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Information technology and marketing performance within international market-entry alliances: A review and an integrated conceptual framework

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# Information technology and marketing performance within international market-entry alliances

IT and marketing performance

5

## A review and an integrated conceptual framework

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### Abstract

**Purpose** – The purpose of this paper is to engage in a comprehensive review of the research on information technology (IT)-mediated international market-entry alliances.

**Design/methodology/approach** – This paper provides a theory-informed conceptual framework of IT-enabled cross-border interfirm relationships and performance outcomes. It integrates perspectives of resource-based view (RBV) and transaction cost economics (TCE) to argue that the establishment of interfirm IT capabilities enhances the marketing performance of the foreign partner in the host location by improving interfirm relationship governance. Furthermore, IT-related risks and contextual restrictions are identified as important moderators.

**Findings** – Conceptualisations of IT capabilities, IT-enhanced interfirm governance, and IT-led marketing performance improvement are suggested. Drawing on RBV and TCE, IT resources, related human resources, and IT integration between partner firms in combination enhances the ability of firms to manage the relationship more effectively through shared control, interfirm coordination, cross-firm formalisation, and hybrid centralisation. These benefits then bring about better upstream and downstream marketing performance in the host location. Additionally, IT capabilities help to mitigate possible contextual limitations and risks.

**Research limitations/implications** – The paper offers a number of theory- and literature-informed research propositions which can be empirically tested in future studies.

**Practical implications** – Top managers of firms currently in or planning to enter international alliances for market entry should carefully consider effective development of interfirm IT capabilities in terms of readiness of hardware and software, human resources, and organisational resources.

**Originality/value** – The paper provides an integrated framework and propositions which contribute to limited understanding and appreciation of IT value in international market-entry alliances.

**Keywords** Information technology, Entry modes, Cross-border alliance, Marketing performance

**Paper type** Conceptual paper

### 1. Introduction

During the past two decades, the international business sphere has witnessed dramatically increasing growth in cross-border collaborations in the forms of strategic alliances, joint ventures, and merger and acquisitions (Ahammad *et al.*, 2012; Ahammad, Tarba, Liu and



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Glaister, 2016; Ahammad, Tarba, Liu, Glaister and Cooper, 2016; Basuil and Datta, 2015; Chiao *et al.*, 2010; Czinkota *et al.*, 2009; Di Guardo *et al.*, 2016; Dutta *et al.*, 2016; Gaffney *et al.*, 2016; Rao-Nicholson *et al.*, 2016; Sinkovics *et al.*, 2015; Whitelock, 2002; Zheng *et al.*, 2016). Marketing practices and performance in this context have received growing recognition as a key measure of overall effectiveness of the collaboration (Ahammad, Tarba, Liu and Glaister, 2016; Burgel and Murray, 2000; Dan and Zondag, 2016; Eng and Ozdemir, 2014; Huang and Brass, 2016; Sinkovics *et al.*, 2015; Vrontis *et al.*, 2009). Positive marketing performance in the host location is considered crucial for foreign investor firms due to the widely recognised contrast between the amount of capital involved and the high rate of failure (Gomes *et al.*, 2011; Weber *et al.*, 2011). In spite of the risks involved, cross-border collaboration continues to grow in popularity. A major cause of this trend is globalisation. Increasing international competition requires firms to seek multiple channels for market growth as heavy reliance on domestic markets could no longer be sustainable (Bartlett and Ghoshal, 2002; Campos *et al.*, 2016; Yu, 2011; Murmann *et al.*, 2015). Studies on collaborative entry modes have long focussed on the aspect of performance (Bleeke and Ernst, 1990; Larimo *et al.*, 2016; Merchant, 2014; Pak and Park, 2004; Perkins *et al.*, 2014), however, literature on how it can be successful in the international context whereby culture difference is prominent remains fragmented (Almor *et al.*, 2014; Gomes *et al.*, 2016; Junni *et al.*, 2015; Niesten and Jolink, 2015). Both strategic alliances and joint ventures across borders have been managerially challenging for firms (Aklamanu *et al.*, 2016; Junni *et al.*, 2015). The investment capital and time devoted to any alliance are considerable; hence, success becomes an inevitable objective. To shed light on ways that effective alliances can be achieved, our paper introduces the role of information technology (IT). In spite of IT being a necessity for today's business operations (Mabey and Zhao, 2016), so far research on the role of IT in collaborative entry modes has been limited and should be given much more recognition. Limited IT research has focussed on the facilitation of cross-border alliances. Specifically, it is noted that IT has contributed to the establishment and improvement of international market-entry alliances through enhancing communication, information exchange, and knowledge transfer between partner firms (Tafti *et al.*, 2013). For example, Tesco successfully tapped into Thailand by forming joint venture supermarkets with Thai company Lotus which has extensive and strong upstream and downstream network relationships locally, making marketing practices much less difficult for Tesco through IT alignment with Lotus in local supply and distribution operations (Shannon, 2014; Tafti *et al.*, 2013).

Despite the prominent use of IT, both researchers and practitioners have had deep-rooted doubts about the promising contribution of IT on company performance. Specifically, as Jean *et al.* (2008) and Dwivedi *et al.* (2015) correctly identified, there has long existed a debate on the impact of IT performance. So far empirical evidence has shown contradictory results which suggest that IT does not necessarily improve performance or enhance business value. Instead, the "IT productivity paradox" exists (Brown, 2015; Brynjolfsson, 1993; Brynjolfsson and Hitt, 1996; Hajli *et al.*, 2015). Some others viewed IT as a commodity which had little distinct value in terms of creating sustainable advantages for firms, instead it is easily imitated by competitors (Carr, 2002; Jean *et al.*, 2008). In an attempt to contribute to the theoretical advancement of the issue of the value of IT in the context of cross-border alliances, which remains under-explored (Dewett and Jones, 2001; Lioukas *et al.*, 2016), the relationship between IT, interfirm relationship, and marketing performance needs to be established. This also responds to a recent call from Chang *et al.* (2015) in terms of exploring the driving force of IT in international collaborations. Hence, this paper aims to address the important question of whether and how IT contributes to interfirm marketing performance through international market-entry alliance.

