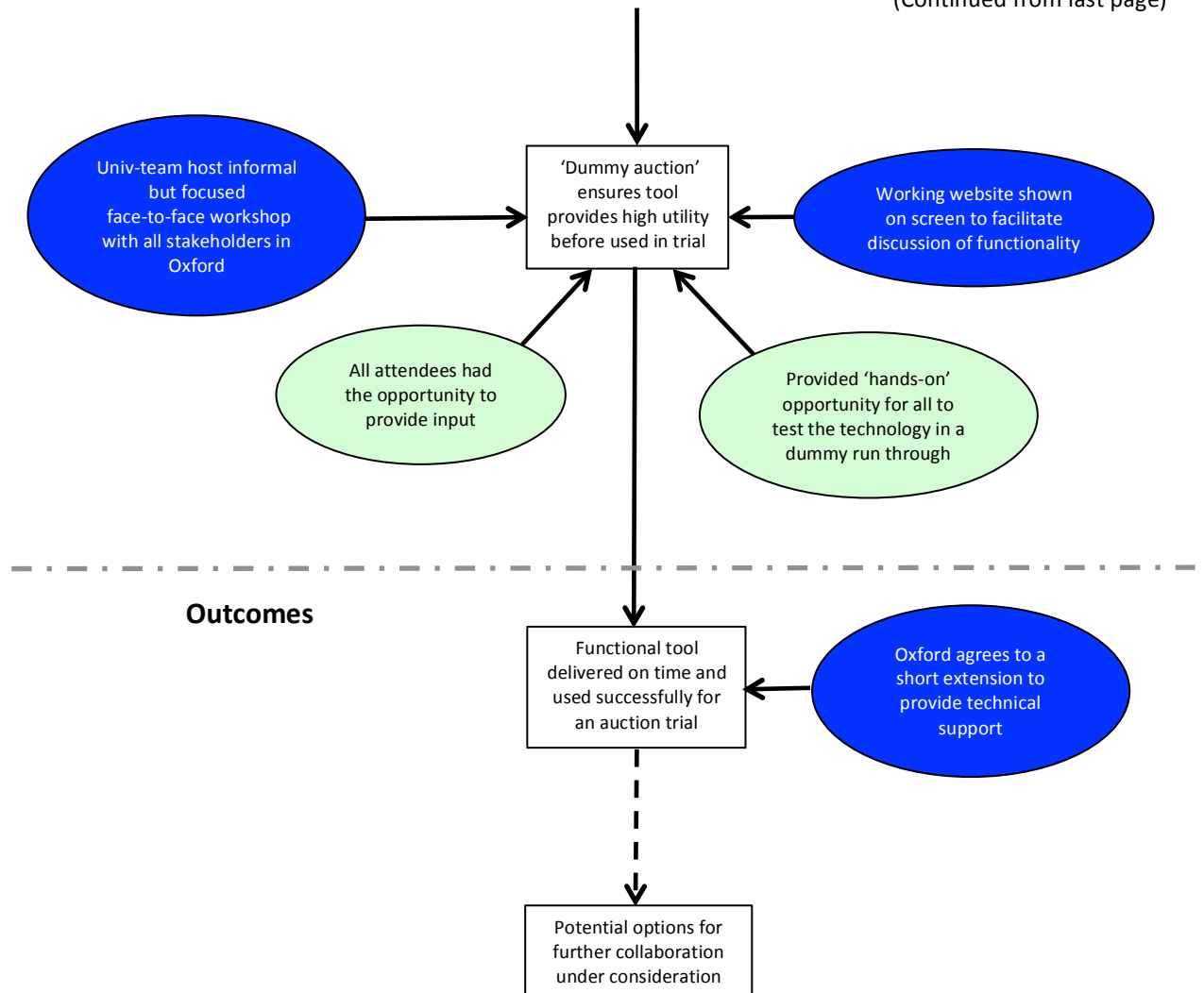


VI: EVENT-STATE NETWORK FOR CASE STUDY MPLS 5: FLOOD MANAGEMENT TOOL

Prior Engagement

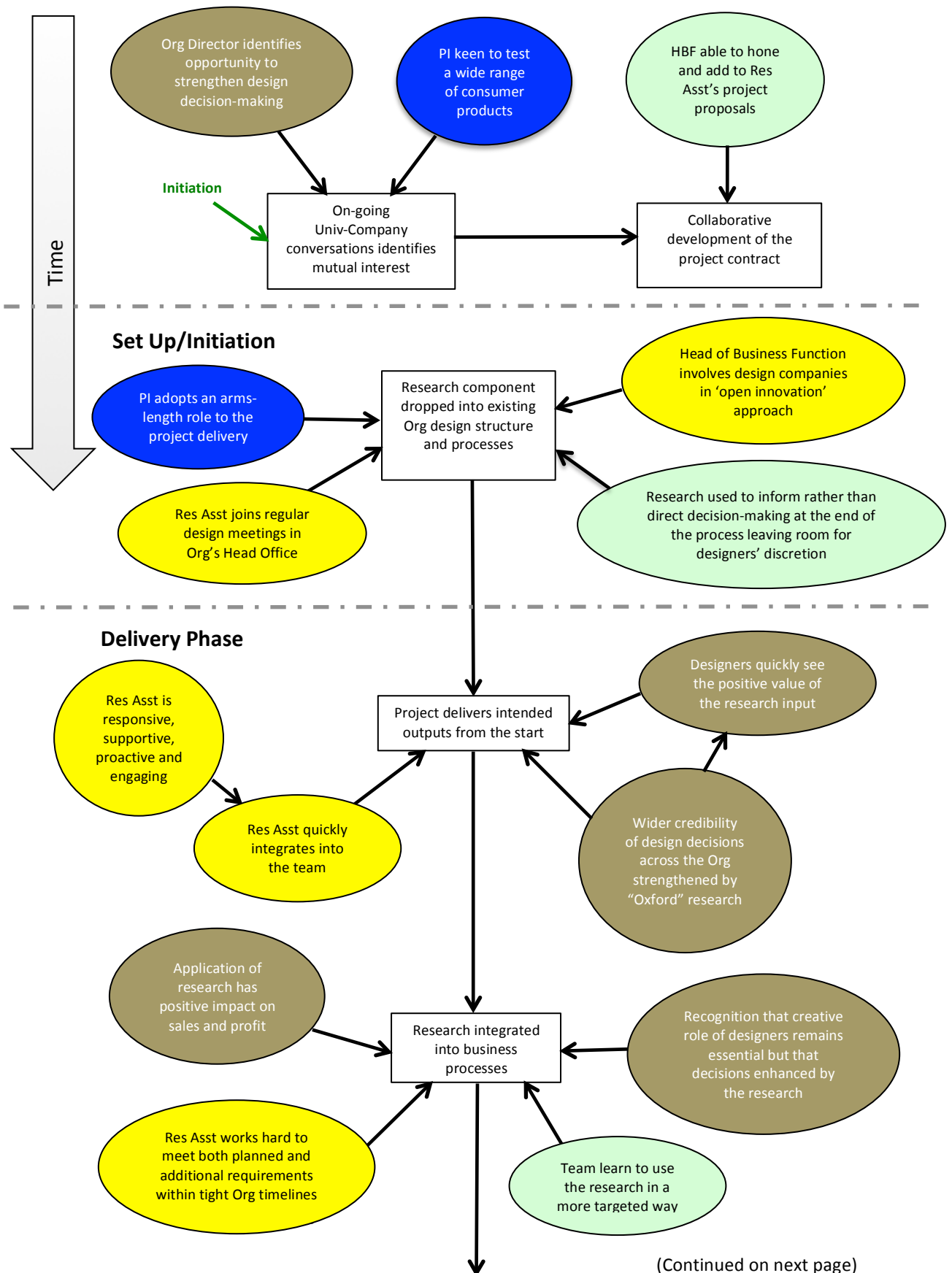


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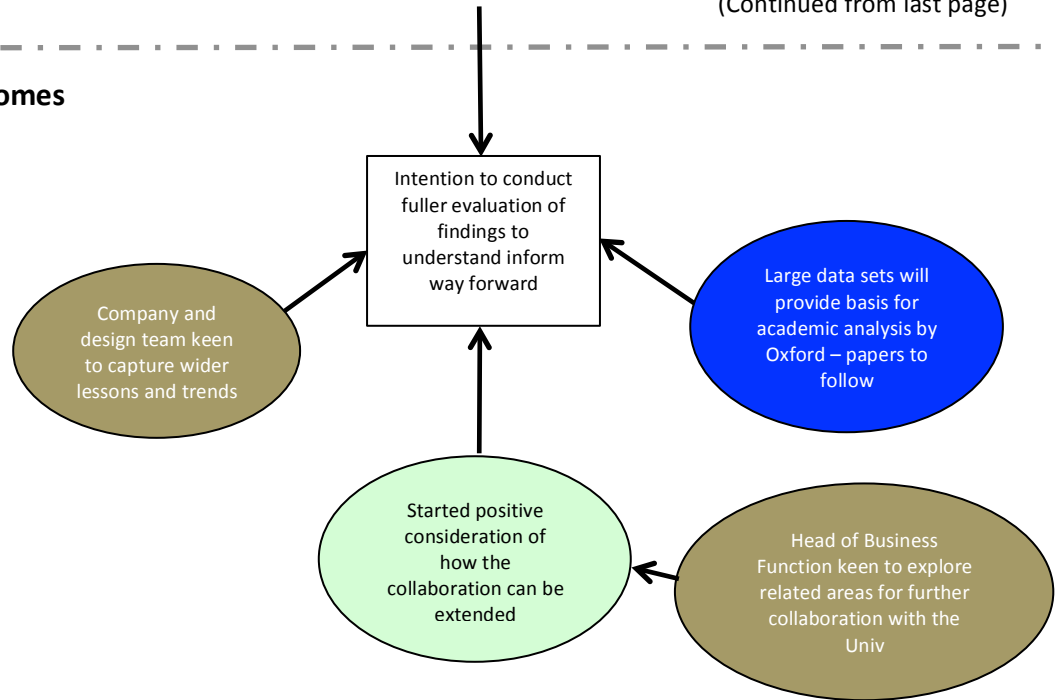


