

**In Praise of Fractionated Trading Zones:  
Respectful Partnerships in Management Innovation**

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**Abstract**

We address the contemporary challenge of increasing the rate of management innovation by asserting the value of ‘fractionated trading zones’. By contrast with the homogenization of academia, business and consulting proposed by some scholars concerned for management innovation, fractionated trading zones involve partnerships that are respectful of the distinct characters of the various communities. We demonstrate the potential of such fractionated trading zones by examining the diverse contributors to three management innovations in strategy: portfolio models, value innovation and participative strategizing. Each of these innovations was brought about by respectful partnerships between academia, business and consulting, facilitated by the development of visual or metaphorical boundary objects and the interventions of transcendent interactional experts. We conclude by recommending policies for both academics and practitioners in order to promote the creation of innovative partnerships across the divide.

# **In Praise of Fractionated Trading Zones: Respectful Partnerships in Management Innovation**

## **1. Introduction**

Management innovations – in other words, new management principles, processes, practices or organizational forms – are potentially important and sustainable sources of competitive advantage (Birkinshaw, Hamel & Mol, 2008). The pace and complexity of contemporary social, technological and economic change makes such management innovations more important than ever. But management disciplines are struggling to keep up (Reeves & Whitaker, 2021). Indeed, Ghemawat (2016) reports that the strategy discipline in particular is experiencing a declining rate of innovation.

This perceived gap between the needs of business and the supply of management innovations is prompting criticism of management researchers for the weak practical impact of their research and their failure to engage in productive collaboration with practicing managers and consultants (Aguinis et al., 2014; Kieser, Nicolai & Seidl, 2015; Romme et al., 2015; Simsek et al., 2018). The response is a panoply of proposed reforms to management research (Kieser, Nicolai & Seidl, 2015). One of the most prominent proposals here is for more ‘engaged scholarship’, implying a shift from academic isolation to close collaboration with practitioners and other stakeholders (Van de Ven, 2007; Van de Ven & Johnson, 2006). For some, achieving such engaged scholarship would involve significant reforms in journal publication policies, in doctoral training and in academic hiring, promotion and tenure criteria (Drnevich, Mahoney & Schendel, 2020). Such reforms would together amount to a fundamental change in the culture and practices of management research and of business schools more generally.

We share the concern for the gap between management innovation and the needs of contemporary business. We also believe that the approach of engaged scholarship is a potential way forward. However, we challenge two implicit assumptions that often underpin criticism of academic non-engagement with practice. First, we are wary of putting too much responsibility on academics for the lack of collaborative and engaged research. Academic willingness to engage with practice is a necessary yet not sufficient condition for productive collaboration. Second, we are cautious about radically altering the very nature of management disciplines in order to promote more collaborative research initiatives. It is not only research engagement with practitioners that matters, but also mutual respect for different practices, interests and cultures.

We argue therefore that innovation in strategy and management more generally can best be achieved through respectful partnerships between academics and practitioners. The basic principle for such partnerships is robust diversity, allowing for continued differences in practices, culture and language. In this sense, we pick up on the proposal from Reeves and Whitaker (2021) to create ‘trading

zones' between the various communities involved in management innovation. Although the original concept of trading zones focuses on collaboration between members of different scientific disciplines (Galison, 1997), it is particularly relevant to the field of management, where actors from diverse backgrounds frequently interact in innovation. However, trading zones come in different flavors. We shall make the case particularly for the continuous heterogeneity implied by Collins, Evans and Gorman's (2007) concept of 'fractionated' trading zones. These fractionated trading zones do not depend so much on one community subordinating its interests to another's, the position that Drnevich et al (2020) come close to. Nor do fractionated trading zones rely on the adoption of a common language, as proposed by Reeves and Whitaker (2021). Rather, collaboration in fractionated trading zones is about respecting differences between distinct communities. Productive communications between academic and practitioner communities can be maintained by a mix of interpretively flexible *boundary objects* and the activity of culturally and linguistically transcendent *interactional experts*. We propose that building on existing experience with fractionated trading zones provides a less risky basis for management innovation than fundamental academic change. Collins et al's (2007) concept offers a dose of realism and reserve for the concept of engaged scholarship, potentially leading to productive changes not only in academia, but also in business and consulting.