Against this background, our main objective is to develop a theory-informed integrated conceptual framework to comprehend the impact of IT on interfirm relationship and

therefore marketing performance based on cross-border alliances and IT research. A link between resource-based view (RBV) and transaction cost economics (TCE) is established and underpins the framework. An interaction between these two theoretical perspective helps to form the central proposition that IT resources lead to enhanced marketing performance through improving interfirm governance. Additionally, we develop a series of research propositions. The proposed framework and propositions leads to further empirical testing of international market-entry alliances. We conclude the paper by discussing theoretical and practical implications.

## 2. Overview of IT in international market-entry alliance and marketing performance literature

IT and collaborative entry modes are two areas of research which rarely intersect. Specifically, collaborative entry mode is a topic long rooted in international business and strategy research. On the other hand, research focussing on the role and effects of IT has resided mainly in IS literature and to some extent, management literature (Jean *et al.*, 2008; Lioukas *et al.*, 2016; Tafti *et al.*, 2013). While there is a common consensus that we have been living in an “information age” (Tapscott and Caston, 1993; Yu, 2011) largely led by advancement in IT, so far research linking IT and collaborative entry modes is rather limited and lagging behind time (Lioukas *et al.*, 2016; Tafti *et al.*, 2013). A shortage of scholarly interest indicates that there is an under-appreciation of how critical IT is in today’s business environment.

Specifically, our review shows that topics relating to international collaborative market entry modes have been extensively studied by scholars from international business and strategy fields over a number of decades. International collaborative entry modes are traditionally known as forms of business whereby a foreign firm intends to penetrate a host market by partnering with its indigenous companies (Beamish and Lupton, 2009). Being part of international trade and doing business beyond borders, international joint ventures and alliances are not the only means of penetrating global markets; however these methods of collaborative market entry are often preferred over franchising, contracting, or licensing, etc. Specifically, international alliances are widely used as the form of market entry in countries with high uncertainty or low experiential knowledge, for example, less developed economies. A study by Brouthers (2002) shows alliances in this context have outperformed other types of foreign investment methods (such as wholly owned subsidiaries) due to locational advantages provided by domestic partners. Similarly, Fang *et al.* (2015) discuss the benefits of strategic alliance in the global pharmaceutical industry in terms of uncertainty reduction and new product development synergy. In terms of marketing consideration, Fang and Zou (2009) stress the importance of marketing dynamic capabilities in international joint ventures. They claimed that the empirical literature on strategy has documented the impact of dynamic capabilities of firms on their performance, yet literature on the operationalization and conceptualization of marketing related dynamic capabilities in the context of international alliances has been rather limited. Their data from top managers in China indicates that marketing dynamic capabilities have a significant impact on the host market performance and competitive advantage of international joint ventures.

Whilst previous studies presented diverse focusses (e.g. motivations, choices of modes, country selection, and performance consequences) and approaches (e.g. TCE, RBV, knowledge-based view, and agency theory), a central rationale many of them share is the effectiveness of alliances in achieving performance levels. For instance, Ming-Chang *et al.*’s (2015) study of 152 cross-border joint ventures revealed that perceived value gap and information asymmetry are two mediating factors which directly affect interfirm performance. Pak and Park (2004) also used an empirical approach in a Korean context to contend that alliances benefit economies of scale and help share risks. Furthermore, based

on a social contract perspective, Wallenburg and Schäffler (2014) found that international alliance partnerships enhance market performance through relationship building. Hadjimarcou *et al.* (2015) also noted international alliances are more likely to succeed in terms of overseas market performance.

On the other hand, extensive evidence suggests that whilst there are many organisational performance benefits associated with international collaborative entry modes, especially for foreign investor firms, there is a high risk of failure deriving from a number of internal and external causes. Ineffective interfirm relationships have been argued as one of the main reasons collaborations fail (Venkatesh *et al.*, 2000). Sivadas and Dwyer (2000) estimated that 70 per cent of alliances fail for that reason. Extant research has attempted to provide methods and tools for relational improvement. For instance, Venkatesh *et al.* (2000) proposed joint product development and branding between partners to create a positive collaborative effort. Inkpen and Currall (1998) asserted that building interfirm trust is important in contributing to joint venture performance. Similarly, Blodgett (1992) took the view that communication is an enhancer of international joint ventures.

In comparison to these propositions, references to IT usefulness have been rather scattered (Lioukas *et al.*, 2016; Tafti *et al.*, 2013). However, in comparison to extensive discussions of many of the other organisational tools in improving the performance of international market-entry collaborations by way of enhancing interfirm relationships, so far IT has either been only briefly mentioned in previous literature or closely examined in very few studies (Table I).

Therefore, it shows research into the role of IT and its impact in the context of international market-entry collaboration has been very limited and static to date, particularly in terms of empirical evidence. Furthermore, a more integrated framework to comprehend different theoretical perspective is still lacking in previous literature.

We propose that in order to enhance our understanding of the topic, some major organisational factors should be identified and studied to resolve potential conceptual ambiguity about the role and effect of IT and the lack of consensus among international business, marketing, and IS scholars. Specifically, one major factor to consider is the IT dimension. Recent research from IS and marketing literature, drawing on RBV, has discussed different IT resources and capabilities and their performance impact in the context of interfirm supply chain relationships. For instance, Kim *et al.* (2006) conceptualised applied technological innovation, administrative innovation, and interfirm systems integration as three IT resources. Similarly, Lu and Ramamurthy (2011) defined IT capability (three dimensions: IT infrastructure capability, IT business spanning capability, and IT proactive stance) as an enabler of firm agility. Hence, one general conclusion we can draw is that IT capability has been a dominant dimension in most research.