VII: EVENT-STATE NETWORK FOR CASE STUDY MED 1: PRODUCT PACKAGING DESIGN

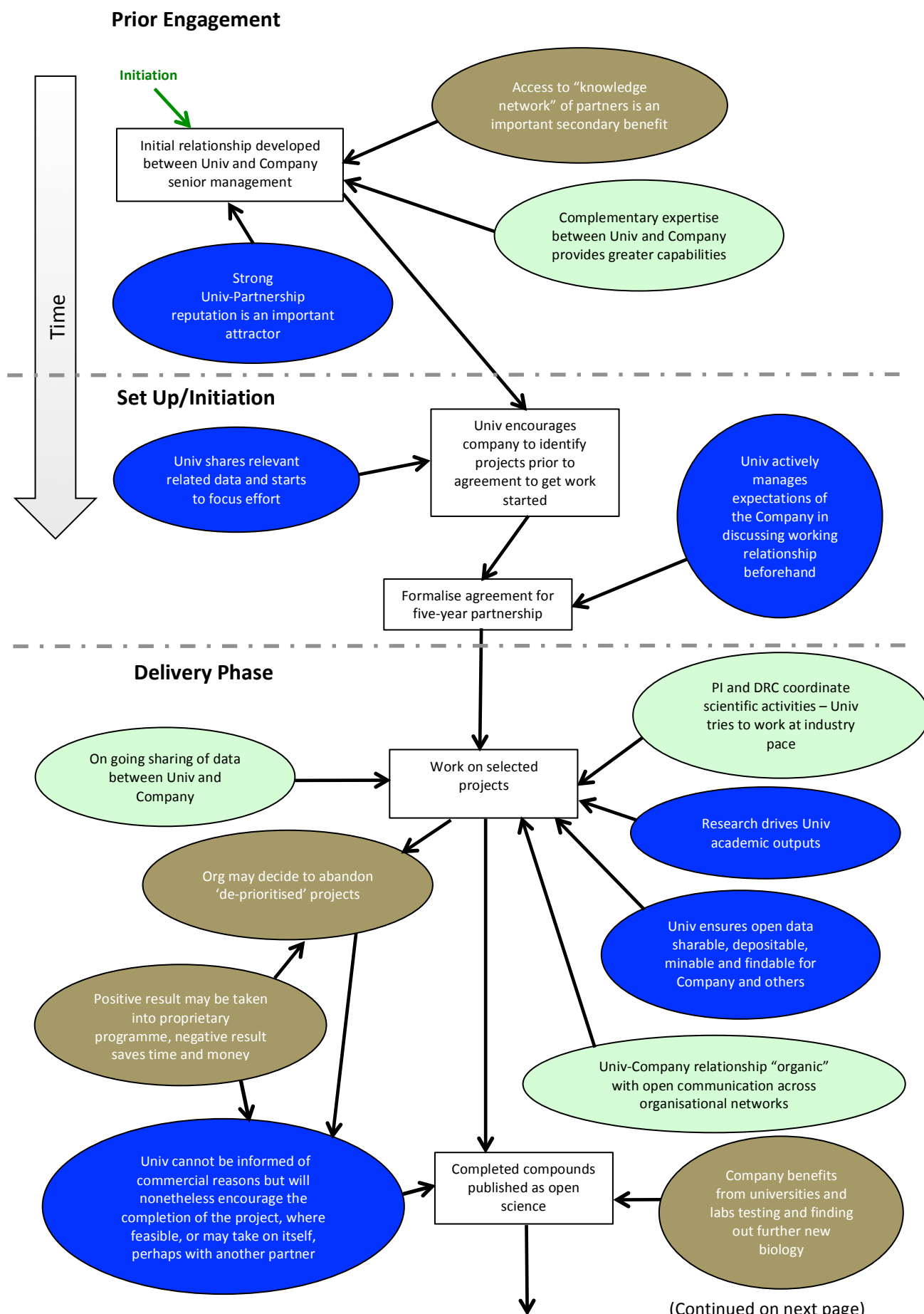
Prior Engagement



Outcomes

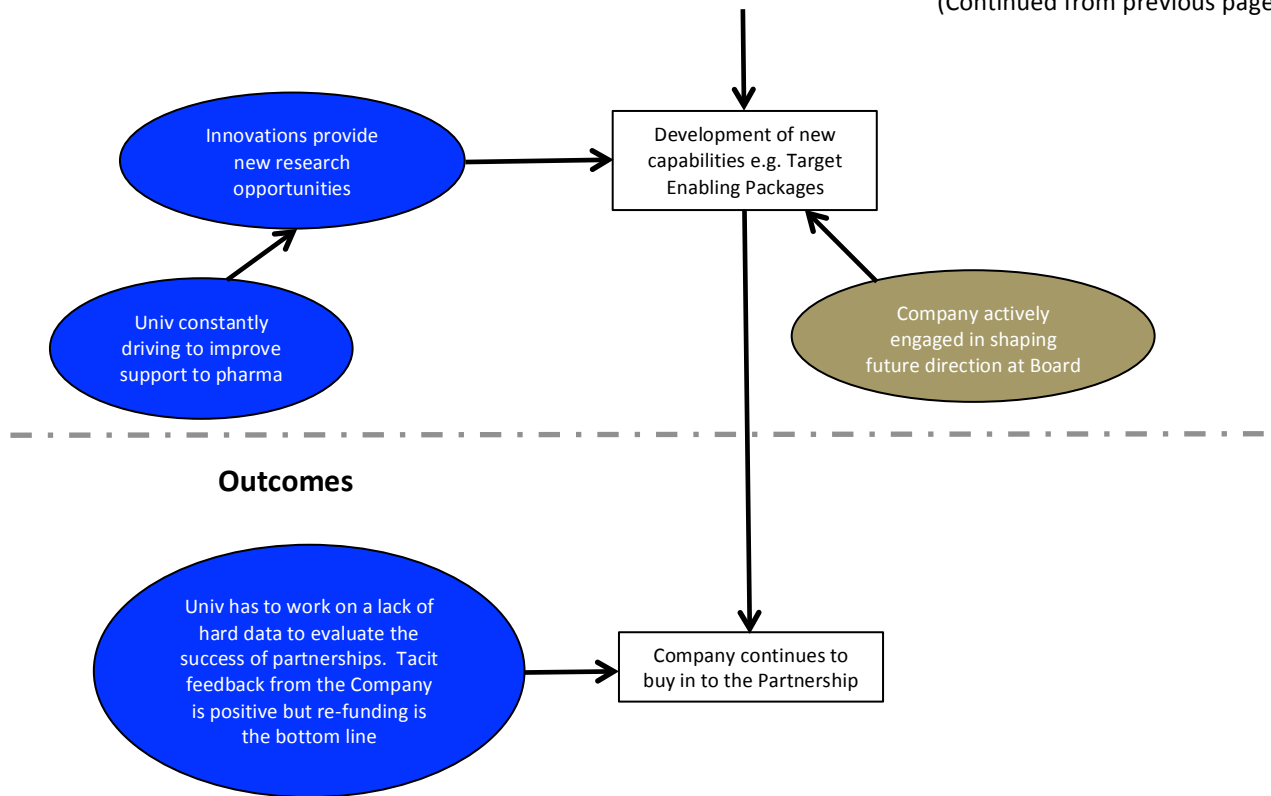


