AN EXAMINATION OF INTERDEPENDENCIES IN A B2C PLATFORM IN CHINA: THE CASE OF M.COM

Research-in-Progress

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Abstract

Interdependencies between business units are fundamental to productive activity and when present will only reinforce heterogeneity. On the other hand, incongruences between heterogeneous business units are likely to occur given role, socio-economic, demographic and communication characteristic differences. This article explores interdependencies between business units and its impact on a rapidly expanding e-commerce firm. In late 2009, M.com—incidentally one of China’s top three B2C e-commerce platforms for consumer electronics—announced a split of its Information Systems department into front and back offices, with enterprise-wide ramifications. From our preliminary case study findings, we purport four interdependency types central to a B2C platform’s operating strategies—sequential, reciprocal, pooling and coopetition. We present interdependencies-in-activity as a continuum that form the nuclei of how a B2C platform operates, such that they represent the integration of platforms’ front and back end Information Systems offices and, become the basis for which firm resources are rerouted.

Keywords: Interdependencies, E-business, Case Study
Introduction

Despite the successes of several Business-to-Consumers (B2C) platforms including alibaba.com, amazon.com, and ebay.com (Farhoomand and Lai 2008; Hagiu and Yoffie 2009; Osterwalder and Pigneur 2010), adopting e-business as a technological opportunity for change is often reportedly more radical and transformational than incremental (Jackson and Harris 2003; Ozaki and Vasconcellos 2011). As technology becomes more essential and embedded, cracks, including operational downtime, significant departure of workflow from existing process, and larger organizational issues like politically controversial decisions and priorities, appear (Lorenzi et al. 2008). As a result, it is not uncommon for firms to decouple their e-business activities (Voss 2003). This decoupling of front-end and back-end activities generally leads to better delivery (Zomerdijk and de Vries 2007) and production components in an integrated business culture (c.f. Kappos and Rivard 2008; Sawhney et al. 2007).

However, it is noted that the decentralizing of heterogeneous business units often presents a barrier to standardization and systems integration, acting as a disincentive toward achieving economies of scale (DeSanctis and Jackson, 1994). Incidentally, scholars report structural synergies and antagonisms between business units of the firm (Treiblmaier and Streibinger 2008), even exploitation (Verwaal et al. 2009) arising from structure and agency differences (Chu and Smithson 2007) and the ongoing centralization vs. decentralization debate (Bendoly et al. 2007) when a radical technology like e-business thrives. Central to this perspective is the rarely investigated notion of interdependencies (Lenox et al. 2007), by which work units influence and adapt to the resources and activities of one another. The role, socio-economic, demographic and characteristic differences between two e-business units can potentially generate instances of friction, diminishing trust and ultimately antagonistic responses between e-business units. For addressing such incongruences and chasms (Moore 2002), some service organisations, particularly financial institutions, are setting up so-called “mid-offices” to act as a platform to integrate front-office and back-office parts, or centralised shared service centres (Zomerdijk and de Vries 2007). Parenthetically, regardless of the motivation for it, “integration of divisions stimulates the formation of interdependence in production activities” (Sorensen 2003, p448). However, few studies (including Lenox et al. 2007; Lim et al. 2011) delve into the nature and impacts of interdependent relationships between firms and business units. An in-depth study is relevant as interdependencies from a management perspective are fundamental to productive activity and when present, are likely to reinforce within-industry heterogeneity (Lenox et al. 2007). In addition interdependencies between activities will subsequently lead to diverse needs for orchestrating and coordinating resources between cooperating partners (Munksgaard 2010).

Against this backdrop, the overarching research question we seek to answer is: how do interdependencies develop across e-business units over time to support e-business firm performance? To answer the question, we conducted a case study of the largest B2C platform in China, M.com (a pseudonym), where its IS capabilities serving the platform are deliberately and metaphorically divided into front-end and back-end (Zhu and Kraemer 2005) offices. The move was an attempt to ease the demands of order fulfillment related e-services on its IS department and its IT systems since switching to an e-business model. Drawing insights from M.com’s executives (from both its front and back IS offices), the study focuses on the strategic interplay between front-end and back-end business units that typify crucial interdependencies-in-activity during firm operations. This research-in-progress paper presents the theoretical framework, the structured-pragmatic and situated case study design and analytical approach (Pan and Tan 2011). Case study observations are mapped against our theoretical framework and subsequently used to establish preliminary insights to advance our model and research of understanding how interdependencies support e-business performance. For knowledge, we prescribe a preliminary framework describing the nature of interdependencies-in-activity. For future research and practice, we seek to propose actionable guidelines to manage B2C platform interdependencies and organizational mechanisms that underlie the performance of emergent B2C platforms (c.f. Beynon-Davies 2010; Buenstorf and Fornahl 2009).

