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CAN VUCA HELP US GENERATE NEW THEORY WITHIN INTERNATIONAL BUSINESS?

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ABSTRACT

The acronym and neologism "VUCA" is employed by management and some scholars to denote the unpredictability of the modern world and its impact for business. The VUCA approach suggests that a rational firm's response should be to: protect against volatility by engineering-in redundancy and slack, gather information to reduce uncertainty, develop expertise to make complexity computable, and learn heuristically to reduce ambiguity. We combine a critical perspective on the VUCA approach with the global factory model, popularly used to describe the flexibility sought by advanced economy MNEs within the global value chain. Both VUCA and the global factory would seem to account less well for the expansion of EMNEs abroad, particularly the preference for equity-based control and inflexibility when seeking strategic assets. Also, both approaches fail to incorporate behavioural principles towards risk. Using International Business theory, we propose a research agenda that may help to make VUCA more tractable, the global factory more useful, and the internationalization of EMNEs more comprehensible.

Keywords: VUCA, international business, global factory, emerging market MNEs

INTRODUCTION

The term "volatility, uncertainty, complexity, and ambiguity" or VUCA, has its origins in the US military, which has used the term since the late 1980s to describe the geopolitical environment created by the fall of the iron curtain and the emergence of a more fragmented landscape with unclear alliances and allegiances (Millar, Groth, & Mahon, 2018; U.S. Army Heritage and Education Center, 2018). It has since been adopted by corporate executives, management consultants and some scholars in an attempt to summarise in one word the arguably unprecedented levels of turbulence that the business world is experiencing (Millar, Groth, & Mahon, 2018). Sources of turbulence include technological change (Boston Consulting Group, 2012; Kaivo-ija & Lauraeus, 2018), the development of emerging markets and their new middle-class (Jayakumar, 2013), Generation Z (Francis & Hoefel, 2018) and the rise of emerging market multinational enterprises (EMNEs) (Frynas, Mol, & Mellahi, 2018) among others. It is often argued by managers that "VUCA conditions render useless any efforts to understand the future and to plan responses" (Bennett & Lemoine, 2014a: 311). There is a natural tension, indeed a conflict, within the idea that VUCA can be useful for strategizing, but Bennett & Lemoine (2014a, b) suggest that it can, when analysed systematically according to the nature of each of its components. What is clear is that an application of theory is required. At present, the VUCA approach provides some clues as to how firms facing VUCA should reconfigure, both internally and externally, but without reference to a theoretical framework to guide decision making. This presents an opportunity for the development of new theory.

An appropriate international business response to VUCA would be to develop new ways of controlling and mitigating, even exploiting, this new turbulence. Here we turn to the global factory model, which might qualify for the designation "paradigm". It offers a typical model of production based on a world view of international business that can accommodate a range of theories and methodologies. And it can be applied to address a particular aspect of several scientific areas of enquiry within international business. *Prima facie* it would seem to be an excellent organising framework with which to handle the modern reality of international business unpredictability faced by managers. But, as it stands, the global factory model does not directly confront the dimensions of VUCA, neither critically nor in terms of using them to make choices. And the global factory model itself is more a faithful description than a predictive theory of business behaviour in the international domain. This point is made by Jenny Hillemann and Alain Verbeke (Hillemann & Verbeke, 2014). These authors suggest that the insertion of internalization theory into the global factory approach can yield greater predictive ability. However, internalization theory itself is also better at ex post rationalization than it is at prediction (Buckley, 1983; Buckley & Casson, 2009). Thus, VUCA and the global factory have one thing in common – they each raise more questions than they answer, which is an excellent basis for theorizing and for academic enquiry. Putting decision making principles at the centre of each offers a fresh research agenda, capable of contributing to the big research questions faction the domain of International Business.