A second major factor we consider is the debate on IT-mediated interfirm relationship and performance. Brown (2015) noted that so far research has centred around the argument about the direct and indirect link between IT and performance. A more recent view in measuring IT performance, which has received increasing support and recognition, is a process-oriented approach (Jean *et al.*, 2008; Pavlou and Sawy, 2006; Ray *et al.*, 2005).

Author	Research	Collaboration mode	Empirical/conceptual
Lioukas <i>et al.</i> (2016)	IT has higher value in non-equity governance structure	Strategic alliances	Empirical
Tafti <i>et al.</i> (2013)	Different IT capabilities entail different types of collaboration	Strategic alliances and joint venture	Empirical
Gallivan and Depledge (2003)	IT enhances control and trust	Interfirm partnerships	Conceptual

**Table I.**  
Recent studies on  
IT-mediated  
international  
collaboration

The view asserts that IT enhances performance through improving specific organisational processes. Much of the research adopting this approach has drawn upon RBV in IT value research. It is argued that IT alone does not directly derive performance benefits, but rather that benefits are generated when IT interacts with higher order organisational processes (Jean *et al.*, 2008). For instance, Kim *et al.* (2006) found IT-mediated coordination and responsiveness lead to positive interfirm performance. Similarly, works of Sanders (2008) and Lioukas *et al.* (2016) showed that IT contributes to interfirm cooperation. Building on TCE, Gallivan and Depledge (2003) identified that IT enhances interfirm control and trust.

### 3. An integrated conceptual framework of IT on marketing performance in international market-entry alliances

Jean *et al.* (2008) made an important assertion about how IT contributes to firm performance. Although it focussed on supply chain relationship, their study explicated and reconfirmed IT business value in an interfirm context. Specifically, discussion of applicability of TCE and RBV to IT value research was provided showing a transition of IS research from transaction cost concerned to resource-based value creation. In particular, their argument about the inappropriate outcomes about IT and value creation in previous research echoes our thoughts and direction in this paper. Research exploring this area is not only limited but ambiguous in conceptualising different IT resource attributes to firm performance. For instance, a recent management information system study by Bhatt and Grover (2005) defined IT capabilities into IT infrastructure, IT business experience, relationship infrastructure, and organisational learning which enable the creation of competitive advantages for firms; while Bharadwaj (2000) separated IT capabilities into IT infrastructure, human IT resources, and IT-enabled intangible resources. Clearly, ambiguities and confusion in IT value research and theoretical applications remain. We agree with Jean *et al.* (2008) that conceptualisation of IT resources and capabilities are still inconclusive, leading to development of different terminologies. Furthermore, knowledge gaps remain on how IT resources and capabilities interact with organisational processes to create value and enhance performance. This is particularly emphasised by the long unsolved IT productivity paradox problem (Brynjolfsson, 1993; Brynjolfsson and Hitt, 1996; Hwang *et al.*, 2015).

In this paper, we provide our own definitions of IT as a critical resource for firms in the context of international alliances. At the outset, IT resources can be seen as organisational skills and capabilities related to IT, which enable firms to leverage their existing non-IT related resources for better performance (Chae *et al.*, 2014). Building upon RBV, IT resources in comparison to IT assets, can have a greater impact on interfirm processes which ultimately lead to mutual performance outcomes in a more sustainable way. This is because IT resources and capabilities are idiosyncratic to the collaborating firms and therefore extremely difficult to imitate (Lioukas *et al.*, 2016). By integrating RBV with the TCE perspective in the context of international alliances, we argue that interfirm transaction costs associated with opportunistic behaviour as a result of bounded rationality can be counteracted by interfirm IT resources to reduce risks and associated costs.

Consequently, we integrate different streams of literature and theories of RBV and TCE to develop a conceptual framework in this paper. Specifically for the framework, we apply the two interactive theoretical perspectives: RBV denotes IT value creation in the context of collaborative market-entry partnerships while TCE explains interfirm processes which are affected by IT. We argue that IT value should not be measured directly against interfirm performance, as it creates further confusion to the “paradox”. Instead, we conceptualise IT resources to contribute to interfirm performance through interacting with important interfirm alliance factors. This specific context has been given limited attention in previous research (Lioukas *et al.*, 2016). In addition, building on international business literature, we specifically focus on marketing practices associated with market-seeking as the main

performance measurement in host locations (Douglas and Samuel, 2011; Holtbrügge and Baron, 2013). Lastly, the framework emphasises the perspective of foreign partner firms instead of the host country partner.

Developed using RBV and complemented by TCE, our proposed conceptual framework (Figure 1) suggests that when interfirm IT capabilities, which are dynamic and critical, are present between foreign and local partner firms, specific interfirm relational aspects can be enhanced. Also, we argue that these relational aspects are important interfirm governance mechanisms which IT can facilitate (Chatterjee *et al.*, 2006; Jean *et al.*, 2008). Therefore, it enables the building of a more efficient interfirm relationship and therefore improved marketing performance. Further, IT-enabled governance can help to counteract associated investment risks and contextual limitations which are potentially negative. Additionally, we adapt the contingency theory perspective (Donaldson, 2001; Luo and Bu, 2016) to argue that IT and interfirm performance are likely to be moderated by process-based factors.

3.1 Organisational IT capabilities dimensions

IT capabilities refer to the ability of a firm to mobilise and deploy IT through appropriate IT management, which in combination or co-presence with other resources and capabilities serves as a source of sustainable competitive advantages (Bharadwaj, 2000). This definition implies that, rather than IT resources *per se*, human IT skills and complementarity between IT and human resources are the necessary components which in combination create firm-wide IT capabilities. Despite extensive studies on IT-related topics, many authors who discussed IT capabilities failed to appropriately address their differences (Wade and Hulland, 2004). This in turn becomes misleading and causes confusion in literature (Chae *et al.*, 2014; Sabherwal and Jeyaraj, 2015; Wade and Hulland, 2004). In this paper, we follow the explanation of Ross *et al.* (1996) who divided IT capabilities into three categories: human assets (technical skills, business understanding, and problem-solving orientation), technical assets (physical IT assets, technical platforms, databases, architectures, and standards), and integration process (with other divisions internally and partner firms externally). In this paper, we argue that IT resources, IT-related human resources, and IT integration are three distinct and intertwined sets of capabilities which require specific and separate attention.