We make the case for fractionated trading zones based on three successful management innovations in the field of strategy: portfolio models, value innovation and participative strategy-making. All three innovations have achieved widespread impact and all three have relied to varying degrees upon flexible boundary objects and transcendent interactional experts. In each case, it is hard to trace the innovation exclusively to one community or another; instead, innovation has come from trading zones characterized by dynamic interchange between distinct communities, each with their own characteristic interests and practices. We accept that these kinds of fractionated trading zones are too rare and too random, but they offer promising models none the less. Accordingly, we draw from these three successful cases policy recommendations that can foster the systematic and purposeful generation of more such fractionated trading zones, thereby increasing the rate of management innovation.

## **2. Three Cases of Innovative Partnerships**

Our argument for fractionated trading zones builds on the respectful partnerships demonstrated in three management innovations: *portfolio management*, developed by General Electric and the Boston Consulting Group and informed by ideas from academic economics and finance; *value innovation*, emerging from the interchanges of academics at INSEAD, businesspeople at Philips and consultants at Gemini; and *participative strategizing*, originating in part from London Business School and refined in consulting engagements and business experiments in the world of practice. We choose these cases not only because of their success, but also because their broad historical range, from the 1960s to today, includes more contemporary examples than those considered by Drnevich, Mahoney & Schendel

(2020). Two of these – portfolio planning and participative strategizing – are also cited in other recent contributions on management innovation in this journal (Hamel & Birkinshaw, 2021; Reeves & Whitaker, 2021). We shall introduce these three cases here in the form of summarizing vignettes. The next section explores how they all involved fractionated trading zones in which academia, business and consulting collaborated through both boundary objects and interactional experts.

### *Portfolio Planning*

Portfolio planning originated in the diversified conglomerate General Electric, whose Corporate Planning department had plotted its portfolio of 66 businesses in a nine-cell matrix as early as 1961 (Whittington, 2019). This matrix foreshadowed later matrices in using the dimensions of market share and market maturity and identifying some businesses as ‘stars’ for investment and others for ‘milking’. General Electric worked closely with Harvard Business School in executive education, and an academic there, Seymour Tilles, eventually joined the new Boston Consulting Group in 1964 as the company’s third hire. In 1966, Tilles published an article in the *Harvard Business Review* on business portfolios addressing the cash flow implications of different rates of market growth (Tilles, 1966). Here Tilles echoed contemporary academic economists’ conceptualization of diversified firms as internal capital markets with portfolios of ‘quasi-firms’ competing for capital investment (Heflebower, 1960; Williamson, 1970). In 1968, BCG consultant Alan Zakon, a former finance professor at Boston University, developed the cash flow and investment implications of a diversified portfolio for the Mead Corporation, with a four-box matrix using the finance terms of ‘savings’, ‘bonds’, ‘mortgages’ and ‘sweepstakes’. Having been told by the client to ‘dress it up’, Zakon and colleagues gave the Mead Corporation’s matrix the two dimensions of market share and market growth (Morrison & Wensley, 1991). By 1970, the matrix had acquired visual devices and memorable language: portfolio businesses were now ‘stars’, ‘cash cows’ (for milking), ‘question marks’ or ‘pets’, each given pictorial representation. In 1973, the BCG matrix reached its classic form, with bubbles representing business sizes and ‘dogs’ replacing ‘pets’. From 1972, the Marketing Science Institute at Harvard Business School worked with General Electric’s planners to launch the Profit Impact of Marketing Strategy (PIMS) studies, researching the relationship between market share and profitability. In 1976, BCG director Barry Hedley (later to teach at Cambridge University) presented the BCG matrix in academic form in the journal *Long Range Planning*. By the end of the 1970s, 45 per cent of Fortune 500 businesses had adopted various portfolio planning matrices. Indeed, companies like General Electric and Shell developed new portfolio matrices of their own. A decade later, the BCG matrix was taught universally in business schools and had become the subject of widespread academic research (Morrison & Wensley, 1991).