VIII: EVENT-STATE NETWORK FOR CASE STUDY MED 2: DRUG DEVELOPMENT

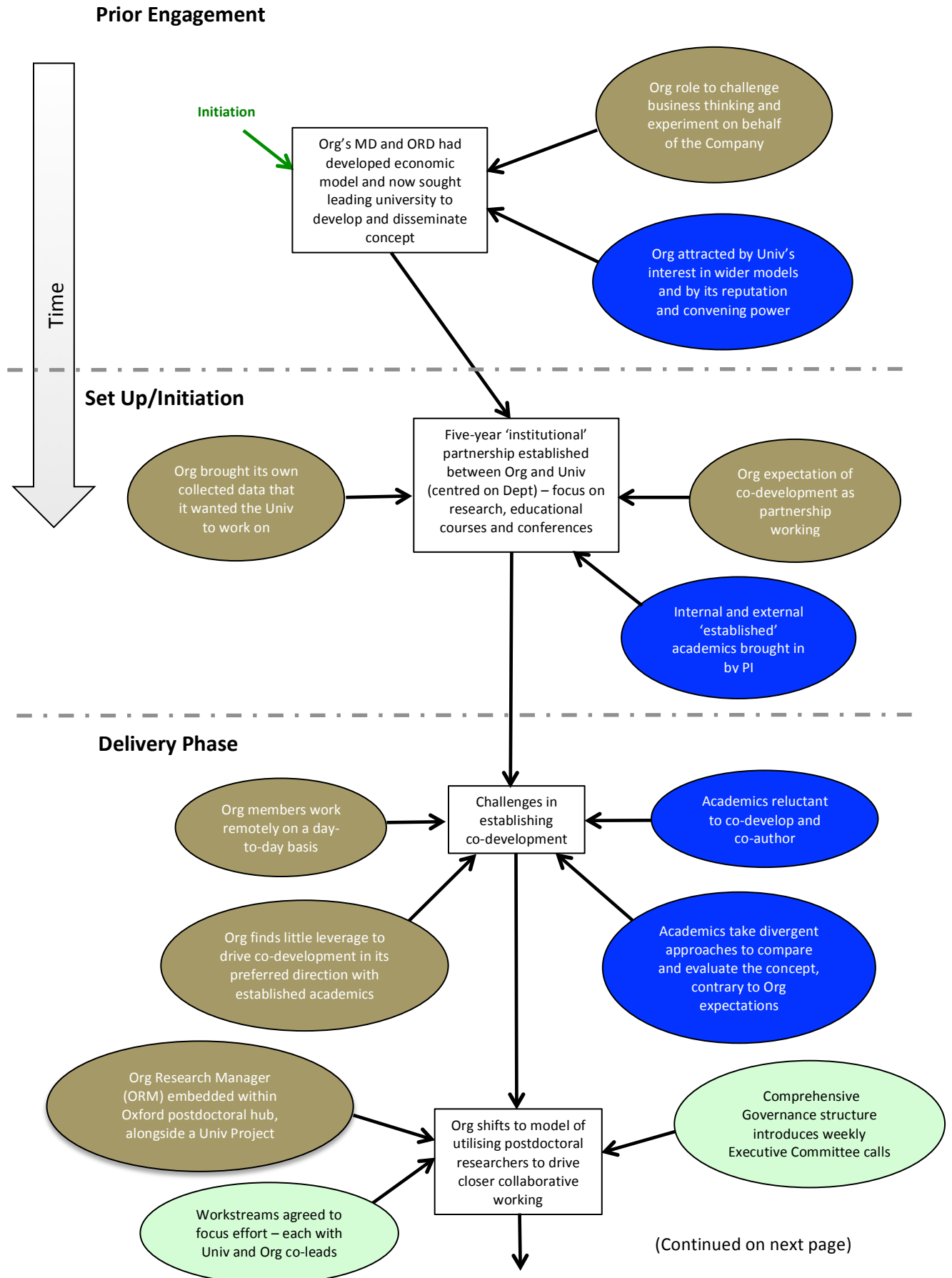


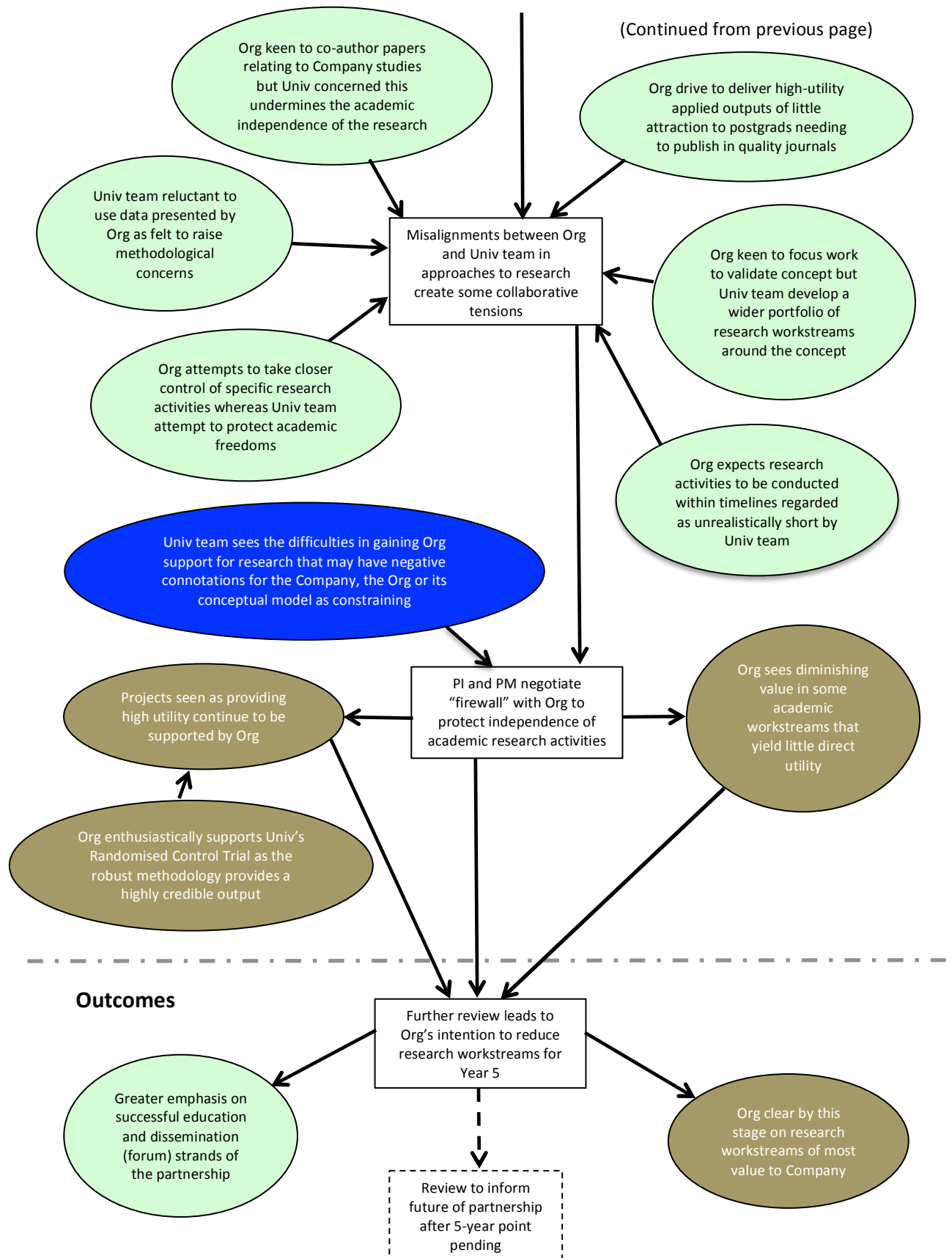
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