3.1.1 IT resources. The discussion of information in recent management and marketing literature has specifically suggested the importance of IT as an information and knowledge management tool (Orlikowski and Gash, 1992; Wade and Hulland, 2004). Organisational IT assets are generally defined as the combination of hardware and software a firm possesses

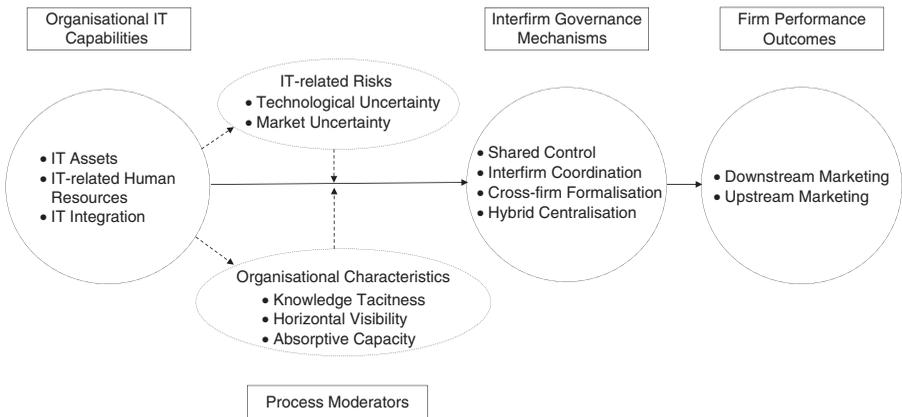


Figure 1. An integrated conceptual framework

(Moore and Benbasat, 1991). Whilst some researchers argued that IT is the driving force for change, some others believed it plays a more supportive role in current business practices. Despite much debate about the subject, it is generally agreed that IT is a fundamental element in the changed nature of work processes, in organisational restructuring, and in societal transformation (Avgerou and Walsham, 2001). Hence, considering the noted contribution of IT in value creation for firms, we adopt the RBV (Barney, 1991; Penrose, 1959) to suggest that IT resources are critical assets in the context of interfirm alliances when entering a foreign market. Our view of IT resources is in line with recent literature. Specifically, prior to the mid-1990s, works of IT lacked an appropriate theoretical base. Melville *et al.* (2004) found that researchers employed a wide variety of different theoretical paradigms in examining the subject without appropriate justifications. For instance, theories or views of industrial organisation, sociology, or socio-politics were used. Only since the mid-1990s, it has a more unified theoretical paradigm towards RBV started to emerge (Bharadwaj, 2000; Powell and Dent-Micallef, 1997; Shin, 2006; Wade and Hulland, 2004; Wu *et al.*, 2006). In short, the view enables researchers to examine the value of IT resources in contributing to organisational performance.

*3.1.2 IT-related human resources.* While IT resources are crucial, they need to be operationalised in order to realise their value and since IT does not function by itself, human resources are our second IT capability consideration. A number of scholars emphasised the importance of having the right human IT skills (Bharadwaj, 2000; Powell and Dent-Micallef, 1997). Whilst some viewed it as purely technical IT skills (Feeny and Willcocks, 1998; Wade and Hulland, 2004), others considered it to denote both technical and managerial IT skills (Bharadwaj, 2000; Melville *et al.*, 2004). The former refers to the know-how needed to build and maintain IT applications using the technology available (Bharadwaj, 2000; Capon and Glazer, 1987). For instance, it includes knowledge of programming languages, experience with operating systems, and understanding of communication protocols and products. On the other hand, managerial IT skills include the ability to understand and appreciate the business needs of other units, suppliers and customers, to work with IT users to develop appropriate applications, to coordinate IT activities efficiently, and to anticipate future IT needs (Capon and Glazer, 1987; Copeland and McKenney, 1988). These skills are likely to be difficult to transfer as they are developed over long periods of time and are causally ambiguous and socially complex and thus likely to serve as sources of sustainable competitive advantage (Mata *et al.*, 1995). In the context of interfirm alliances, we argue for organisational resource complementarity (de Matías Batalla, 2014; Grimpe and Hussinger, 2014). It refers to effective alignment between IT and the human resources of partnering firms so to best leverage value.

*3.1.3 IT integration.* Although IT is seen as a useful organisational resource in supporting a firm's value creation, it is also generally agreed in the literature that IT resources alone are not always distinctive enough to create sustainable competitive advantages (Clemons and Row, 1991; Wu *et al.*, 2006). This is because, as RBV suggests, resources that can create sustainable competitive advantages need to meet the criteria of rarity, inimitability, immobility, and durability. Since readily available IT hardware and software have relatively low barriers to imitation and acquisition by other firms, IT-created advantages (if any) tend to diminish fairly, quickly (Clemons and Row, 1991). Even when some IT resources can be kept proprietary in the short term (Bain, 1956; Porter, 1980), eventually imitation is difficult to avoid, hence it is unlikely that IT resources alone can be a source of sustainable competitiveness.

Instead, as RBV suggests, firms can use a bundle of resources (Penrose, 1959; Barney, 1986) which enable them to operate and implement strategies and these resources can be either tangible and intangible, therefore the possession of IT hardware and the operation of it can be

both seen as part of an organisational resource portfolio (Wu *et al.*, 2006). On this basis, not only should tangible IT be classed as resources, the operational process of IT should also be regarded as resources because only possession of IT cannot create value in any way unless it is utilised through processes (Ciborra, 1996; Shin, 2006). In the context of interfirm alliances, we argue that it is even more critical that IT integration is effectively achieved between partner firms in order to maximise opportunity for value creation from the new market.