VUCA AND THE GLOBAL FACTORY MODEL

The new international business environment is felt by many in the management world to need this new shorthand descriptor of disruption – VUCA – to better capture the impact of unpredictability upon firms and their managers. The articles by Bennett and Lemoine (2014a, b) kickstarted scholarly awareness of the current usage of the term "VUCA" in management and highlighted the human need to socially construct new ways of comprehending and strategizing in the international environment today. Their articles are written in a way that will appeal to as wide a number of managers as possible. Rather like an entertainer will try to resonate with his or her audience, it would be difficult for anyone to say they feel VUCA is on the decline. The feeling of apprehension is socially constructed, and anyone not feeling under threat will be concerned that they must be missing something. To evaluate how far VUCA can help us generate new theory within IB, we will look critically at the concept, and what it might mean for theoretical development within matrix of the global factory.

In attempting to conceptualise VUCA for a managerial audience, Bennett & Lemoine (2014b) suggested that VUCA can be located alongside two dimensions and that each of its components signifies the absence of some particular knowledge but, at the same time, the availability of some other knowledge. The first dimension asks, "How much do you know about the situation?" This dimension is focussed on the internal processes of knowledge acquisition, the sense making of this knowledge, the knowledge stock about a particular event the firm has and how it utilises its knowledge. The second dimension is concerned with "How well can you predict the results of your actions?" Bennett & Lemoine (2014a) contend, however, that while they present VUCA as a continuum (2014b) that VUCA is a composite term that addresses separate and unique concepts. Yet, they are interconnected and can reinforce each other (Millar, Groth, & Mahon, 2018). Firms that survive and strive in such an

environment are arguably more agile and flexible (Doheny et al., 2012; Aghina et al., 2017); characteristics that align well with the idea of the global factory as we will discuss below.

The two dimensions are used to locate volatility, uncertainty, complexity, and ambiguity. Unpredictability may be the result of change that is expected but its magnitude and periodicity are unknown, i.e., volatility. However, what is known, is that change will reverse, at some point. Thus Bennett & Lemoine (2014a) suggest investing in flexibility through building in slack (increasing inventory and stockpiling resources) to achieve agility – the ability to move fast and easily between alternatives – as the rational business responses to volatility. Uncertainty, however, results from the absence of sufficient information to decide between alternatives, which themselves might not be known. The recommended response to uncertainty is investment in information gathering, both inside and outside the firm. Even when there is simplicity in the principle, e.g., a tariff raises a barrier to exporting, complexity can lead to unpredictability. Complexity may arise from erection of multiple tariffs and regulations to be complied with simultaneously. This might arise inside the supply chains for products crossing national boundaries multiple times at different stages of manufacture, produced by multiple production units. Thus, while information is in abundance, the firm may find the outcome to be not computable with its current resources. Here, Bennett & Lemoine (2014a) recommend reconfiguring the firm through investment in specialised resources to interpret and manage the available information. They give the examples of establishing dedicated departments to gain coherence, such as finance, human resources, or geographically-based area structures. A lack of understanding of the relationship between an event (a cause) and an outcome that is yet to be determined is classified as ambiguity by Bennett & Lemoine (2014a, b). Thus, the meaning of some event, insofar as it affects the firm, cannot be determined as there is no relevant information that can be gathered. Thus, the authors recommend investment in generating new information through experimentation as the rational business strategy.

Each of the components of VUCA require investment, in one form or another to protect the firm. Bennett & Lemoine (2014a) maintain that the appropriateness of the investment(s) to the problem(s) determines long run performance. It follows that investment in the wrong strategy to confront VUCA may be worse than no strategic investment. While more than one component of VUCA may be present at any one time, a blunderbuss approach may also be worse than inaction.