## *Value Innovation*

Value innovation originated in the Operation Centurion strategic transformation project at the electrical giant Philips. Centurion was launched in 1990 by CEO Jan Timmers and the University of Michigan academic C.K. Prahalad. Timmers promoted benchmarking to show how far his company had fallen behind its competitors (Karsten et al., 2009). W. Chan Kim, whose research began with quantitative measures of international business, joined Prahalad to run Centurion workshops with managers in two divisions, introducing his ideas explicitly as part of his research (Carton, 2020). It was at these workshops that the value curve, central to the strategy canvas, began to emerge as a way of translating the benchmarking advocated by Timmers into a visually-appealing graphical form. Over the next five years, consultants from the newly-founded Gemini Consulting rolled out workshops and task-forces with Philips managers around the world (Whittington, 2019). The consultants passed on feedback to help Kim refine the value curve and shape his first *Harvard Business Review* article in 1997, published with Renée Mauborgne, another INSEAD academic. Mauborgne was a natural communicator ('telegenic'), skilled at presenting value innovation on television and in the media more generally (Carton, 2020). In 1999, INSEAD adopted value innovation as an action learning methodology and two research assistants were hired. However, it was only at the 2002 academic Strategic Management Conference that Kim and Mauborgne, apparently without premeditation, first mentioned 'Blue Ocean Strategy'. An attending *Harvard Business Review* editor reported a 'lightbulb' moment as she heard the evocative words: value innovation would now become 'blue ocean strategy' (Carton, 2020). 2004 saw the publication of the first 'blue ocean' *Harvard Business Review* article and the next year saw the publication of the *Blue Ocean Strategy* book, which has now sold more than four million copies. In 2019, Kim and Mauborgne were ranked as the world's top business thinkers (Carton, 2020)

## *Participative strategizing*

Participative strategizing emerged from a mix of independent initiatives on both sides of the Atlantic in the 1990s and early 2000s (Whittington, 2019). One significant pioneer was London Business School academic Gary Hamel. Hamel founded his own consulting firm Strategos in 1994, working on participative projects such as Nokia's successful bid for leadership in mobile telephones and Shell's GameChanger programme (Hamel & Birkinshaw, 2021). In the case of Nokia, Hamel convinced the company's management to commit to a series of inclusive workshops engaging hundreds of employees to generate "thousands of wacky ideas" (Hamel, 2021). At Shell, Hamel supported the establishment of an autonomous team investing in the development of radical new ideas, submitted by anyone both inside and outside the company. The GameChanger program still exists today. Hamel promoted his participative approach to strategy-making in a series of popular management books (e.g., *Leading the Revolution*; Hamel, 2000) and *Harvard Business Review* articles (e.g., Hamel, 1996, 1999). At the same time, he continued to publish in academic journals (e.g. Birkinshaw, Hamel & Mol, 2008) and in 2008 he founded the Management Innovation Lab at London Business School, launching further innovative

management experiments in collaboration with leading companies (Hamel & Birkinshaw, 2021). Other companies were promoting their own versions of more participative strategizing, including IBM with its technologically-enabled strategy jams (Bjelland & Wood, 2008) and McKinsey with its strategy “crowdsourcing” (Gast & Zanini, 2012). These various kinds of initiatives were bundled by academics into the concept of ‘open strategy’, influenced by the work of Henry Chesbrough from Berkeley University on ‘open innovation’ (Chesbrough, 2003; Whittington, Caillaet & Yakis-Douglas, 2011). Academic case studies and surveys of open strategy followed (Hautz, Seidl & Whittington, 2017; Seidl, von Krogh & Whittington, 2019). The concept of open strategy was picked up by the European consulting firm IMP, led by Stephan Friedrich von den Eichen, Professor of Business Model Innovation at the University of Bremen and a collaborator with academic researchers at the University of Innsbruck. IMP had long been experimenting with various participative methods of innovating and strategizing and found in the terminology of open strategy a powerful means of encapsulating and developing its ideas (Stadler et al., 2021). Indeed, Gary Hamel too now reconceptualizes his earlier pioneering efforts in the terms of open strategy (Hamel, 2021; Hamel & Birkinshaw, 2021)

### **3. Fractionated Trading Zones: Partnering across Divides**

The above vignettes of innovative partnerships point towards the existence already of productive ‘trading zones’ involving academics, businesspeople and consultants working together on problems such as portfolio management, value innovation and participative strategizing. The trading zone concept was introduced by sociologists of science and technology to capture the idea of a space where knowledge is collectively produced by diverse communities that must exchange (‘trade’) their particular insights across partly incommensurable paradigms (Collins, Evans & Gorman, 2007; Galison, 1997; Gorman, 2002). For example, the discipline of physics is characterized by a diverse set of subcultures, each working with distinct paradigmatic models. Galison (1997) shows how these diverse scientific subcultures are none the less able to work together on particular problems through the establishment of flexible trading zones. For him, the apparent disorder of science is productive: “it is the disunification of science – the existence of different patterns of argument – that is responsible for its strength and coherence” (Galison, 1997, p. 844).