Specifically, the topic of IT integration has been extensively studied (Bharadwaj, 2000; Feeny and Willcocks, 1998; Mata *et al.*, 1995; Melville *et al.*, 2004; Wade and Hulland, 2004), and despite the fact that these authors have taken slightly different emphases, their all research suggested one central idea: any IT integration activities should be concerned with creating a condition for which IT resources and human resources can be operationalised synergistically for maximum value creation. IT integration is generally concerned with three key factors, one of which is having the right technological infrastructure in place between collaborating firms. The infrastructure includes the technologies, sharable technical platforms, and databases. Bharadwaj (2000) found that when a non-integrated IT infrastructure exists which is dominated by system incompatibilities, firms' operations are severely restricted. Hence, an integrated IT infrastructure which spans across collaborating firms and links key business processes together is crucial for effective interfirm alliances.

### 3.2 Firm performance outcomes

One area of IT and management literature that has provoked much debate over the past decades has been the performance effect of IT (Bharadwaj, 2000). This is caused by a lot of research producing very mixed results. For instance, a group of researchers found through empirical studies that possession and operationalisation of IT has direct and positive effects on firm performance (e.g. Banker and Kauffman, 1991; Clemons and Weber, 1990; Choi *et al.*, 1990), on the other hand, Warner (1987) and Hunter (2003) found direct and negative effects. Another group noted no effect at all (e.g. Sager, 1988; Venkatraman and Zaheer, 1990), while some others noticed contingent effects of IT on performance (e.g. Bharadwaj, 2000; Carroll and Larkin, 1992; Powell and Dent-Micallef, 1997; Wu *et al.*, 2006), and Hendricks *et al.* (2007) found mixed results depending on the type of technologies. This is despite the fact that well-established measures for performance (e.g. return on investment, stock returns, and productivity) were used. The contrast in the results has created confusion for both researchers and practitioners. Even though large investments have been made in IT, some firms achieve successful outcomes whilst others fall victim to the "productivity paradox" (Tippins and Sohi, 2003). The term "productivity paradox" has been well recognised in literature and refers to the difficulty in measuring IT investments against its performance (Brynjolfsson, 1993; Brynjolfsson and Hitt, 1996).

Arguably, one common flaw found in much of the previous studies is the ambition of researchers to measure a series of performance indicators in a single paper. In our paper, we specify our performance focus to marketing outcomes only to provide a more realistically measurable conceptualisation of IT-led performance. Moreover, marketing performance is particularly crucial in the context of interfirm collaboration when the purpose of the partnership is market entry (Cavusgil and Zou, 1994). In reference to Porter (1985) and his work on value chain activities, we break down marketing performance into two categories: upstream and downstream marketing activities.

*3.2.1 Downstream marketing outcomes.* Previous literature has long discussed the performance benefits of foreign firms forming interfirm alliances with firms which already have an established presence in the host market (Sarkar *et al.*, 2001). One obvious benefit is the availability of downstream marketing channels including marketing and advertising, distribution, and customer services (Jean *et al.*, 2008). Foreign firms new to a market are likely to experience "foreignness" in the areas of culture recognition, psychic distance, and

knowledge and experience shortage. Dealing with these barriers from within the firm requires time and capital investment (Claro and Claro, 2010). In a market of high competition intensity, such a strategic move is likely to create competitive disadvantages. Instead, international joint ventures or strategic alliances with locally-established firms is often viewed as a more efficient mode of entry (Fang *et al.*, 2015; Sarkar *et al.*, 2001), particularly when downstream marketing channels are complex and difficult to establish in more dynamic environments. Collaborating with carefully selected local firms who have established networks in place can help to significantly speed up market entry processes. More importantly, the absence of “foreignness” as a result of the alliance enables foreign partner firms to effectively market and advertise, distribute, and service the host market with contribution from the local partner (Jean *et al.*, 2008).

*3.2.2 Upstream marketing outcome.* Upstream marketing is less discussed by scholars than downstream marketing (Charan, 2004, 2005; Ellis, 2010; Lew *et al.*, 2013; Smith *et al.*, 2015; Woletz *et al.*, 2005), however, it is equally and if not more, important as a measure of marketing performance in the context of collaborative market entry. Upstream marketing activities are generally considered more strategic than downstream activities (Charan, 2004) which orient around market extension, customer segmentation, and product and process innovation. Whilst downstream activities are closely aligned with upstream marketing decisions, the former is more operational once decisions are made, and the latter is about planning and decision making for downstream activities (Charan, 2005; Ellis, 2010). In the context of collaborative market entry, foreign investors are likely to benefit from teaming up with local partners when developing marketing plans and making decisions because the local context and customer preferences can be more effectively considered as partner firms’ knowledge and experience is made use of in the process.

In our paper, we suggest that IT capabilities, in the context of interfirm alliance for market entry, can improve foreign firm performance by enhancing upstream and downstream marketing outcomes. This is because knowledge and information shared between foreign and local partners can help to inform more appropriate marketing decisions and more appropriate plans – this helps to improve upstream marketing performance. Conversely, effective timely information exchanges between foreign and local partners when carrying out downstream marketing activities can help both parties better adapt to market needs and changes quickly. These arguments are in line with works of Sambamurthy *et al.* (2003) who suggested the important role of IT in facilitating information exchanges and Mowery *et al.* (1996) who noted the importance of local knowledge to counteract “foreignness” in marketing. Thus:

- P1a.* The establishment of interfirm IT capabilities, including shared IT resources, related human resources, and cross-firm IT integration, is likely to improve foreign partner firm upstream performance by enhancing local knowledge and information exchanges for better informed decision making.
- P1b.* The establishment of interfirm IT capabilities, including shared IT resources, related human resources, and cross-firm IT integration, is likely to improve foreign partner firm downstream performance by enabling more localised marketing activities which better meet customer needs through effective information exchanges between local and foreign partners.