Theories and Practice of Interdependence

In the broadest sense, the concept of interdependence characterises interactions between interdependent actors, work units or organizations, influencing and adapting to the resources and activities of one
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another (Lenox et al. 2007; Munksgaard 2010; Sorenson 2003). One of the earliest works to make sense of interdependencies is Thompson (1967), who conceptualized three types of interdependence—pooled, sequential and reciprocal—such that the extent to which the relationship between work units can be characterized by one of these three types. Thompson’s (1967) position is such that increasing amounts of interdependence pose increasing degrees of contingency to interdependent units where contingencies reflect the frequency and volume of communication and decision making between units. From the field of psychology, interdependence theory (Kelley and Thibaut 1978) is another conceptualization that has provided important prescriptions to authors studying the phenomena. Since the seminal works of Thompson (1967) and Kelley and Thibaut (1978) to identify types of interdependencies, several authors have added to the discourse. However, as a practical matter none of the theories to our knowledge have been empirically applied to investigate platforms, and when the researcher does embark on one, there are several notable issues, and we highlight one: the nature and more specifically the depth of interdependent relationships. A recent article by Lim et al. (2011), adopting propositions in Sheppard and Sherman (1998), discusses the differences between a shallow and deep interdependence relationship and the implications of each on trust building. When interdependent relationships are shallow, they are more susceptible to the risk of poor coordination whereby the trustee is unable to deliver on his or her promise at the request of the trustor. Deep interdependent relationships on the other hand originate from extensive systematic and temporal linkages between the trustor and the trustee such that each is heavily dependent on the other for his or her preferred outcomes. Although the notions of interdependencies of Lim et al. (2011) (see table 4 in their article) are derived and accentuated through the case of e-government systems to restore citizen-government relationships and that the authors do not purport associations between the modes, we believe their constructs have further implications towards the understanding of depth of interdependencies. While we agree (with Victor and Blackburn 1987) that the correct way to get departments within an organization working together effectively is to structure respective work tasks by intensity of interdependence, how then to manage interdependencies is still relatively under-studied.

Theoretical Framing

By combining Thompson’s (1967) classification of interdependency types and the interdependency model of Lenox et al. (2007), we advance a theoretical lens to observe patterns of interdependencies among business units. Firstly, we define four interdependency types in this study. According to Munksgaard (2010), different interdependency types demand different coordination methods in terms of rules and operating procedures, adaptive planning and scheduling, and mutual adjustments at the very least. The behavior and description of the four interdependencies are summarized in Table 1. Our definitions differ from Thompson’s (1967) framework in three ways. Firstly, the conceptualization is established for an e-business context. Secondly, we introduce a fourth (hybrid) type of interdependency behavior, coopetition, where e-business units compete for resources from a coopetition pool in this study. We discuss its underpinnings. In management literature, coopetition refers to the simultaneous occurrence of the hybrid behaviour comprising cooperation and competition. Coopetition is underpinned by cooperative game theory (Brandenburger and Stuart 1996) and can exist at multiple levels, including firms, business units, departments and task groups (Nalebuff and Brandenburger 1997). At the business unit level, the transfer of market knowledge for the common interests of the firm between collaborating departments is an example of cross-functional cooperation. Simultaneously, cross-functional competition may result from direct comparisons among functional units and interdepartmental struggles to obtain limited tangible (e.g. organizational capital, personnel) and intangible resources (e.g. executives time and attention) (Luo et al. 2006). Furthermore, in situations where resources are scarce, the lack of resources dominates the interaction (Khoo and Robey 2007). Hence and thereby extending prior interdependency frameworks, this study recognizes the conflicts when competing to divide resources up, including unequal distribution and impact of altruism and envy (Bengtsson and Kock 2000; Lehmann 2001). Within inter-firm interdependence, this cooperative perspective where processes give rise to only a partially convergent goal structure, creates a new kind of strategic interdependence cooperative system of value creation (Dagnino and Padula 2002). At firm and platform level, how can firms compete and cooperate in an environment of coopetition and still
appropriate equitable value is emerging as an important theme in IT-based business value research (Grover and Kohli 2012; Hurmelinna-Laukkanen and Ritala 2010).