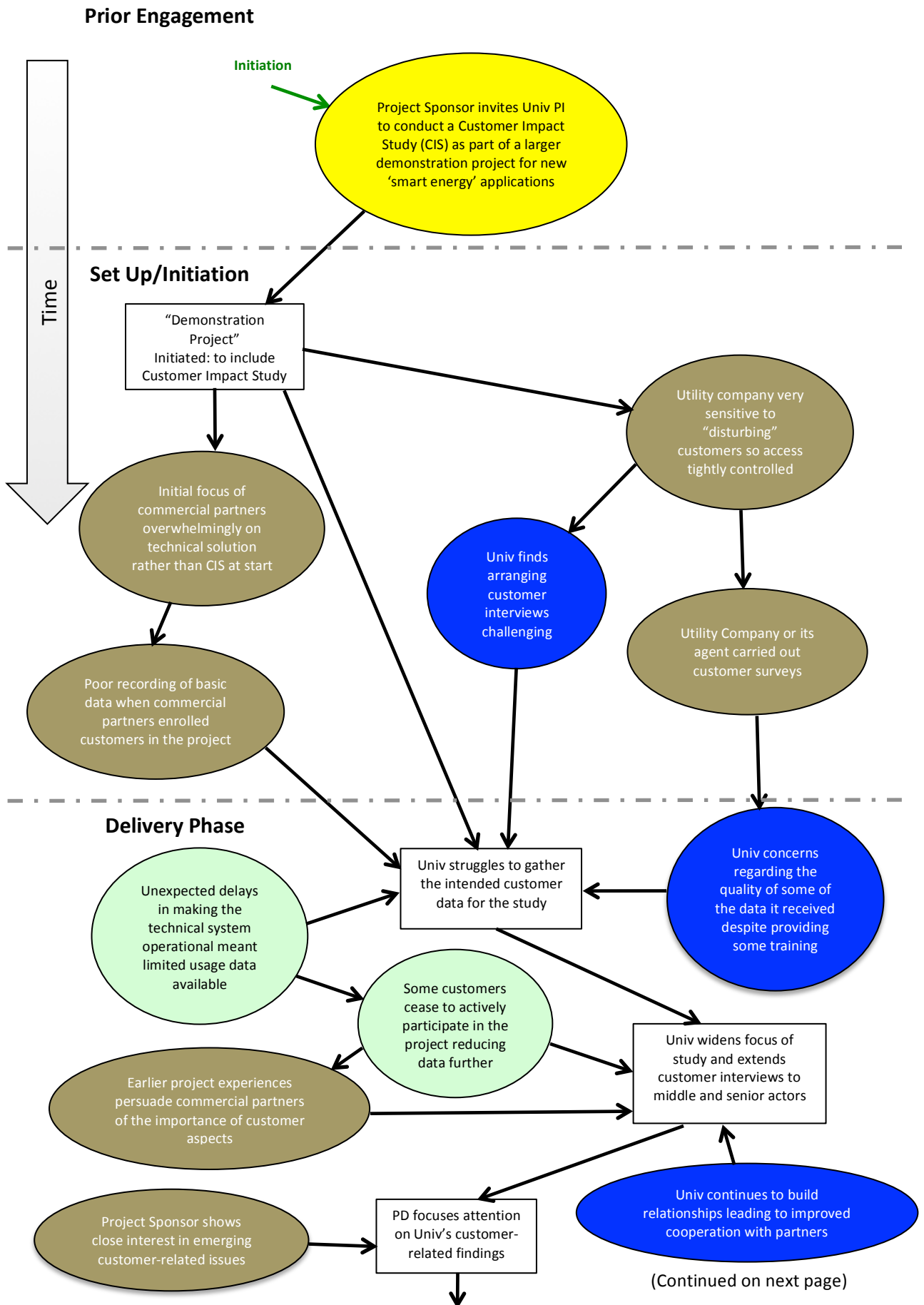


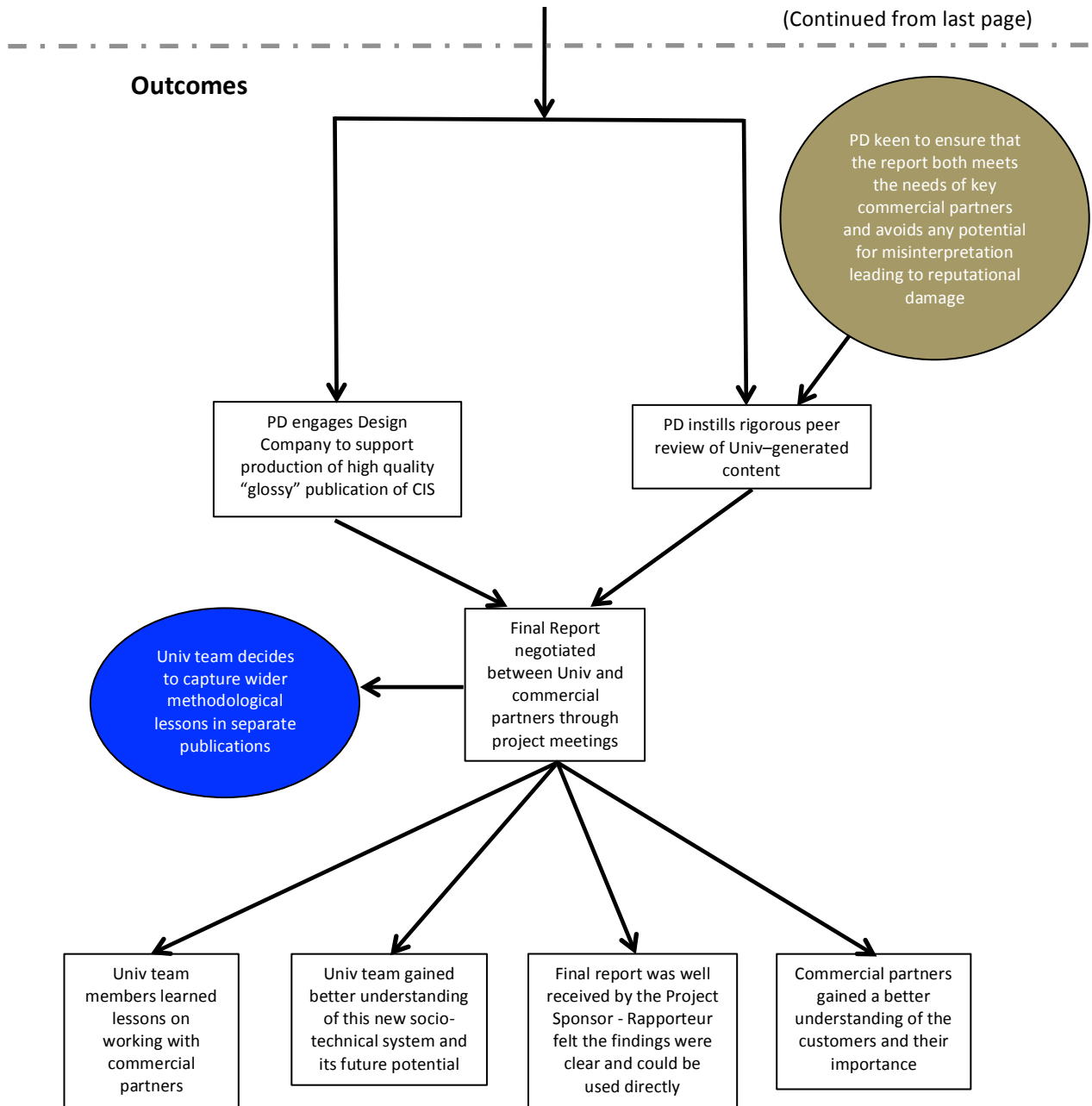
IX: EVENT-STATE NETWORK FOR CASE STUDY SOC SC 1: DEVELOPING AN ECONOMIC MODEL FOR BUSINESS