### *3.3 Governance mechanisms dimensions*

*3.3.1 Shared control.* We draw upon the TCE perspective to discuss three governance mechanisms which have been extensively discussed in international business literature. First, control is generally a form of governance which is, according to Child (1973, p. 117), “essentially concerned with regulating the activities within an organisation so that they are

in accordance with the expectations established in policies, plans, and targets". At the heart of control is the monitoring process, and there are two phenomena which can be monitored, i.e. behaviour and output (Baliga and Jaeger, 1984; Egelhoff, 1984; Ouchi, 1977). These two aspects are not substitutes of each other but two different means of control (Egelhoff, 1984). In any context, control induces the desired performance while inhibiting dysfunctional behaviour (Gencturk and Aulakh, 1995). It reduces uncertainty, increases predictability, and ensures that behaviours originating in separate parts of the organisation are compatible and support common goals. Such an activity becomes more difficult to exercise as the context becomes more complex, such as in the context of interfirm alliances. TCE suggests the presence of opportunism and self-interest, therefore shared control is considered a necessity for partner firms to ensure both parties are acting towards achieving common goals.

Literature on IT and management discusses the role of IT in facilitating monitoring processes in both intra- and interfirm contexts (Jean *et al.*, 2008; Yu, 2011). IT-enabled information exchanges between functions or firms allow a more "real-time" and more detailed understanding of individual actions. In the context of interfirm alliances, a clearer view of each other's actions discourages opportunism and dysfunctional behaviour. Instead, actions become more visible to all (Yu, 2011) and therefore more predictable behaviour is promoted to achieve common objectives (Jean *et al.*, 2008).

*3.3.2 Interfirm coordination.* Coordination is considered another important mechanism both in intra- and inter- firm contexts (Jap, 1999; Karunaratna and Johnson, 1997). Its key function is to help firms to leverage their organisational resources locally and globally. There are generally two directions of coordination. Buvik and Reve (2002) noted vertical coordination to involve top-down two-way information transfer and co-actions between functions or firms whilst Baumol (2001) suggested horizontal coordination to involve joint efforts between alliances or joint venture partners. Despite the two entailing different types of synergy seeking and resource leverage (Baumol, 2001), in the context of interfirm alliance for market entry, we would expect both vertical horizontal coordination to be favourable for foreign firms as the former brings about upstream or downstream value creation through collaboration with local partners and the latter brings about synergy in product or process innovation and market performance.

As previous research argues that coordination requires effective communication and information flows between functions or firms, and IT has been found in studies to significantly enhance real-time communications and information exchanges (Adams *et al.*, 1992). In the context of interfirm alliance for market entry, foreign and local partners must coordinate effectively with each other for upstream and downstream activities. It is suggested that IT improves such process through better exchanges which enhance interfirm value creation (Streeter *et al.*, 1991).

*3.3.3 Cross-firm formalisation.* Formalisation, defined as "the degree to which organisational norms are defined explicitly" (Hall, 1982), is seen as the governance form which prescribes allowable and non-allowable behaviour through the use of rules and procedures (Egelhoff, 1984; Gencturk and Aulakh, 1995; Martinez and Jarillo, 1989). Hence, it has a direct impact on individuals' behaviour by defining the nature of acceptable task performance and criteria for decision making (Baliga and Jaeger, 1984; Björkman *et al.*, 2004; Fredrickson, 1986; Pfeffer, 1978). Formalisation is seen as providing governance through modifying behaviour (Baliga and Jaeger, 1984; Ouchi, 1977). In other words, through prescribing the bounds of behaviour, formalisation can limit decision-making discretion and restricts individual autonomy. Formalisation is also suggested to facilitate vertical and horizontal coordination by standardizing the ways in which functional activities are performed (Kim *et al.*, 2003). In the context of collaborative partnerships, cross-firm formalisation is important for standardising individual partner's behaviour to ensure

consistency in operations (Schul and Babakus, 1988). It also helps to provide a higher level of certainty and reduced conflicts in the partnership (Grandori and Soda, 1995).

As previously suggested, the important role of IT in transferring information and therefore establishing a more standardised view on organisation-wide practices can lead to more effective internal formalisation of operations. This view is empirically supported by the work of Yu (2011). In the context of collaborative market entry, actions and processes of foreign and local partners can be more consistent and visible to each other, and therefore, more effective in establishing interfirm best practices and greater value creation.

*3.3.4 Hybrid centralisation.* Centralisation is also an important form of governance commonly discussed in the context of headquarter subsidiaries (Baliga and Jaeger, 1984; Egelhoff, 1988; Gencturk and Aulakh, 1995; Martinez and Jarillo, 1989, 1991). It is generally defined as the division of decision-making authority between parties (Ghertman, 1988; Gates and Egelhoff, 1986). The greater the centralisation a firm chooses to implement, the less delegation of decision making outside (Baliga and Jaeger, 1984; Gates and Egelhoff, 1986). Two major determinants of the level of delegation are suggested to be the complexity of operations (Hage and Aiken, 1967) and environmental uncertainty (Lawrence and Lorsch, 1967). In the context of collaborative partnerships, we argue that local firms are in a better position than foreign partners to evaluate the situations of the host market. Moreover, decisions to act are better informed at the local level due to the proximity to the market in response to diverse local demands (Bartlett and Ghoshal, 2002). Hence, over centralisation by a foreign partner can result in ineffective decisions being made when the local context is not accommodated (Henderson and Smith-King, 2015; Mindruta *et al.*, 2016; Roth and Nigh, 1992). Instead, a shared decision-making arrangement is likely to deliver both local and organisational benefits to partnering firms.

IT and management literature has suggested that organisational IT can help firms to gather necessary information for decision making (Huber, 1990). When real-time information is constantly and accurately shared between partner firms, mutual decision making becomes a possible and asymmetric relationship (Elg and Johansson, 1997; Mohr *et al.*, 1996). Such decisions are made on the basis of combining local partner's market knowledge with foreign partner's product knowledge, and hence create higher value for both firms.