Researchers have since identified different types of trading zone. In particular, Collins, Evans & Gorman (2007) distinguish between *subversive*, *inter-language* and *fractionated* trading zones. In the first two, collaboration is achieved by homogenizing the culture and language of the diverse parties involved. Thus for subversive trading zones, homogeneity is a result of one party’s cultural and institutional dominance, requiring subordinated parties to abandon their own values, language and practices. For inter-language trading zones, homogenization involves the more mutual creation of a new hybrid culture and language, merging those of distinct communities. By contrast, fractionated trading

zones maintain cultural and linguistic heterogeneity among diverse and autonomous parties. Productive collaboration between these parties is mediated by boundary objects and interactional expertise. In fractionated trading zones, partners remain distinct and equal peers. There is neither subordination nor merger. Moreover, as Galison (1997) suggests, such fractionated disunity can be a strength, allowing each partner to make its own specialized contribution.

Successful collaboration in such fractionated trading zones typically entails the development and skillful use of boundary objects. Boundary objects enable translation and transformation at the boundaries between different collaborative communities (Bartel & Garud, 2009; Bechky, 2003). Science and technology studies often portray boundary objects as material artefacts such as product prototypes, experimental equipment etc. (Carlile, 2002). However, in the field of management more abstract artefacts such as concepts and theories (Leigh Star, 2010) can act as boundary objects, especially if they are effectively visualized as models or frameworks that foster clear, easy and simple communication (Knight, Paroutis & Heracleous, 2018; Meyer et al., 2013). Research on boundary objects suggest that effective boundary objects in fractionated trading zones should meet three requirements.

First, boundary objects should enable *interpretative flexibility* (Carlile, 2002; Leigh Star, 2010), by which diverse collaborative partners can independently adapt knowledge and insights to their own institutional, organizational or professional contexts. As they engage with boundary objects, partners will typically make them more specific and more customized for their local use. Therefore, management concepts and theories should not be exclusively seen as constructs that offer scientifically elegant predictions or as unambiguous prescriptions for practice, but more as knowledge structures flexible enough to be used independently across institutional divides.

Second, boundary objects should *motivate collaboration and multidirectional translation* across different communities (Nicolini, Mengis & Swan, 2012). A fractionated trading zone is fundamentally action-oriented and the development of boundary objects should be seen as a goal of collaboration. An effective management concept that enables translation in different directions across the knowledge and institutional divide will allow what McKinley, Mone and Moon (1999) call interplay between novelty and continuity. The concepts can act as ‘provocative metaphors’ that trigger wide interest, yet at the same allowing different parties to connect to their own pre-existing schemas.

Third, boundary objects should enable collaborative parties *to learn about differences across boundaries* and appreciate interdependencies among diverse partners (Carlile, 2002). In other words, the role of boundary objects in fractionated trading zone is not only in translating knowledge across boundaries, but also in increasing mutual appreciation of diverse expertise and practices. This inevitably calls for deep respect for collaborative partners’ objectives and interests. Effective boundary objects support continuation of differences rather than their submergence.

This notion of continued differences highlights the importance of interactional expertise. Interactional experts are individuals capable of reducing discursive ambiguity without the need to homogenize the language used among collaborative partners (Galison, 1997; Kellogg, Orlikowski & Yates, 2006). For Collins (2004) interactional expertise represents a linguistic complement to the materiality of boundary objects. He argues that actors can develop the interactional expertise to collaborate across boundaries by immersing themselves in different linguistic cultures while retaining their base in their original home culture. Interactional expertise enables different constituencies to understand each other and communicate, without necessarily becoming assimilated into a unified culture or practice. Interactional experts need to understand enough about each others' worlds to foster collaboration, but they may not become direct contributors to the others' fields — at least, not in the initial stages of collaboration. In sum, for a successful fractionated trading zone, different communities must develop a cadre of members with interactional expertise.