X: EVENT-STATE NETWORK FOR SOC SC 2: EVALUATING SMART ENERGY APPLICATIONS





CASE STUDY LEARNING EFFECTS MATRIX

Part One: Within Case Detailed Learning Summaries

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
Hum 1 Informing Heritage					
	University: 1. Government Sponsor required specific objectives to be agreed: these linked learning (establishment of a knowledge bank) to financial benefits (improved web presence leading to greater footfall and visitor expenditure) 2. Univ focused on learning to work in partnership to achieve greater impact, no direct expectation of research from project. Business: 1. Same as 1 above. 2. Org project leads aspired to use project to demonstrate value of exploiting knowledge resources to support culture change and strategic shift of emphasis within Org.	Formal Knowledge Transfer Partnership with objectives agreed prior to start and supported by a joint governance structure for monitoring and managing progress. Formally agreed project objectives prior to start.	- Earlier initiatives demonstrated potential and built commitment on both sides, leading to formal project proposal. - The PO selected had strong academic background (Oxford Masters) but relevant work experience in large heritage organisations and wanted to combine the two). - Light touch management and open access afforded to Project Officer (PO) gave freedom to develop delivery model and also supported wider collaborative activities. - Univ contributors to knowledge bank chose own topics and length of commitment but worked exclusively to PO (no contact with Org), in accordance with clear and simple process. - Initial internal Org resistance addressed directly by PO broadening involvement and close communication, actively supported by management, to convince of benefits. - PO proactively increased scope of initiatives (internal and external to the Univ/Org) to add learning value and to support strategic aspirations. These engaged senior staff on both sides in	- Scalable delivery model (to meet specific knowledge requirements) established. - Number of submissions less than target but heavily outweighed by the wider strategic impact of the project as a whole: later graded as 'Outstanding' by Government Sponsor.	- Joint commitment to develop and expand the learning initiatives further in a broader-based partnership. As a direct result a joint Partnership Office was set up between Univ and Org (continued to be based in the Univ). - Org: Supported broader culture change towards benefits of partnership working and use of research (the latter is now a Director's responsibility). - Univ: the project demonstrated the ability to create impact in this area through engagement in applied work.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
			learning events. Academics from wider subject areas engaged to add perspectives and expertise in addressing Org issues. - Strong communication campaign (internally and externally) to promote initiatives and partnership working.		
MPLS 1 Supporting a Corporate Biodiversity Strategy					
	University: 1. KEF aims to promote conservation science (in accordance with aims of Research Council Fellowship). 2. KEF envisaged involvement in Org-related research projects to produce new learning for both Org use and wider academic dissemination. Business: GSE seeks to update on the latest research and scientific thinking to inform advice to Org on managing environmental impacts.	- Informal collaboration towards agreed deliverable. - Neither formal agreement nor senior engagement between Univ and Company to shape collaboration between KEF and GSE.	- KEF had no industry experience but had worked in Government roles. Saw direct engagement with (major) Org as opportunity to increase speed of decision-making. - GSE and KEF held initial meetings to identify areas of mutual interest, capabilities and scope possibilities. Despite KEF preference for direct involvement in Org-related project Org agreed to KEF producing a report to inform GSE's development of Org Biodiversity Strategy, as a first step. KEF had reservations but hoped would lead to other opportunities) - KEF provides written input and advice direct to GSE. - GSE sometimes invites KEF to discussion alongside others to gain multiple perspectives on issues. - KEF's penetration within the Org largely limited to meetings with GSE. - GSE reworked and disseminated KEF's written input within the Org.	- No immediate academic output due to lack of research activity. - KEF report highly valued by GSE: high utility (notwithstanding the need to repurpose for internal purposes) and reflects growing understanding of business realities. - Opportunities for KEF's direct involvement and wider engagement within the Org recognised by GSE but not yet enabled.	- KEF achieved positive impact in influencing development of Biodiversity Strategy within a major organisation. GSE letter of support provides evidence of positive impact, which KEF used to demonstrate a "pathway to action". - KEF built a positive relationship with a major stakeholder, despite limited penetration within the Org. - KEF gained contextual awareness and understanding of business working and the wider business ecosystem - this would enable future collaborations (MPLS 2 and 3) to be better targeted. - KEF learned lessons on engaging in collaborations and in future would seek formal agreement and more senior involvement.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
MPLS 2 Biodiversity Tools					
University	University: 1. Develop IO and NGO capability to apply knowledge (to engagement with businesses. 2. After extensive engagement between KEF and IO project team, agreed to focus specifically on improving NGO employment of biodiversity indicators in engaging businesses. Business: 1. IO shared frustration with KEF that NGOs not using indicators effectively so agreed aim with KEF. However, the IO had produced a report on this before to little effect so wanted to ensure high utility outcomes.	Memorandum of Understanding between KEF and IO project team (Deputy Director and Project Officer) followed extensive problem identification and project definition phases.	- KEF networking and input at conferences and workshops led to IO engagement in bilateral discussions. - Extensive period of dialogue brought understanding of each other's capabilities and supported relationship building as well as sharing different perspectives on issues. Culminated in a workshop to identify a clear project aim. - The strategic goal they developed was highly motivating to the collaboration members as they felt that this could yield high impact. - Within IO, senior manager supported. - Funding tight so project divided into achievable stages to ensure focus on delivering outcomes. - KEF proactive in building up IO team's scientific understanding whilst they provided KEF with business expertise. - Worked on tasks together rather than split according to expertise. - KEF engaged scientists first to confirm conceptual understanding. Then they adopted an open approach to involving NGO and business stakeholders (workshops would follow). - Open communication to share consolidated learning supported by social media. - Strong relationship between KEF and IO team: high mutual respect, reciprocity and openness. Enjoyed working and socialising together.	- Thought to be making positive progress towards aim. Survey responses received and informing development of a planning tool. Intended a workshop to evaluate.	- Strategic benefits to IO already emerging: realisation that more academic rigour was needed in its approach and strategic (rather than bilateral) engagement with stakeholders was seen to be having greater impact. - KEF was hopeful that academic outputs would follow. - In raising KEF's profile, invited onto Advisory Board of two big projects (one run by large coalition of governments, NGOs and businesses, another by the UN). KEF was already feeding findings into the UN project and influencing its direction as a result.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
MPLS 3	Promoting Industrial Engagement in Conservation				
	University: Building on earlier preliminary work, KEF wanted to develop metrics for businesses to support progress towards international biodiversity goals, supported by case studies to illustrate successful business approaches. KEF saw this as fundamental but lacked capacity to take forward until this project opportunity arose. Business: PM encouraged by management to pursue private sector engagement in support of Agency's strategy so this fitted with KEF's broad aspiration.	Government Research Programme required formal joint submission. Aims were fully aligned. Successful bid funded Project Intern (PIN) for 4 months to take work forward under KEF and (Agency's) Project Manager (PM) guidance.	- Established mutual understanding and identified common aspirations Pre-project discussions (at events) and correspondence between KEF and PM (it helped that KEF had previously worked at the Agency). KEF networking also meant suitable PIN readily found., - KEF content for Agency Report to be priority output with academic paper a secondary output. - Collaborative project design with whole team at start. Time set aside to agree objectives and working practices. PM arranged introductions to wider Agency staff and PIN given Agency account to ease engagement. - PIN located at Agency but line managed by KEF with PM input on functionality of project outputs. Weekly team Skype meetings (initially - became less frequent later). - Highly collaborative practices. - Project management limitations (including limited time to review progress as a team, especially towards the end) led to delay and need for revisions. Despite this, team motivation and cohesion remains strong.	Work still outstanding at end of formal project (despite PIN working on for a period afterwards) but team remained positive that the eventual report would have high utility.	- Infographics produced by PIN proved highly effective for engagement purposes. PM continues to use in presentations. - The collaboration provided a very useful platform for increasing engagement with industry for all parties through successful webinar and conference presentations. - Report and accompanying Practice Note were eventually published by the Agency (acknowledging Oxford input) later in the year.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
MPLS 4	Global Data Analytics				