A problem lies within Bennett and Lemoine's (2014a, b) aggregative approach to the treatment of unpredictability as risk. The conventional theory of risk suggests that as the future is unpredictable, rational actors rely on the calculation of expected values and use the "spread" of the potential outcomes to compare "risk" (Janney & Dess, 2006). This should be distinguished from "risk as frequency", which concerns the deviation from expectation based on a well-defined probability distribution and from "risk as propensity", which describes a situation where subjective assessment prevails over historical inference due to scant empirical data. Yet, Bennett and Lemoine (2014a) describe a volatile environment as unpredictable while at the same time suggesting (2014b) that volatility is characterised by higher levels of knowledge and predictable behavioural outcomes. This description and characterisation by the authors resonates with Knight's (1921) perspective on risk within normal ranges as measurable probabilities. Thus, the conventional theory of uncertainty focuses on the extent to which individuals perceive future environmental states to be unpredictable (Milliken,

1987). However, in the case of unknowable probabilities and outcome states (Knight, 1921) we have to come down to the individual level, where "uncertainty as degree of confidence" refers to the sense of doubt around the risk estimates, e.g., arising from non-stationary probability distribution and then to "uncertainty as opportunity creation" associated with the unknowable future to be enacted by the decision makers. Hence, locating "uncertainty" in the high knowledge quadrant (Bennett and Lemoine, 2014a, b) does not square with how extreme or Knightian uncertainty is commonly understood. The conceptual flaws in adapting the VUCA approach to a 2x2 matrix are symptomatic of a problem in the treatment of uncertainty and risk. Thus, a coherent treatment of entrepreneurial activity to include effectual decision making lies outside their approach. This is a significant omission, particularly in the context of a long run theory of the global factory. Knightian uncertainty may be important for entrepreneurial internationalization (Sarasvathy, 2001; Sarasvathy, Kumar, York & Bhagavatula, 2014) to explain the creation of the global factory, and go beyond simply describing global factories that already exist. More behavioral approaches, which we touch on below, are well recognized to be crucial to International Business theory.

Leaving aside the conceptual problems in Bennett and Lemoine's (2014a, b) approach, the components of VUCA have been ever present in business (Skapinker, 2018) and most starkly so within an international business environment. The multinational enterprise (MNE) operates across national and often cultural borders with their distinct institutional set-ups. These environments create situations that exhibit volatility, uncertainty, complexity, and ambiguity to different degrees and can be related to international business phenomena and theory (see Figure 1). Early internationalizers are less familiar with overseas market structures and demands and lack the experience to predict with confidence the outcome of their internationalization attempts (Johansson & Vahlne, 1977). Mature internationalizers such as global factories control and orchestrate global supply networks (Buckley & Strange, 2015). The global factory's most recent iteration (Buckley, 2012) portrays it as highly responsive to known costs, that is, as adjusting in an agile manner to these costs. We could say that the global factory is a configuration to convert unpredictability into risk by adopting a flexible structure as a matter of long run strategy. However, there is no guidance as to exactly how decisions are made about global factory configuration, neither in terms of the nature of the unpredictability involved, nor of the managerial decisions about this unpredictability. We are simply told that, when cost information becomes available, the firm adjusts with alacrity, precisely because of the global factory's pre-eminent selling point – its flexibility.

If the very configuration of the global factory is a smart design to mitigate risk, research is needed to investigate how decisions on configuration are made, and why and how these might differ between EMNEs and advanced economy MNEs.

INSERT FIGURE 1 ABOUT HERE

HOW VUCA MIGHT BE EXTENDED TO THE GLOBAL FACTORY: A FIRST APPROXIMATION

What the global factory model does well is to emphasise the logic of agile configuration, be it between firms (Buckley & Strange, 2015), or between the firm and markets (Buckley &

Prashantham, 2016). However, the global factory model is more muted when it comes to within-firm configuration. That is not to say that internal organization is ignored (Andersson, Buckley & Dellestrand, 2015). But what we do not yet have is a clear view of how the internal organization of the MNE is different *because* the firm is following the global factory model. We do not know when the organization of the MNE will be more global-factory-like, and when in will not. In particular, does the global factory seem to fit EMNEs as opposed to MNEs? This an opportunity for theorization.