Finally, we purport additional knowledge of the four interdependencies types (of convergence, divergence and overlap in organizations and business networks) will be drawn from more examples reflecting varying degrees of priorities and conflicts (as also highlighted by Munksgaard 2010). Identifying type of interdependencies represents the first step towards forging an explanation of the role of interdependencies in firm performance.

| Table 1: Four Types of Interdependencies in E-business Units - Adapted from (Thompson 1967) |
|---------------------------------|---------------------------------|
| Interdependency | Description |
| Sequential | In *sequential* interdependence, the product of one e-business unit is dependent upon the output of another. |
| Reciprocal | In *reciprocal* interdependence, e-business units pose critical contingencies for each other that have to be resolved before taking action. |
| Pooled | In *pooled* interdependence, each e-business unit provides a discrete contribution to the whole by collating (or pooling) its obtained information and knowledge. |
| Coopetition | In *coopetition* interdependence, collaborating e-business units compete for the same resources from a co-opt pool. Conceptually, this is a hybrid of reciprocal and pooled interdependency. |

A second perspective of our theoretical framing is the NK interdependency model purported by Lenox et al. (2007). The N in the model refers to interdependency in activities and the K potential for interdependency in activities. The study of Lenox et al (2007) focuses on capturing the differences in the potential for interdependency in activities among industries. The research of Lenox et al. (2007) concludes that the greater the potential for interdependency in activities (N), the better the best possible low-cost (high-quality) configurations of activities and the number of interactions (K) among activities rises. The model of Lenox et al. (2007), which was applied in management science research, is established on Kauffman’s (1989) NK specification (Kauffman 1989; Kauffman and Weinberger 1989), which in turn has been introduced into the strategic management field by such scholars like Levinthal (1997) and Rivkin (2000) to study organizational adaptation and fitness. We apply the model of Lenox et al. (2007) in a more general sense, whereby we seek to capture firms actively engaged in experimenting with existing configurations of activities and altering how they perform activities to lower costs.

Our approach however, differs in two ways. Besides potential, we will look at the actual *intermediate* activities (see Zhu 2004) between interdependent sides. Generally, researchers have found that teams, incentives and group training enjoy higher productivity than would be expected from the sum of individual gains to be generated from each of these activities (Milgrom and Roberts 1990, Ichniowski et al. 1997). On the other hand, as Lenox et al. (2007 p605) point out, conflicts are represented (in the NK model) whenever the value of an individual practice increases in the absence of another practice. Secondly, and in light of the above and per definitions of interdependencies (in Lenox et al. 2007), we realise also the association with firm *resources* (in the context of NK model of interdependencies). This includes considerations for resources (in Wernerfelt 1984), tangible and intangible assets, which are tied semi-permanently to the firm, including brand names, in-house knowledge of technology, employment of skilled personnel, trade contacts, machinery, efficient procedures, capital, etc. We simply refer resources discussed herein as R. Furthermore, several studies (Sirmon and Hitt 2009; Verwaal et al. 2009) have demonstrated the complementarity of resource management and the nature of interdependent relationships in firms. These studies highlight the value of additional studies to explore contingencies involved in resource management logic. Failing to recognise this, the (NK) theory of interdependency is too general and does not pertain necessarily to and make judgements on a context specific process model. Furthermore, there are calls from scholars to undertake further research into the *nature of interdependencies* (per Thompson) (Lenox et al. 2007; Munksgaard 2010; Sorenson 2003). In our view, the nature of interdependencies cannot be truly appreciated without an understanding of firstly its *type*, secondly its *depth*, characterized by the intermediate activities, and thirdly its *breadth*, characterized by the resources exchanged.
Study Design: Case Study Method

We adopt a case study methodology (Myers 2009) for our study. We chose this method as little case research on interdependencies is B2C platform-specific, and furthermore the boundaries of the case phenomenon (Benbasat et al. 1987) are not evident. In addition, we follow a structured, pragmatic and situated case study approach (Pan and Tan 2011) toward theoretical confidence and saturation. Hence, the chosen case organization needed to logically operate as a B2C platform, such that the inter-relationships between its business units could be examined for the accomplishment of firm value. In all, we conducted thirteen interviews with management of M.com (for the titles of managers, see Figure 1). Interviewees predominantly came from the top and middle management of M.com, spanning a broad range of subunits in the IS department. This was due partly to access and a deliberate attempt to leverage on the depth of knowledge, experience and leadership, especially in championing IT use, with which managers are often associated (Bassellier et al. 2003; Cooper and Ellram 1993). We adopted a semi-structured interview approach (Taylor and Bogdan 1998) which contained some pre-formulated (Myers 2009) questions, but we did not maintain strict adherence to them.