	University: PI sought to find research problems and develop AI solutions but wanted to ensure that transitioned through to real-world applications, in this case to save life. Business: Charity's focus was to improve ability to work with other stakeholders to support better responses to disaster situations.	Informal collaboration over a number of years but increasingly close partnering as Charity embedded the developing operational capabilities provided by the researchers.	- Initial formal co-working on third party projects but lack of practitioner feedback limited development of research application, so Charity saw as low utility. - Opportunity for Univ to engage in a real-time event prompted Charity to work with them in providing requirements and feedback. - Feedback led to rapid development and demonstration of applied capability. - Development of collaborative relationship stalled until DCEO took over as Charity focus. Access to other key Charity personnel provided further feedback to mutual benefit. - Univ support to Charity on an operational footing (full-time, responsive and proactive) throughout subsequent events strengthened relationship and provided feedback that enabled researchers to develop capability further. - Reached stage where Univ and Charity both influencing each other's development.	- Univ and Charity have developed a close collaboration, with the researchers providing operational support to the Charity during disasters and in the process gaining invaluable feedback to continue development of the application. - PI and DCEO both see the need for review to agree how this is best taken forward positively in the future.	- Univ team now receives the feedback to inform further research streams and related development to improve the functionality of the application. - Engagement in direct operational support motivates the Univ team. - Charity has now embedded the capability and keen to ensure continuing support from Univ for future disasters. - Charity continues to inform development and aspires to explore further predictive and other new capability enhancements. - Charity also makes the products available to other responders that it works with on disasters so the resource is shared openly.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
MPLS 5 Flood Management Tool					
	University: Univ and charity team dedicated to improving management of environmental impacts through its technical and scientific expertise. Saw this project as an opportunity to further this. Business: Needed a bespoke software tool to run a trial that would test whether an alternative market mechanism provides better value for money in allocating public funds to natural flood management measures.	Formal contract research let by a Government Agency (as the lead Agency within a group) for Univ (and its charity partner) to develop bespoke software for immediate use in a trial. Time constrained to fit into wider project timelines.	- Agencies agreed a common requirement beforehand and leads establish co-working approach. - Univ set out high utility proposal including a detailed specification and how it would be used. Offered different levels of functionality with associated costs and development time. - Agencies wanted to be directly involved in co-development. Expertise distributed around all partners but the Univ and each Agency dispersed in different locations. - Agencies agreed tight protocols for managing engagement with Univ through a nominated Project Manager (PM). Univ team very responsive - Regular review sessions supported management of progress and collaborative sharing of ideas and development. Univ was responsive, proactive and flexible in meeting emerging needs of Agencies. At the same time used reference to clear contracted level of agreement skillfully to avoid major project creep and keep on track. Agencies very appreciative of this approach. - Clear communication of technical development by Univ (often using visual representations).	- Project culminated in a 'dummy run' led by the Univ team with all Agencies able to participate. Interactive and responsive. - Fully functional tool delivered on time and used successfully in a trial run by Agencies with users (Univ agreed to a short extension to provide technical support for this)	- Project met Univ team's aim to contribute to positive environmental measures. - Agencies very positive with outcome and able to move onto the evaluation phase. Keenly considering further collaboration with Univ, which it had already raised informally.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
Med 1	Product Packaging Design				
	University: PI was keen to test sensory influences of packaging design on a large range of products. Business: 1. Org was keen to understand whether packing designs were having the intended effect. 2. The designs were open to criticism as they were seen as subjective so it was also hoped that underpinning design process with some science might make decisions more robust.	Formal contract developed by the Research Assistant (Res Asst - employed to implement the project) in consultation with the Org's Head of Business Function (HBF) so the requirement was co-developed. Both parties agreed informally to keep the agreement 'live' and update as necessary.	- Res Asst had experience of working in related employment within the sector and had relevant research experience. - Res Asst provided input in person through regular design team meetings with HBF and designers at Org offices and so added input to existing processes. - Research used to validate designs at end of process, informing final decisions, leaving room for designers' discretion. - Res Asst produces high quality and graphical feedback that is well presented and understandable for the design team. - Res Asst responsive and proactive in meeting needs of both Org and individual designers, worked hard to fit within design timelines. - Designers quickly saw value of the feedback both as an aid to decision-making and in defending them - statistical analysis based on scientific tests more convincing to management outside of the design area. - Res Asst soon becomes a respected and popular member of the team. - PI presentation at Org management's away day raises interest in the initiative. - Design team learn to use the research in a more targeted way: selected designs only and sometimes at the start of the process to provide 'insight'. - Designers keen on improved	- On-going but the research had been fully integrated into the Org's design process - Further adaptation of process to better utilise the capability. - Started to look at how the collaboration could be extended.	- Demonstrably improving decision-making with positive impact on sales and profit. - HBF feels process adds robustness to decisions within Org. - Designers and management keen to capture wider lessons and trends. - Univ collecting rich data set for later analysis stage. Academic output will follow. - HBF aspires to develop predictive capability for good design and keen to explore the PI's wider expertise.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
			knowledge management to draw on previous lessons		
Med 2 Drug Development					
	University: 1. Increase the rate of drug discovery through collaborative research with partners to identify potential targets for commercial development. Take an open science (shared learning) approach to extend the pre-competitive stage of development to mutual benefit (saves time, resources and better employs scientists). 2. Work collaboratively with the Org on a number of potential targets that it has identified. Aim is to ensure that the Org gains positive benefits and is prepared to re-fund for another period. Business: 1. Collaborative research to improve targeting of drug development investments, drawing on Oxford's high expertise and testing capabilities. 2. Gain wider industry knowledge and influence broader direction of consortium.	The international partnership, of which the Univ is one of the core research centres, is now well established. Partners pay a fee to join for a fixed period, with the option to re-fund for further periods. All have very similar formal agreements to ensure parity. The Org is one such member.	- Both the partnership as a whole and the Oxford component specifically have a strong reputation within the sector, which underpinned the decision of the Org to collaborate (expectation). - Univ starts to share relevant data with the Org whilst still working towards formal agreement, to start relationship building. - Expectations of the Org actively managed by Univ: - Org encouraged to identify 'balanced portfolio' (in terms of likelihood of achievement) of projects so that Univ can start preparations. - Univ establishes with the Org how it wants to work (does not attempt to apply a standard approach) and seeks to work at 'industry pace' to meet its requirements. - Org may abandon ('de-prioritise) projects prior to completion and publication, which threatens achievement of an agreed output. If Univ cannot persuade Org to complete it, it may take the work to completion itself or with another partner. De-prioritisation may indicate that the Org has gained positive results and taken into a proprietary programme (but this will not be made clear). If simply	- Univ PI and Org's Director Research Coordination (DRC) both unequivocal that the collaboration is successful. – Very close 'organic' relationship with communication at and between all levels.	- Collaboration drives both research and innovation within Univ to push forward development. - Org benefits tacit to Univ (because to make them explicit would underline its commercial position) but assumed to be high.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
			abandoned then it has saved time and resource (Univ sometimes struggles to get partners to see this positively). - Completed compounds (resulting from the collaboration) published as 'open science'. Org benefits from other universities and labs then testing the compound to discover further biology of interest to it. - Univ constantly looking to develop new capabilities to support (and retain) pharma partners. - Org's senior representative actively plays a role in shaping the future direction of the partnership at Board level.		
Soc Sc 1 Developing an Economic Model for Business					
	University: 1. Conduct high quality research into agreed aspects of the core concept to evaluate and inform its development accordingly. It was agreed that this would include case study research into some key Org projects run in conjunction with the parent Company. Academics aspired to publish research in respected journals. 2. Use the course module and business forum to showcase work in this area (including case studies) – not the focus here. Business: 1. Validate the conceptual model	Formal (contract) funded five-year partnership between the Univ and the Org. Key workstreams agreed: research relating to a particular conceptual approach and the development of both a related course module and a business forum to promote its adoption.	- Org (a think-tank within a large Company) sought a five-year institutional partnership (centred on the Department). Previously tended to use academics for specific tasks on short-term contracts. - Org was already heavily invested in the core concept, which it had developed as a major initiative in its role of challenging the Company's thinking. It resisted academic deviation or challenge to this, which was a key source of tension. - Initially, PI brought in selected established academics to work on research (remotely) but approaches diverged (such as exploring alternatives) from what the Org expected. Also	- Research stream proved to be challenging within the partnership: differences in goals and expectations between Org and Univ were difficult to reconcile in a number of areas. - Org hopeful that the planned tighter research focus would prove beneficial but would also consider alternative approaches after	- Org learned lessons from its experiences of working with academics and Organisation Research Director was intending to evaluate the best approach to working with academia. - Junior academics learned about working with a demanding industry partner and the tensions this can bring. Those with prior experience of doing so seemed to be able to accommodate easier than those that were used to working to purely academic standards. - Univ PM in particular learned