The VUCA approach has little international business dimension of any substance and, as with the global factory model, requires a greater infusion of theory, such as internalization theory to give it determinacy (Hillemann & Verbeke, 2014). Yet, each of the components of VUCA could have some application to the configuration of the global factory. With regard to volatility, firms build redundancy into the global factory. This would mean maintaining a larger diversity of suppliers or outlets to ensure agility, maintain internal slack, build up inventory when volatility is increasing or anticipated, in the expectation that stocks can be run down at a later date. This may involve building internal capacity, external capacity, or both, in order to optimise agility. The ratio of internal to external redundancy is likely to depend on the efficiency of markets, the functioning of which is supported by the relevant institutions across different locations. The location of redundancy will depend on how best to meet the anticipated spatial signature of volatility. With respect to uncertainty, firms gain knowledge by locating close to sources of knowledge, e.g., dynamic markets, R&D centres, networking and partnership building. Investment to gather internal data is also a rational strategy. The boundaries of the firm and the market will depend on the most transactionally efficient route. Location internationally will be largely determined by the origin of the relevant knowledge which is likely to be diffused within the internal market of the focal firm. Firms facing complexity invest in specialist departments to develop expertise to make complexity computable. There is the possibility, in a global factory setting, of the outsourcing, offshoring, or both, of activities that can be done more efficiently or effectively outside the firm. And finally, firms have an incentive in conditions of ambiguity, to invest in experimentation to establish cause-effect relationships, i.e., to learn heuristically to reduce ambiguity. In a global factory setting this is likely to lead to experimentation in international markets that are the leaders in terms of trends. Thus, locating learning activities in the most competitive markets, either directly owned, partially owned or through experimentation with suppliers.

Given that it is a principle of the global factory that operational internalization is less important than knowledge internalization, an especially promising area of research is to investigate the internal knowledge management of the firm in conditions of external volatility, or shock (unpredictability) (Buckley & Carter, 1999). Denoting this as "primary uncertainty" the authors argue that sources of volatility – exogenous shocks, but also internal change –are rightly the matter for specialist entrepreneurial members of the firm to deal with using their judgement. Their role is to identify and plan for primary sources of shock to the firm. A stylized account is that sources of uncertainty external to the firm are monitored and internal developments are the responsibility of potentially numerous key managers within the firm. This internal division of labour itself creates secondary uncertainty, which is the risk that individual managers will fail to share and integrate knowledge optimally. The entrepreneurial role within the firm is to synthesise this information. This is a role which may

be incorporated into boards of directors, cross-functional or cross-national teams, committees or strategic planning groups (Buckley & Carter, 1999). Tertiary uncertainty, internal to the firm, arises from opportunism within managers, causing them to not reveal the knowledge they hold, or to knowingly disseminate incorrect or misleading information. The authors presciently point out that "knowledge management, therefore, provides a key link between a firm's global competitiveness and the national attractiveness of particular locations and of the national ownership of successful global firms." (Buckley & Carter, 1999: 80). The authors identify the "knowledge management" problem as "quantitatively more important" than primary or tertiary uncertainty. This is an observation which has potential for research within the global factory model, suitably enlivened by ideas from the VUCA approach.

Given that VUCA presents different types of knowledge and deficiencies in knowledge, we propose that the interface between the flows of knowledge within the global factory analysed using a knowledge management framework could yield important insights into how emerging economy multinationals not only handle knowledge, but also may shed light on their internationalization strategies beyond current theoretical accounts.