We performed data analysis concurrently with data collection (Eisenhardt 1989) to compare the initial findings of the case against the initial statements and our theoretical lens to reach confidence (per Pan and Tan 2011). Native Mandarin speakers were engaged to translate some material. We compared the revisions with subsequent interview data, sifting through empirical data, theoretical perspectives, relevant literature and other sources to build an explanation (Yin, 2003; Walsham, 2006) of the interdependencies formed. A combination of temporal bracketing, narrative and visual mapping strategies is used to organize the empirical data (Langley, 1999) to identify preliminary themes in light of our initial propositions. Furthermore, we rely on multiple sources to construct a timeline of pertinent events. Newspaper articles, books, and information from M.com’s corporate website are supplementary sources that we draw on subsequently as interview data analysis unfolded. Based on emerging data, we plan to discover patterns and develop further mappings of the coded responses and theory. We will compare mappings with our a-priori framework to shape opinions of the phenomena, present a logical roadmap of events consolidating the development of interdependencies to reach theoretical saturation (per Pan and Tan 2011), and finally compare with extant literature (per Dube and Pare 2003).

Interdependent Relationships between M.com (Front and Back) Offices

Today, M.com is the biggest 3C online retailer—3C stands for Computer, Communication, and Consumer Electronic—in the B2C market in China. M.com is different to other similar e-commerce sites and platforms (like Alibaba) as it is not just a fully optimized web interface, but supported by a large-scale web-content repository which boasts ownership of its entire supply chain. At the hub of its operations is its in-house ERP system. With it, M.com offers more types of goods (over 30 000) than any of its competitors, maintains cost leadership, even offering rebates to manufacturers. By 2009, M.com has more than 10 million registered users, with the order processing volume exceeding 70 000 in a single day. With daily orders exceeding 1500 and an inventory turnover of only 12 days, the demands of sales and order fulfillment on its IS department is immense. Given M.com’s 340% sales growth rate in four years (2004-2008) (Liu 2011), there were always going to be bottlenecks and unresolved issues, such as suppliers that do not want to work with M.com and frequent complaints of customers, highlighting just some of the pressures associated with having large distribution channels. Despite some resistance, the IS department saw that an expansion and division was necessary.

From October 2009, M.com announced a splitting of the IS department into two: the front office and the back office. Front-end and back-end offices can be used to address different things, such as physical buildings (the walk-in offices and the support centre), people (people with sales responsibilities and people from the support department) (Zomerdijk and de Vries 2007). Figure 1 illustrates how the two (IS) offices are differentiated.

The departmentalized impact of the split had an effect on the strategic interplay between business units in M.com. The research and development manager, architecture team (front office) remarks: "...since 2009 the role of IT as the leader (of all departments) has diminished due to the rapid expansion of the business. Rather than being the driver, the IT department has gone passive supporting product tracking and order processing." The product manager (front office) bemoans the emergent communication and
cooperation problems between offices since the split, suggesting that inter-department awareness and cooperation is even more crucial now. From its logistics systems at its back-end to the customer service system at its front end, the lines between front-end and back-end offices remain blurry. “...There are still many things then that required the co-operation of the 400 workers in the front IS office and the 300 workers at the back IS office...” the manager, operations and maintenance (front office) explains. From this, it is apparent from initial statements that all interdependencies (per our conceptualizations) must necessitate for the subsistence of M.com such that the company transformed its IS department to match its ambitions of a dot.com company.