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
	through research related to Org projects and use this to develop more substantial theory and concepts. Org keen to partner with Oxford in academic publications. 2. Use the course module and business forum to showcase work in this area (including case studies) – not the focus here.		reluctant to work and publish collaboratively. - Org shifts research model to utilising junior academics (postdocs) in the hope of being able to drive forward more collaborative working but further tensions arise over differing expectations of research standards and academic independence needed for them to publish. - Org resistance to critical reporting of the Company seen as a barrier to learning and academic freedom by some academics, despite obvious rationale. - Some compromises where net benefit: Pragmatic approach taken by academics in one area (but had capacity to work on a more academic study separately) and in another the Org accepted purely academics running a rigorous trial (an RCT) as this provided strong credibility with stakeholders. - Closer Org management of postdoc research activity met some resistance and “firewall” agreed to limit Org involvement in research but Org interest in some workstreams then waned. - Org planned to reduce workstreams to those it by then saw as most directly supporting its aims.	the current contract ends. - Course module and business forum elements made good progress and seen as successful	a lot about leading and managing a team and working with an industry partner. - Despite the challenges, academic output had already been delivered and other publications were in train, particularly in relation to the case studies.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
Soc Sc 2 Evaluating Smart Energy Applications					
	University 1. The sponsor was aware that effective engagement of the customer into a new “socio-technical” system was vital to success so Oxford was funded to conduct a Customer Impact Study (CIS) in order to gain insights into how this could best be achieved. 2. The PI had an interest in the social aspects of energy use and saw this as an opportunity to explore smart energy usability for customers. Business: Main business participants generally had an actual or potential commercial interest in the technology and so this was seen as an opportunity to evaluate their strategies for future commercial engagement.	Formal 3-year project funded, monitored and evaluated by the sponsor, a major intergovernmental body. Participants in the ‘demonstration project’ were drawn from industries working in the energy sector (the lead company provided the project management) and universities across three different countries (the case study focused on the project in just one of them).	- Initial focus of business partners overwhelmingly on the technology to begin with, particularly in view of delays in getting the system operational, once installed. Univ work seen as a lower priority. - Poor recording of initial customer data for later use in CIS. - Univ finds it challenging to collect sufficient customer data of desired quality: - Hard to gain access for customer interviews through business partner. - Univ had to conduct surveys through the utility company or its agent. Despite providing training, concerns about data quality. - Long delay in getting the technology working meant usage data available for only a short period in the later stages of the project. Some customers cease to participate. - Given limited customer data, Univ widens focus of study to the ‘customer experience’ and extends customer interviews to middle and senior actors (by this stage willing to cooperate as relationship has developed) to triangulate perspectives. - Realisation of industry partners of the importance of customer aspects and, aware of sponsor interest, PD focuses the project’s attention on the CIS.	1. Final report well received by Project Sponsor. Rapporteur felt that it had high utility.	1. Business partners gained a better understanding of the importance of customers as part of a socio-technical system. 2. Univ team learned lessons on working with commercial partners. 3. Univ team gained a better understanding of the practicalities of the energy management system being demonstrated.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
			- PD introduces peer review process to ensure content meets the needs of the key commercial partners and avoids any potential for reputational damage. This provided some tension with the Univ authors, as business partners strongly contested identified problems and issues. - PD engages design company to ensure production of a high quality glossy report. - PD ensures that the report is presented in a way that demonstrates that the set objectives have been met. This is important in the sponsor's final evaluation of the project and is tied to funding. - Univ decided to capture wider lessons in a separate publication.		

(Part Two on next page)

Part Two: Within Case Generalised (Coded) Learning Summaries

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
Hum 1 Key codes	Univ = learn to collaborate Bus = support culture change and strategic shift in focus.	Formal, sponsored. Agreed objectives.	- Demonstrated potential in earlier collaborations drove engagement. - Developed joint proposal with senior support on both sides. - Selected Project Officer (PO) with strong academic and industry profile. - Open access given to PO. - Light touch and supportive management (within formal structure). - Freedom for PO to develop delivery solution. - Delivery model gave clear guidance, support and ownership to contributors. - Undertook wider initiatives to increase engagement and build partnership. - Addressed Org internal resistance to change positively and constructively. - Strong communication to support benefits throughout.	- Collaboration model established - Wider Strategic impacts	Org: - Further collaboration. - Culture change. Univ: - How to create impact through research.
MPLS 1 Key codes	Univ = Support improved application of knowledge. Bus = Update knowledge to inform strategy.	Informal, unfunded bilateral relationship, largely at individual level. Objectives agreed for initial task, as selected by Org.	- Discussed interests and options at start. - Business selected activity – Univ provided input to inform Org strategy (knowledge flow mainly one-way). - Closed bilateral relationship: Univ gained limited penetration in Org. - High utility input well received by Org collaborator, who took forward internally (without involvement of Univ collaborator).	High utility input from Univ valued by Org. Initial aspirations of Univ not achieved but developed new pathway to impact instead.	Org: - Learning supported strategy development. - Internal outputs (strategy proposals) more robust. Univ (collaborator): - Relationship building – potential for future engagement. - Able to better target future collaborations. - Better understanding of business context.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
					- Better prepared to manage future collaborations.
MPLS 2 Key codes	Univ/Bus = Support improved application of knowledge.	Formal agreement (Memorandum of Understanding). Self-funding collaboration. Objectives agreed for phased approach.	- Networking led to initial engagement. - Extended joint problem identification and project design phases. - Mutually supportive approach: two-way flow of knowledge and expertise throughout. - Staged approach to focus on outcomes. - Senior Org and other stakeholder support. - Open communication of initiative (supported proactively by use of social media).	On-going, positive progress. Confident that outputs would be high impact.	Org: - Learning informed strategy development. - Increasing impact. Univ: - Further engagement opportunities led to important secondary impacts (outside of collaboration). - Deliverables expected to have high utility (after feedback from users). - Academic outputs likely to follow.
MPLS 3 Key codes	Univ/Bus = Support improved application of knowledge (influence business behaviour).	Funded project between Univ and Government Org, co-managing project work undertaken by a Project Intern (sponsored by third party). Objectives agreed at start of project.	- Networking enabled engagement with partners. - Agreed that business output (report) the priority with academic output secondary. - Joint decision-making (sharing of knowledge and expertise throughout). - Infographics proved effective engagement tool. - Project management limitations and other factors contributed to delay but high commitment to completion maintained.	- Positive progress but unable to complete in project period. - Team did achieve intended outputs after delay.	Org: - Infographics proved effective engagement tool (continue to be used by Agency). - Project provided a useful platform for wider external engagement (presentations and social media) through channels previously unused by Agency. - Deliverables provide high utility in supporting influencing efforts. Univ: - Project supported research agenda by providing a platform to engage audiences with newly developed and high utility material (impact).