Table 1 summarizes the three earlier vignettes of management innovations — portfolio planning, value innovation and participative strategizing — in the terms of fractionated trading zones introduced above. In all three cases, trading zones on the particular issues emerged from the exchanges between freestanding and heterogenous actors from distinct institutional domains: academia (A), business (B) and consulting (C). To take just the first, portfolio planning emerged from the interactions between academics at Harvard Business School and Boston University, strategic planners at General Electric, consultants at organizations such as the Boston Consulting Group and clients such as Mead. The success of portfolio planning matrices as a management innovation (45% adoption by the end of the 1970s) did not depend on a homogenization between these domains but continuing independence and exchange (for example the partnership between General Electric and the Harvard Business School through PIMS into the 1970s). Similar is true for both value innovation and participative strategizing, each the successful product of fractionated trading zones made up of heterogenous partners from academia, business and consulting. Across the three innovations, consultancies such as BCG and Gemini, business clients such as Mead and Philips, and academics — even academic economists such as Heflebower and Williamson — each had roles to play.

Table 1: Management Innovations as Products of Fractionated Trading Zones

<b>Management Innovation</b>	<b>Domains of Trading Zone Actors</b>	<b>Boundary Objects</b>	<b>Interactional Experts</b>
<i>Portfolio planning</i> (1961-1976)	<b>A:</b> Harvard Business School, Boston University <b>B:</b> General Electric, Mead Corporation <b>C:</b> Boston Consulting Group	BCG Matrix	Alan Zakon, Barry Hedley
<i>Value Innovation</i> (1990-2005)	<b>A:</b> INSEAD, University of Michigan <b>B:</b> Philips <b>C:</b> Gemini	Value Curve /Blue Ocean	Renée Mauborgne
<i>Participative Strategizing</i> (1996 - )	<b>A:</b> London Business School <b>B:</b> Shell/Nokia/IBM <b>C:</b> Strategos/IMP	Open Strategy	Gary Hamel, Stephan Friedrich von den Eichen

The fractionated trading zones that produced these innovations were all supported by boundary objects that both allowed interpretive flexibility and motivated continued collaboration and translation. Unlike in the physical sciences, these boundary objects were exclusively conceptual (the matrix, the value curve and ‘open’ strategy). In the first two cases at least, they are highly visual: the BCG matrix is often adorned with pictures of dog and cows, while the value curve graphically represents zones of competitive advantage and disadvantage. The boundary objects also use resonant language: cash cows, blue and red oceans and open versus closed strategy. In all three cases, they took time to crystalize: the term ‘blue ocean’ was discovered almost by accident at an academic conference a decade after the launch of the Philips Centurion project, while Hamel was practicing open strategy long before he substantially adopted the terminology (Hamel & Birkinshaw, 2021). However, these various boundary objects did permit flexibility, as for instance with the development by General Electric and Shell of their own versions of the BCG matrix. Moreover, they helped to motivate sustained collaboration: General Electric and the Harvard Business School continued to collaborate with PIMS, while value innovation was the platform for research projects at INSEAD in the early 2000s. The concept of ‘open strategy’ provides a provocative metaphor allowing a convergence of academic research on more transparent and inclusive modes of strategy-making, while providing a platform for consultants such as IMP to rebrand and develop their own experiments in participation.

The success of these fractionated trading zones also relied on the interactional expertise of a few key contributors. Typically, interactional experts promote mutual understanding and interaction while remaining distinct within their original domain (this is the role of consultants at the Boston Consulting Group’s thinktank, the Henderson Institute, for example). However, Table 1 highlights some innovative individuals who crossed institutional domains in order to develop their expertise and build their

boundary objects. For example, Alan Zakon was able to inform the BCG Matrix both with his academic knowledge of portfolio finance from Boston University and with his consulting skills (he would become CEO of the Boston Consulting Group in 1980). Renée Mauborgne combined her position at INSEAD with being the telegenic face of Blue Ocean Strategy. Gary Hamel has continued as a faculty member at London Business School while pursuing a high-profile career as consultant and public speaker. From these cases at least, innovators in fractionated trading zones are likely often to cross or at least bridge domains. For the leaders in management innovation, interactional expertise may require not a homogenization of distinct domains, but their transcendence.