<table>
<thead>
<tr>
<th>Front Office</th>
<th>Operations and Maintenance (M-6)*</th>
<th>Information Control (M-2)</th>
<th>Research and Development (M-2, M-4)</th>
<th>Testing (M-5)</th>
<th>Product (M-5)</th>
<th>Data (M-7)</th>
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<tr>
<td>Back Office</td>
<td>Logistics (M-5)</td>
<td>Research Division (Chengdu) (M-3)</td>
<td>Architecture (development) (M-2)</td>
<td>Testing (M-6)</td>
<td>Product (M-4)</td>
<td>Data (M-1)</td>
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* M denotes manager and the integer denotes the sequence number of interviewee

**Figure 1: Front and Back (Information Systems) Offices in M.com since 2009**

**Summary Framework: Interdependencies-in-Activity**

Our preliminary mapping identifies four interdependency types in a continuum, presented as four cells of a matrix (Table 2). The mapping builds on the classification of interdependency types (Thompson 1967) and the NK model (Lenox et al. 2007). We seek to qualify and validate the conceptualizations in this alternative model in ongoing analysis. In this section, we discuss the nature of each of four interdependencies envisaged in our model, and using pertinent examples illustrate the nature and relationships between the interdependencies during firm activity over time. To establish our model, we classify a sample of intermediate activities between pairs of business units in M.com (denoted by NK-R) into our model. We plot interdependencies against resource contingency which refers to the extent to which a future event or circumstance is conditioned by the provision of resources (see Verwaal et al. 2009) and the dominance of intermediate activity which refers to the degree of influence, structure and control of the process. Specifically, from our theoretical framing, the ongoing comparison of interdependencies in the matrix includes three considerations. The first concerns “depth” – the degree to which interdependencies are central to the e-business units’ operating strategies, resource demands and ongoing survival in the e-business firm. The second relates to “distance” – how far the independency takes the e-business units away from their existing way of doing things (per Badham et al. 1997). The third issue is “resources” consumed during a particular configuration of interdependency (R). In the table and figure, BU denotes business unit. With reference to M.com, BU1 refers to front office and BU2 back office.

**Sequential Interdependency**

Sequential interdependencies arise when a unit engages in a chain of structured activities that supports the addition of value to the goods or service, to its next unit or internal beneficiary. In sequential interdependencies, the product of one office is dependent upon the output of another. Looking at the sales order fulfillment process in M.com, the architecture manager (back office) explains the process: “Once an order is received, the warehouse is informed (through an OSC system) and sends back a status of the stock levels. The customer and our order fulfillment managers are updated. If the goods are bound for Beijing, the order is sent to our Beijing warehousing facility and system. Their systems pick up the job and continue the picking, packing, scanning and shipping process...” With narrower business functions and specialization, such that the IS is a critical resource for integrating business functions, the distance away from an existing conduct of functions by each office is minimal. Specialization across heterogeneous offices in a single process yields efficiency. On the other hand, operations-induced problems occur when whole processes are fragmented and not visible. For example, “When the customer makes a purchase
online, the order (to an order center) is actually split into two... the two work orders never become one again, so there are occurrences whereby the package maybe sent twice...” – architecture manager (back office). As the process winds its way through different offices, hand-offs cause delay, added expense and introduce errors. In sequential interdependency, the depth of the relationship is determined by the complexity and ROI of the process performed by one office specific to the functional area in the process.

**Reciprocal Interdependency**

In reciprocal interdependence, front and back offices pose critical contingencies for each other that have to be resolved before taking action. Reciprocal interdependencies occur whereby offices interact during the intermediate activity for resource exchange (equal), reroute, and up-skilling capabilities of both front end and back end. The depth of a reciprocal relationship between front- and back-end offices is proportional to the number of reciprocal resources attracted to it. The overarching nature of analytics-based dependencies is reciprocal, whereby front and back offices interact for data mining and reporting purposes (both critical). As the manager, operations and maintenance (front office) explains, when the sales team needs to record a certain type of consumer-related sales data but transactional systems at back office is not designed to record it, the front office would suggest changing it. Once the mutual systems allow the record, the data is recorded, and the front office may then absorb, clean and store the data. Depth of reciprocal relationships is determined by the IT resource—the employee in this case—who drives them. Another example of reciprocal interdependency between business units is when employees are selected from operating departments to fulfil new roles after demonstrating familiarity with processes and domain knowledge from prior relationships. For example, the manager, research division (front office) transactional team was hired by a product manager whom he had worked for in R&D in the back office. From this, it is evident that knowledge-based dependencies develop through combinations of learn-by-doing and social learning (Boisot 2002), such that socialisation draws more useable knowledge for new work. This can only occur following extensive contact and trust built through deep relationships.