HOW VUCA MIGHT ACT AS A STIMULUS TO THE THEORIZATION OF MNE BEHAVIOR

A stylized explanation of the global factory model is that it has evolved out of a narrative on advanced economy multinationals' responses to competitive and location cost pressures, dating mainly from the 1960s. Export platform FDI, offshore outsourcing, and non-equity modes of international business have demanded theoretical explanations of empirical reality (UNCTAD, 2011, 2013). International business theory has been able to offer internalization theory applied to the MNE (Buckley & Casson, 1976) and the eclectic paradigm (Dunning, 1977; Dunning & Lundan, 2008) amongst other frameworks, to explain the changing ownership and location of production. But these primarily address the make or buy decision of firms, that is, the extent of the firm versus the market, networking partnerships, and so on. When it comes to the location of economic activity, there is not much difference between what would be expected under common ownership or dispersed ownership. Might it be different with the global factory model? Technological progress, particularly digitization, is emphasized within VUCA as a disrupter. It is this sort of progress that enables the fine-slicing of economic activities. Thus, the primacy of the lead or focal firm – the MNE – as an orchestrator of geographically dispersed activities, is under continual threat from technological change, as the underpinning technology diffuses.

Developing the theme that VUCA does not alight only on advanced economy firms and multinationals, a growing body of work on EMNEs has paid increasing attention to the question of EMNEs' appetite for risk in their internationalisation strategies. To underline the default argument, it could be claimed that the discourse on VUCA is merely pandering to an audience of advanced economy executives, that is, those experiencing secular decline in the fortune of their businesses. In this regard, Hillemann & Verbeke 2014: 31) note that the developing economies' share of world GDP grew from 22.2 percent to 35.8 percent between 1982 and 2012, at the expense of the transition and developed economies, whose shares decreased from 8.4 percent to 3.9 percent and from 69.4 percent to 60.4 percent, respectively.

Luo & Bu (2017) suggest that EMNEs exhibiting the greatest propensity for high risk taking are those that have the highest expected marginal returns to international expansion. Starting with the premise that there is a basic asymmetry between EMNEs and advanced economy MNEs, that is, that EMNEs are latecomers and have more to gain than to lose by risk-taking behaviour, the authors find that those EMNEs for which strategic asset seeking intent, financial abundance and inward internationalisation is greatest, will exhibit the greatest appetite for risk taking internationally, via high commitment modes of expansion, and expansion into more challenging geographical markets. What is interesting for our present discussion is that the authors note EMNEs prefer using high control forms of international business to enter new markets, and they internationalize at a much faster pace than their advanced economy counterparts (Guillén & García-Canal, 2009; Luo & Bu, 2017; Ramamurti, 2012). That is, there is very little evidence of the flexibility of the global factory in their mode of international expansion. Luo & Bu's (2017) analysis of survey data covering 200 Chinese MNEs supports the hypothesis that strategic asset seeking promotes higher risk FDI. The authors attribute this to the need for equity-based control. However, there may be one further asymmetry at work. EMNEs most likely already have a low-cost production base within their home economy, and therefore are not looking to reduce costs when they expand into overseas markets. Unlike advanced economy MNEs, motivated by reducing cost through diversifying production into low-cost locations, EMNEs do not face this imperative. Putting this into a global factory wrapping suggests that where the motive for expansion into advanced economies is strategic asset seeking, the global factory model would appear to have little to offer in terms of flexibility – when the outright acquisition of industrial property, such as technology, is being sought.

RE-THEORISING USING THE EVIDENCE FROM EMNES

Fang & Chimenson (2017) and Frynas, Mol & Mellahi (2018) set out to dismantle the accusation that VUCA really only captures the pain felt by advanced economy firms. They take the examples of Geely and Haier, respectively, arguing that emerging market firms also experience VUCA. Frynas et al. (2018: 71) argue that "Fluid market conditions, the impact of new technologies on organizational structures, and the unresolved future of international trade rules, create uncertainty". They add that as these firms become EMNEs, foreign investments, straddling developed countries, necessarily mean operating in more complex environments, plus rising ambiguity as their existing management practices are incompatible with their new host countries. Frynas et al.'s 9(2018) article focuses on Haier's journey toward "Rendanheyi", for which they suggest the translation "integration of people and goals" conveys the gist. They also offer the alternative, and very Chinese sounding translation, "win-win model of individual-goal combination." Fang & Chimenson (2017) consider the case of Geely's acquisition of Volvo and the unexpectedly adverse public reception that Geely received in Sweden.