#### **4. Policy implications**

We concur with Reeves and Whitaker (2021) on the need to accelerate management innovation. However, we warn against a radical homogenization of the distinct communities involved in management innovation: that may do more harm than good. Following Galison (1997), ‘disunification’ can be a strength in the production of management innovations. Here Galison’s concept of fractionated trading zones can make two important contributions. First, the concept suggests conditions for productive collaboration without sacrificing the distinct practices and cultures that makes collaborating partners individually effective. Second, the fractionated trading zones suggests a more balanced responsibility in collaborative knowledge production, with the relevance of output constructively negotiated among respectful partners. Successful collaboration in fractionated trading zones will not only require engaged academics, but also engaged businesspeople and consultants. Engaged scholarship goes two ways.

In particular, we urge the concept of fractionated trading zones as a means of making sense of how academics, businesspeople and consultants already work together in developing radically-new management knowledge. As illustrated by our cases of portfolio management, value innovation and participative strategizing, the three communities can be highly effective innovators when working as distinct but equal partners. Across these three cases, there is no simple pattern of either academics or practitioners taking the lead in innovation. Innovations came from a complex zig-zag between academics, businesspeople and consultants, each playing different roles. We argue therefore that stakeholders should embrace and defend the cultural and linguistic heterogeneity of management’s fractionated trading zones.

The differentiation of fractionated trading zones from subversive or inter-language trading zones provides a sharper lens on how far changes in academic practices and culture should go. The principal advocate of engaged scholarship, Andrew Van de Ven, himself underlines the importance of the different kinds of knowledge that scholars and practitioners can each bring to problems (Van de Ven, 2007). These differences need protection. Productive collaboration across the academic-practitioner

divide will not be achieved by the kind of one-sided subordination of academia to corporate logics described by the notion of subversive trading zones. Engaged scholarship is a step in the right direction, but could be pressed too far. Drnevich et al (2020) propose that doctoral training should downplay disciplinary specialization in favor of team work on real-world problems; that hiring and tenure decisions should draw more on practitioner evaluations of contributions to managerial practice and less on top journal article counts; and even that top journals themselves should use practitioner reviewers in selecting articles for publication. These proposals are each inspired by good intentions, but if imposed too heavy-handedly would subvert the distinctive strengths of academic research. Subversive trading zones would smother management innovation, not serve it.

There is an important role for the lighter-touch inter-language trading zones proposed by Reeves and Whitaker (2021), with practitioners and academics drawing on a common language to share ideas in fora such as the *Harvard Business Review* or practically-orientated activities at the Strategic Management Society. More can be done in these respects. However, inter-language trading zones introduce costs for academic research that need to be carefully allocated. As McKelvey (2006) has observed, such inter-language fora as the *Harvard Business Review* are clumsy media for the initial development of significant and novel ideas. There is no need for all researchers to acquire the language of the *Harvard Business Review*, and, as the example of Kim demonstrates, even those who do engage with such popular outlets can learn to do so fairly late in their careers. Inter-language trading zones may generally be best for dissemination and development rather than origination.

After all, it is fractionation, rather than subversive or linguistic homogenization, that produced the BCG matrix, the strategy canvas and the participative approach of open strategy. We argue therefore that increased management innovation is best fostered through fractionated trading zones where homogenization is not a precondition for engagement and heterogeneity is respected as crucial to novelty. Fractionated trading zones produce innovation through zig-zag processes in which academics, business and consulting bounce-off each other, exchanging something each time while still retaining their independence. These fractionated trading zones happen when consultants look for new ideas in academia, clients make challenging demands on consultants, and academics address business through research, executive education or their own consulting. Although our vignettes do suggest that such fractionated trading zones already arise in our field, we accept that they are still too unusual. If we are to accelerate the pace of management innovation, we will need more. The challenge for academics, businesspeople and consultants is to join forces in the systematic and purposeful creation of fractionated trading zones, making them a norm for engagement. We need to move from the current situation where such trading zones are mostly the result of ad hoc initiatives led by exceptional individuals such as Zakon, Hamel or Kim. Instead, the capability to collaborate productively in fractionated trading zones should become a central pillar of organizations from all three domains. Business schools can of course create bridges between divergent worlds through structures such as executive education, research centers

and labs, conferences and collaborative research projects. However, the concept of fractionated trading zones highlights particularly the important roles of boundary objects and interactional expertise in effective collaboration. Crucially, the skills of boundary object development and cross-boundary interaction can be nurtured selectively, without wholesale transformation.