Hence, we draw upon RBV and TCE to propose that interfirm alliances with the intention of market entry are likely to generate most IT-led benefits in the areas of upstream and downstream marketing by enhancing four important interfirm governance mechanisms. It is likely that the relationship between IT capabilities (IT resources, related human resources, and IT integration) and firm performance outcomes (upstream and downstream marketing) is mediated by shared control, interfirm coordination, cross-firm formalisation, and hybrid centralisation. Specifically, interfirm IT capabilities can help both partners in terms of shared control of marketing processes and output in the way of timely information exchanges. Second, shared IT capabilities can also facilitate information exchanges between the partners. In terms of marketing decisions and activities which require coordinative efforts; both parties can be informed on time via shared IT. Third, shared IT capabilities allow both partners to "pre-programme" each other's role and practices by setting agreed procedures inside the IT systems so that a level of operational formalisation for carrying out marketing activities is achieved. Building on these arguments, it is thus proposed:

*P2a.* The establishment of interfirm IT capabilities is likely to lead to more effective control shared between the foreign and local partner firms, so that marketing performance (upstream and downstream) is likely to be more desirable.

*P2b.* The establishment of interfirm IT capabilities is likely to lead to more effective coordination between the foreign and local partner firms, so that marketing performance (upstream and downstream) is likely to be more desirable.

- P2c. The establishment of interfirm IT capabilities is likely to lead to greater formalisation of shared marketing processes, so that marketing performance (upstream and downstream) is likely to be more desirable.

### 3.4 Process moderators

Value creation of IT has been considered to be under the effects of internal and external moderators (Kim *et al.*, 2006; Melville *et al.*, 2004; Jean *et al.*, 2008). This is due to potential effects many variables can have on IT and user firms. However, we argue that these moderators are still not fully explored to date in the context of interfirm alliances. Hence, we build upon the contingency theory perspective to conceptualise two categories of moderators which can have an impact on interfirm processes. We consider IT-related risks, and organisational processes to moderate the relationship between IT capabilities and interfirm governance mechanisms.

*3.4.1 IT-related risks dimension.* In our paper, we also propose two IT-related risks which are likely to impact on IT capabilities of the collaborating firms. Specifically, Mata *et al.* (1995) noted that technological uncertainty can be a risk as IT investment may not meet the expectations of the collaborating partners in a timely manner. Specific sources of this type of uncertainty include failure to obtain the anticipated IT results because of implementation difficulties, higher than anticipated implementation costs, longer than anticipated implementation time, low-technical performance at the outset of the investment, and incompatibility of the IT with the current organisational systems and processes of the partner firms. The second risk is market uncertainty which reflects the degree of acceptance of the invested IT in the respective marketplace of the collaborating firms (McFarlan, 1981). Consequently, we draw two related propositions: first, is that these two types of risks can potentially have negative effects on value creation between collaborative partnerships if inappropriately handled, and second, is that these risks can potentially be counteracted by developing appropriate IT capabilities at the outset between the partner firms through effective communications and teamwork (Feeny and Willcocks, 1998; Gorry and Morton, 1989; Shin, 2006). Hence:

- P3a. IT-related risks can have negative moderating effects on the achievement of effective interfirm governance mechanisms through use of IT capabilities.

- P3b. Effective establishment of interfirm IT capabilities counteract IT-related risks through reduced technological and market uncertainty.

*3.4.2 Organisational characteristics dimension.* Knowledge tacitness: it has been long suggested by RBV that one of a firm's critical resources nowadays is knowledge. We follow the general classification of knowledge into two intertwined categories: explicit and tacit (Assimakopoulos and Yan, 2006; King and Zeithaml, 2003; Teece, 1998). Explicit knowledge is also known as codified information and expressed in words, data, numbers, and language. It is codified into symbolic forms such as documents and databases, and shared among individuals relatively easily. In contrast, tacit knowledge is personal, context-specific, and hard to formalise and to communicate among people. Tacit knowledge embeds cognitive elements including personal beliefs, values and mental models, and technical elements including technical skills and know-how (Nonaka and Takeuchi, 1995; Nonaka *et al.*, 1998). Tacit knowledge often involves activities at individual, group, and organisational levels which are often invisible to outsiders of a particular organisational context. It is more personal and subjective, making it difficult to be formalised and tends to be deeply rooted in action, commitment, and involvement in a specific context (Nonaka and Takeuchi, 1995). Therefore, of the two types, tacit knowledge has more limited transferability. Further, explicit and tacit knowledge are inseparable and interactive (Polanyi, 1966; Roberts, 2000).

Hence, the distinctive properties of heterogeneity and immobility of tacit knowledge makes interfirm information and knowledge transfer challenging. Although IT facilitates information and codified knowledge exchanges between partner firms, the inevitable nature of tacit knowledge can moderate the exchange process. On another note, Nonaka *et al.* (2001) asserted socialisation is considered as an important and necessary process for tacit knowledge transfer, which occurs when knowledge to be transferred merely makes sense if it is abstracted from its context. Hence, for transfer to succeed, sender and receiver need to share a similar thinking process. This can only be achieved via continuous social interactions. Borghoff and Pareschi (1997) noted the importance of IT in facilitating socialisation via virtual networks for communications and information sharing. Personal interactions in distant context become possible and effective. Thus:

*P4a.* Knowledge tacitness has negative moderating effects on achievement of effective interfirm governance mechanisms through utilisation of IT capabilities.

*P4b.* Effective establishment of interfirm IT capabilities facilitates tacit knowledge transfer through enhanced socialization.