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
MPLS 4 Key codes	Univ = Support research and achieve impact. Bus = Improve capability.	Informal collaboration. Increasing co-operation resulting in close alignment of objectives and mutual support.	- Limited business engagement constrained development of application initially. - Exploited opportunity to utilise application in an operational scenario to re-engage business. - Engagement provided feedback that drove development of functionality. - Support to operational delivery strengthened feedback loop to mutual benefit. - Two-way influence of further development (co-development of the functionality).	- Co-working on operational tasks. - Collaborative development of application to meet user requirements.	Org: - Improved operational capability. - Shared outputs (open approach) with other stakeholders increase impact and reputation. Univ: - Collaboration driving research. - High impact through operational support to Org. - Univ's deeper understanding of application aids development. - Business's deeper understanding of application potential drives closer engagement
MPLS 5 Key codes	Univ = Apply knowledge and expertise to provide impact. Business = Make better use of limited resources to improve operational delivery.	Contract research. Formal objectives set by business partners (Government Agencies). Tight timeframe (4 mths) to deliver output.	- Business partners agreed common goals before engaging Univ. - Clear options for levels of provision in Univ proposal aided decision-making. - Effective project management supported co-development. - Univ managed expectations effectively throughout to keep on track. - Univ highly responsive and flexible to optimise solution within constraints. - Univ use of visual graphics and lay terminology aided communication.	- Completed on time. - Successful trial proved high functionality.	- Close collaboration resulted in highly functional solution. - Further collaboration under consideration.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
Med 1 Key codes	Univ = Support research. Bus = Test and improve operational delivery.	Contract research (managed flexibly). Objectives co-developed.	- Res Asst had strong academic and industry experience. - Res Asst embedded in business team. - Res Asst's high utility feedback introduced as complementary to rather than threat to status quo. - Res Asst highly responsive to business needs. - Business integrates research into business processes and further co-develops its use.	- Research fully integrated into business processes. - Further adaptation co-developed for business use. - On going but business considering options for further collaboration.	Org: - Improved operational capability (reflected in profits). - Internal outputs (packaging designs) more robust. - Intends fuller evaluation to provide further learning. - Business keen to explore potential of other related areas for future collaboration. - Open approach ensured internal contractors (designers) benefitted. Univ: - Collaboration driving research and academic outputs (to follow).
Med 2 Key codes	1. Conduct funded research activity. 2. Develop innovation to support specific and wider partnership. Business: 1. Support operational delivery (drug development). 2. Support strategic development (better identify drug targets and develop new approaches).	Formal contract research. Part of a wider Public-Private Partnership with a mandated 'open science' approach. Specific objectives set by Org with advice of Univ.	- Reputation is an important attractor. - Univ starts to share knowledge prior to formal agreement. - Univ manages partner expectations throughout (balanced portfolio, agreed ways of working). Highly responsive to Org needs. - Org may decide to abandon specific projects for commercial reasons (requiring broader evaluation of the success of the collaboration). - Outcomes of completed projects published in accordance with 'open science' principle. - Univ continues to drive innovation to support and grow partnerships. - Partners co-direct partnership strategy at Board level.	- Strong 'organic' relationship. - Seen as beneficial by both Univ and Org (broad endorsement reflects the nature of this collaboration).	Org: - Specific operational benefits unspecified externally but regarded as positive - Strategic development (informed by wider industry knowledge, operational outcomes and co-development of innovative approaches) Univ: - Collaboration drives research and innovation. - Supports reputation and ability to maintain partnership.

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
Soc Sc 1 Key codes	Univ: 1. Support research and related academic outputs. 2. Develop learning activities to promote related research outcomes with partner Org. Business: 1. Co-develop the Org's conceptual thinking into more substantive concepts and theory through related research. 2. Develop learning activities (course module and business forum) to promote conceptual thinking and related research outcomes with Univ.	Formal contract. Funded 5-year partnership. Org objectives broadly agreed but tensions in interpretation of how should be implemented (research strand).	- Org already heavily invested in the core concept it wanted Univ to research. Resistance to academic challenges a source of tension. - Org wanted a co-development approach but Univ keen to protect academic independence of research. - Org switched from engaging established academics to postdoctoral researchers in the hope of closer alignment. - Tension between Org and Univ over extent of academic freedom (particularly the ability to be critical of the parent Company). - Firewall separation agreed to protect academic freedom in some areas but Org later narrows focus and decides to reduce research work streams.	- Partnering in research stream proved challenging for both parties: progress but not as Org anticipated (less co-development than expected) - Org was narrowing focus on those areas providing greatest utility to Org. - Teaching and learning elements made good progress and regarded as a success.	Org: - Supported strategic development (of concept). - Teaching and learning outputs supported external impact. - Reputational benefits of the partnership. - Better understanding of developing a university partnership (further evaluation to follow) Univ: - Academic outputs and on-going development of research strands. - Learned lessons on managing relations within a partnership. - Junior academics (in particular) learned lessons on conducting research within a business-driven partnership.
Soc Sc 2 Key codes	Univ: 1. Conduct an evaluation as part of a sponsored demonstration project. 2. Support research. Opportunity to pursue research interest and hoped this would also support academic outputs. Business: 1. Evaluate strategies for further commercial engagement in the introduction of this innovation.	Formal funded contract study. Part of a wider collaborative project. Pre-determined deliverables. Sponsor provided monitoring and evaluation of progress against objectives (linked	- Initial focus of business partners heavily on technology not customer aspects. - Univ heavily dependent on businesses to collect data but limited support led to data quality and recording issues. - Delays in the operation of the technical system reduced Univ's ability to collect customer usage data. - Univ took initiative to widen scope to produce credible study. - Univ study belatedly regarded as of	Study completed on time. Final report well received.	Business partners: - Informed strategic development by gaining a better understanding of the operating environment (particularly the importance of customers alongside the technology, as part of a socio-technical system). - Demonstrated the potential of the innovation

Project	Initial Learning Aspirations	Level of Agreement	Learning Approach	Progress	Learning Outcomes
		to funding). Project Management provided by lead business partner.	key importance and made project focus. - Project Management ensured content and presentation of the report to ensure no reputational risks and demonstrates clear achievement of objectives. Creates some tension with Univ (inability to present lessons from failures). - Univ team decides to capture wider learning in separate publications.		Univ: - Report well received by the Inter-Governmental Body (reputational benefits) - Univ team learned lessons on working with business partners (separate related academic outputs intended). - Informed future research (by gaining a better understanding of the social issues in introducing the energy management system being demonstrated).