With regard to boundary objects, both visual and metaphorical skills will be important, as illustrated by the visuality of the BCG matrix and the strategy canvas on the one hand and the provocative metaphors of ‘blue oceans’ and ‘open strategy’ on the other. Key concepts in academic strategy research can suffer in their translation into managerial practice because of their obscure and hard-to-articulate characteristics. Thus the academic theory of dynamic capabilities has achieved limited currency in practice (Collis, Anand & Field, 2021) and might be more successful if it were able to develop equivalent boundary objects to those associated with the comparable notion of ‘core competences’ (Hamel & Prahalad, 1990), with its attractive alliteration and the accessible metaphor of competences as the roots feeding the tree of the corporation. Open strategy too might achieve greater practitioner reach if it had similar visual boundary objects to those of the BCG matrix or blue ocean strategy’s value curves. The task then is to cultivate the visual and metaphorical skills that can translate academic concepts into managerially-accessible boundary objects. This does not involve fundamental change, for example, the transformation of doctoral education, the modification of hiring or tenure criteria, or the introduction of practitioners into academic journal publication decisions. The production of such boundary objects builds on skills that are widely-used in business school classrooms already and which can be developed in partnership with consultants or the editors of practitioner journals. The capacity to produce boundary objects for collaboration within fractionated trading zones can thus be treated as an overlay that comes after doctoral education and early career appointments; indeed, it is not even something that all researchers will need to acquire.

The development and legitimization of interactional experts is necessary too. Here business schools have a responsibility in permitting individuals such as Hamel, Kim and von den Eichen to contribute through consulting to the world of practice, while at the same retaining active roles in academia. Business schools can advance the development of more interactional expertise by relaxing some constraints on consulting by academics and by being more receptive to practitioner recruits into academia. Again, however, this need not involve fundamental change in business schools. It requires only the cultivation of a particular cadre of mature academics, made up either of those who have won their spurs in pure research (e.g. Kim) or of those who wish to bring their earlier business experience inside the walls of the business school (e.g. Hedley). Again, the main structures of academia do not need wholly to be subverted in order to produce these specialist experts in interaction.

At the same time, businesses and consultancies should play their parts. Again, the shift required is a matter of degree. The major consultancies already have significant research outfits, for example BCG’s Henderson Institute and the McKinsey Global Institute. Of course, such consultancies can invest more

in research. As they already do quite frequently in Europe, these consultancies can sponsor doctoral students at leading business schools and facilitate students' interaction with their professional staffs and even their clients. Existing sabbatical schemes for established consultants could make more use of visiting positions at business schools and senior consultants could take responsibility for developing partnerships with research groups at local institutions. Businesses too can do more to encourage research. Faced by the increased commodification of standard business knowledge, it will often be in businesses' own interest to select their executive education providers on the basis of research-led differentiation. Moreover, allowing researchers deep into their organizations, and fostering long-term research relationships, will only improve the capacity of executive education providers to provide sensitive and tailor-made insights to executives.

Fractionated trading zones based on respectful partnerships between academics and practitioners will have further benefits for the long-run promotion of management innovation. Disrespecting the values, culture and practices of academia does not encourage the reciprocal engagement of practitioners with business school research. Businesspeople and consultants will engage more positively with an academic community that is confident in its fundamental strengths, even as it responds to acknowledged limitations. Likewise, research-funding bodies, potential collaborators from adjacent disciplines, and next-generation scholars will be attracted to business schools that believe in themselves. Adjustments there should be, but not too much apology. Respectful partnerships start from self-respect.

In sum, accelerating the pace of innovation is a shared responsibility of academia, business and consulting, and does not require the transformation of any of them. Existing structures and practices produced portfolio management, the strategy canvas and participative strategizing. Business school doctoral programmes have generated other widely-adopted ideas such as disruptive innovation (Christensen, 1997) and the business model canvas (Osterwalder & Pigneur, 2010). We should guard against damaging the sources of innovation by imposing upon business schools too high a standard. In business generally, most innovations fail, or at best achieve incremental improvements; there are few Thomas Edisons or Elon Musks. The same modest expectations should be set for management innovation. We propose therefore the cautious cultivation of more fractionated trading zones, built on respectful partnerships between the distinct cultures and practices of academia, business and consulting. Gaps can be bridged by the selective cultivation of interactional expertise and boundary object creation. Following Galison (1997), it is in harnessing rather than suppressing diversity that management innovation will flourish best.

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