Frynas et al. (2018) document the transition of Haier from a conventional internally hierarchical organisational structure to a highly responsive, diversified online-based entrepreneurial conglomerate organized as entirely autonomous micro-enterprises called "xiaowei qiye", abbreviated as "xiaowei". A xiaowei is not obliged to use internal suppliers, and is encouraged to secure external partners and obtain partial external funding – including

equity – for projects and remuneration based on xiaowei performance (Frynas, Mol & Mellahi, 2018). The authors nevertheless note that Haier has been largely unable to roll out Rendanheyi to its global subsidiaries. In the USA, larger micro-divisions called "platforms" substitute for xiaowei, and—in contrast to the xiaowei in China— in the USA employees are members of several platforms (Frynas, Mol & Mellahi, 2018). They infer the existence of some incompatibility between the business model of the parent firm and its host environment.

Some insight into what this is perceived to be, is presented by Fang & Chimenson (2017) who analyse the media coverage in Sweden after Geely announced its intention to acquire Volvo from Ford. The authors' assessment is representative of similar coverage and receptions that Chinese MNEs have received in host countries elsewhere, especially when they pursue their preferred entry mode of acquisition. Chinese overseas acquisitions are portrayed as coordinated action orchestrated by the Chinese government. It is commonly seen as irrelevant whether or not the Chinese acquirer is privately or state owned, because MNEs like Geely are not private in the western sense (Fang & Chimenson, 2017). According to Fang & Chimenson (2017), Geely endured five years of negative Swedish press that mocked the senior managers of Geely and questioned the competence and strategic positioning of the company. Such hostile reception, or the perceived threat of being received with such hostility, demonstrates that EMNEs can face intense unpredictability over the successful conclusion of a foreign investment project, that significantly increases the complexities of executing and managing a foreign acquisition.

The global factory focuses largely on the external versus internal configuration of firms in the international business domain. It does not focus on internal reconfiguration, either as an alternative to the external, or how the choice of internal versus external might be made – dynamically – when internal organizational innovation is an option. Does Haier's organizational innovation make sense from a VUCA perspective? And what can we learn from Geely's response to the negative reception about how (E)MNEs deal with populism? If we return to the military origins of the term, then we can see some parallels that may form the beginnings of theorization. It seems reasonable that the behavioural dimension – the social construction by firms – of how people feel and how people react to challenges, can be improved if increased control is transferred to them. VUCA has opened up our eyes to the importance of the human dimension, its potential relevance to international knowledge management, and the absence, or presence of control at the level impacted by the elements of VUCA.