Horizontal visibility: the issue of invisibility between two entities has been mostly discussed in the context of headquarters-subsidiary relationships. The underlying cause is suggested embeddedness which implies an ambiguous view of a firm's internal operations for outsiders (Holm *et al.*, 1995). It is argued that such embeddedness makes it difficult for outsiders to form a good picture of the operation since the internal network is invisible to those who are not directly involved in a continuous manner. Hagedoorn (2006) described such a network relationship as a matter of trust, knowledge, and interpretations based on social interaction. It has evolved gradually overtime and can only be understood by those individuals who were directly involved in interactions. Hence, for collaborating partners from two different backgrounds and long-established idiosyncratic internal networks, a lack of accurate understanding and appreciation of the partner firm limits their ability to collaborate effectively. Visibility can only be improved overtime through enhanced information/knowledge exchanges. It is suggested only when parties have close proximity, will they be able to counteract information asymmetry (O'Donnell, 2000). Hence, without efficiency information exchanges, physical distance between them undermines coherent development. On another note, the ability of IT to manage (including storage, transfer, and integration) information by supporting interfirm communications in real time allows more obtainable knowledge and information (Walsham, 2001). Similarly, Nault and Dexter (1995) and Powell and Dent-Micallef (1997) saw IT as an important tool to facilitate effective collection and use of information. Hence, we argue that while collaborating partners are likely to experience horizontal invisibility issue as a result of internal embeddedness within their own organisations, IT can enhance interfirm visibility through efficient information exchanges. Thus:

*P5a.* Restricted interfirm horizontal visibility has negative moderating effects on the achievement of effective interfirm governance mechanisms through the use of IT capabilities.

*P5b.* Effective establishment of interfirm IT capabilities enhances horizontal visibility through efficient information and communication exchanges.

Absorptive capacity: although knowledge transfer is well-acknowledged by many to benefit firms' capability enhancement, ultimately, what determines the value creation of the transfer (which therefore influences capability development) is another question. After knowledge is transferred, firms expect to see effective application of transferred knowledge to current operations in order to justify the action. Many have suggested that the outcomes of a transfer can be measured based on the absorptive and retentive capacity of the receiver

(Hansen, 2002; Malhotra *et al.*, 2005; Minbaeva *et al.*, 2014; Zahra and George, 2002). The former refers to the ability to acquire, absorb, and assimilate new knowledge to produce dynamic organisational capabilities, and the latter is the institutionalisation of what has been transferred. Specifically, once knowledge is successfully transferred, the receiver must make adjustments so that it can fit into (or become applicable in) the new context. The receiver needs to be able to identify the opportunities available to use knowledge in the current context (Garud and Nayyar, 1994). Effective communications and information exchanges between firms can help them make more appropriate use of received knowledge (Sambamurthy and Subramani, 2005). Hence, in the context of interfirm alliances for market entry, while partner firms' ability to absorb and retain exchanged knowledge or information is likely to moderate the relationship between IT capabilities and interfirm governance, IT is also likely to enhance information exchanges and therefore absorptive capacity of partner firms. Thus:

*P6a.* The limited absorptive capacity of partner firms' has negative moderating effects on the achievement of effective interfirm governance mechanisms through the use of IT capabilities.

*P6b.* Effective establishment of interfirm IT capabilities facilitates partner firms' absorptive capacity through enhanced information and communication exchanges.

#### 4. Contribution and implications for future research

Echoing a recent study by Jean *et al.* (2008) on IT-mediated international supply chain relationships, our paper has provided a holistic research framework and a number of propositions. Specifically, we provide a more complete and detailed conceptualisation of the impact of IT on interfirm governance mechanisms in the specific context of cross-border market-entry alliances. Our paper therefore contributes to the international marketing, international business and strategy, and IS literature.

Specifically, we reviewed diverse views and provided an integrated perspective of RBV and TCE into the framework. We believe this view underpins our answer to the following research question:

*RQ1.* Whether and how interfirm IT affects international marketing performance in the way of improving collaborative relationships?

Several conclusions can be drawn from our conceptualisation. First, interfirm IT capabilities are not an effort of any one firm but the outcome of effective alliance between partner firms. Any one set of IT resources, e.g. IT systems, related human resources, or IT integration, alone could not create maximum value. Instead, appropriate alignment among the three brings IT capabilities, which are dynamic and idiosyncratic to the specific alliance. Second, IT capabilities do not necessarily have a direct effect on international marketing performance; instead, it is most effective in enhancing the interfirm relationship which subsequently leads to positive performance. Third, the marketing performance implications of IT in the context of cross-border alliances is an important managerial consideration and therefore successful implementation of IT is particularly necessary and critical for foreign partner firms. Lastly, the establishment of interfirm IT capabilities is further emphasised as they help firms to counteract associated risks and contextual limitations. Subsequently, our proposed framework and propositions developed in this paper open up several avenues for future empirical research.

Our paper has provided a distinct and integrated theoretical perspective which emphasises the role of IT in international alliances. We have provided a solid theoretical foundation for future empirical testing of IT capabilities in enhancing alliance performance by way of improving interfirm governance. Particularly, we have offered an alternative

view to the IT performance debate. Second, we have offered an integrated view of IT in the context of international alliances by building upon a number of literature streams (IT and IS, strategic management, and international business). Third, we have developed a conceptual framework incorporating key IT, interfirm relational, and marketing performance related variables in order to provide a more overarching conceptualisation of the usefulness of IT in alliance studies. This area remains under-explored.

Consequently, a number of research directions can be pursued to enhance current knowledge and understanding of IT value in international market-entry alliances. One of them is empirical testing of the propositions and the related framework in future studies. Another direction may be to specifically examine other types of international collaborations, such as joint venture, mergers, and acquisition to identify any potentially differences in terms of IT value. The availability of IT capability, governance, and marketing performance measures, as discussed in our paper, enable researchers to empirically test against each form of collaboration. A third possibility is to conduct longitudinal study of the effects of IT in the processes of international alliances, though the procedure involved is likely to be cumbersome. However, it would shed light on the “IT productivity paradox”. Future research can also take the direction of exploring the view of host market partner firms and comparing it against foreign partners to not only identify the value of the IT from a new perspective, but also to reveal any potential gaps or conflicts between foreign and local partners so to further enhance performance.

We hope that our paper has provided some useful insights on the topic of international marketing and generated new research interests into IT-mediated international market-entry alliances.

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