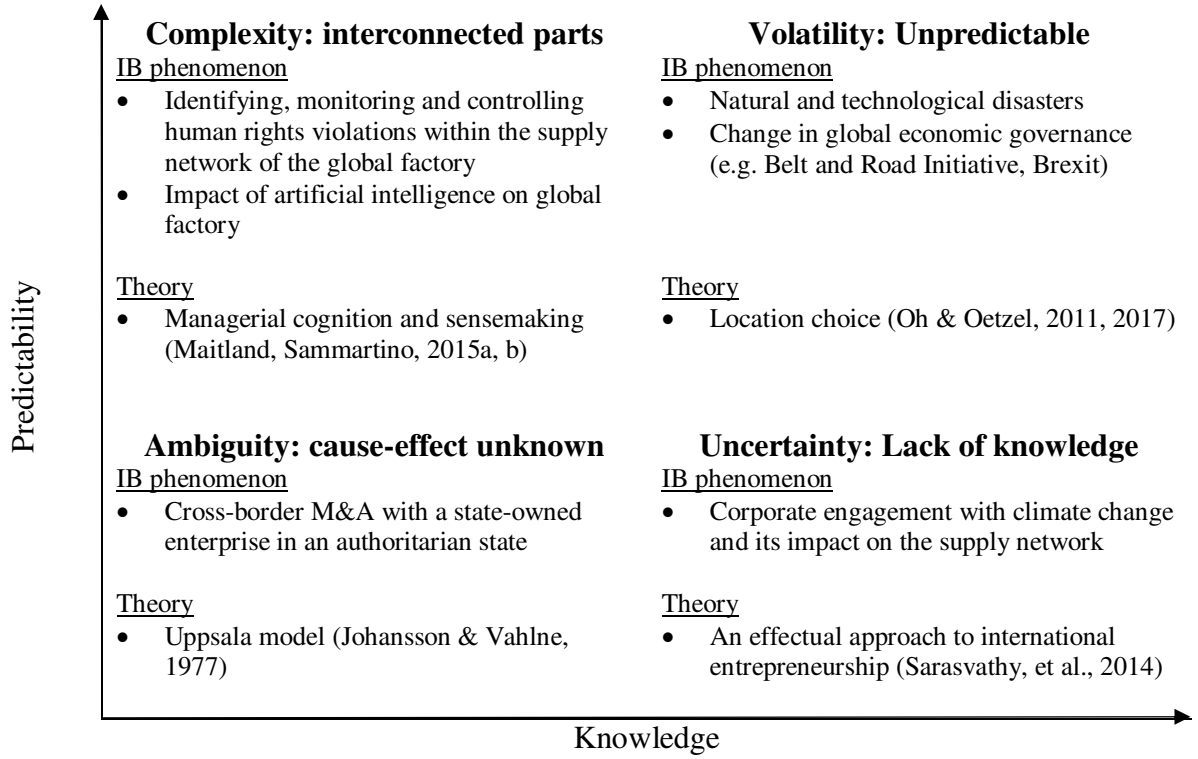
In parallel fashion to explaining the assertions against Geely, Frynas et al. (2018) argue that Haier is not a pure privately owned enterprise. The Haier Group is under the partial ownership of the state, the share of which is not publicly known. Thus, while the firm is technically a "collective" company owned by its employees, the hand of the state may dominate de facto in terms of control. Thus, the "entirely autonomous" xiaowei might in fact be subject to control of an unknown degree. Whether the xiaowei could have developed at all without this conjectured control is worthy of theorization. It may be relevant to start with the authors' own observation that Haier has been largely unable to roll out Rendanheyi to its global subsidiaries, particularly in the USA. State ownership, or involvement below the radar, may help explain the initial growth and international expansion of EMNEs but, beyond that, such affiliation may be a source of unpredictability for EMNEs. These case studies are the

first that we can identify that point to the suggestion that VUCA might be different for EMNEs, and to a potential theoretical avenue for the future.

CONCLUSION

The value of VUCA for international business theorizing is to stimulate a discussion that might not otherwise have taken place. In trying to map VUCA to existing models of international business – and we have taken the global factory as the workhorse for this purpose – it is evident that our existing models are too much located within their own comfort zone. They describe the logic of the MNE rather than explain how internationalisation and international operations actually feels to managers. VUCA is, if nothing else, an advocate for the perspective of managers that is too often subordinated within the model building of mainstream International Business researchers. Building in unpredictability is a step forward for theorising, but the next step is to incorporate the managerial response to this unpredictability. Yet more important for future development is to work in the entrepreneurial response to unpredictability. VUCA takes us so far, but it is not a model of international operations. We have suggested that the incidence of VUCA may be different for EMNEs compared with MNEs from advanced economies. We have also suggested that the global factory model has inclined too much to explain the status quo from the point of view of advanced economy multinationals, rather than from the point of view of the emerging economies. In an attempt to reconcile VUCA-thinking, the global factory and the rise of EMNEs, we have been able to identify some potentially promising research directions that may help us to generate new theory within International Business. Moving the manager, the state and society more into the picture, may just be the stimulus that the subject needs.

Figure 1. VUCA in the international business environment



Adapted from Bennett & Lemoine (2014a, b)

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