**Pooling Interdependency**

In pooled interdependence, each office provides a discrete contribution to the whole by collating (or pooling) its obtained information and knowledge. Pooling occurs whereby each unit contributes its own resources during the intermediate activity, such that the depth of a relationship is determined by a new process and design and in this case product design. According to Verwaal et al. (2009), the survival of the firm in the long run depends on the firm’s ability to establish a resource base from which it can adapt and extend its operations. Pooling can best be described through looking at examples of management and product innovations in M.com, such that front and back offices interact on new products and services, or managing a process. Examples of product innovation are “211 delivery promise”, “100 points rewards” and “product recommendation”. The architecture manager (back office) explains: “Once a design is established by the product department, a technician from our team (architecture) will be sent to go through the finer details in the product design documents, (in parallel) the R&D team on the source code, the development framework or error checking.” The establishing of product lines and an R&D team within both IS departments is a highlight of the innovative management style adopted by Liu. Another instance of pooling interdependency here resonates in on-the-job training and its rotation policy where an employee (its resource) is trained in all aspects of the business.

**Coopetition Interdependency**

In coopetition interdependence, e-business units compete for the same resources from a coopetition pool. Conceptually, this is a hybrid of reciprocal (without contingencies) and pooled interdependence (without agreed contribution). An example of a coopetition relationship is characterized in the role of the product manager. Although M.com product managers are working together to improve products, they are also indefinitely working against each other. The manager, operations and maintenance team (front office) remarks, “Different product managers tend to want to push for their product lines and safeguard their interests. A combination of ROI, the length of (product) development process, potential conflicting resources, scheduling and discussion with our sales departments helps us determine which product line we should be focusing our efforts on.” But coopetition relationships such as those resonating in product design often results in an insufficient pool to meet demands. This example, according to (Dagnino and
Padula 2002) where coopetition occurs between two business units at a firm level along one single level of value chain (i.e. number of business units pairs who cooperate on product design and compete in product sales and resources) is a form of complex dyadic cooperation. A related but broader perspective of coopetition interdependence at firm level resonates in the recruitment activities of M.com. This is typified by the setup of the the Chengdu Research Institute in Chengdu where large companies (including Intel, IBM, Motorola and Tecent) not only provide a strategically advantageous cooperative environment but are also in competition in terms of tapping into supply of good university graduates in the area.

Future Research: Interdependencies-in-Activity as a Continuum

Presently, preliminary findings from our study demonstrate that substantial resource investments alone would not improve performance of business units in an e-business platform. But managers of interdependent business units must contend with combinations of resource deployment decisions, contingencies and the nature of their interaction with other business units, in order to create value for their platform and for their customers. Future research concentrates on building a logical roadmap of events consolidating our explanation of the nature of interdependencies, and how to manage them such

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<td>Low</td>
<td>High</td>
<td>In potential sequential agreement (N), each unit adds cumulative resource to a product during the intermediate activity (K-R). Depth of relationship is related to the nature of resource added. There is little risk of exploitation and distance from existing activity minimal. Example: highly structured fulfillment processes</td>
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<td>In potential reciprocal interdependencies (N), units exchange resources during the intermediate activity (K-R). Depth of a relationship is proportional to number of reciprocal units. There is some risk of exploitation and distance from existing activity is likely. Example: business analytics</td>
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<td>In potential pooled interdependency (N), units contribute its own resources during the intermediate activity (K-R). Depth of a relationship related to the opportunities for pooling to occur. There is some risk of exploitation and distance from existing activity not likely. Example: product and management innovation</td>
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<td>In potential coopetition interdependency (N), each unit is divided a proportion of resources during the intermediate activity (K-R). Depth of a relationship is related to the scarcity of resources. There is some risk of exploitation and distance from existing activity likely. The resource pool diminishes. Example: resource allocation</td>
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Table 2: Interdependencies-in-Activity: Extending the NK-R view
that heterogeneous platform units’ capabilities will contribute equally to business value. Herein, we consolidate three ongoing phases of work.

Firstly, whilst the authors maintain that the study has wider applications, the case study and preliminary findings provide a snapshot of the complex and interwoven interdependencies between e-business units. Hence it is difficult to attribute the interactions between units in an e-business platform to only one dimension. Being attentive to interdependencies embraces temporal change such that resources and their complementarities are appropriated to facilitate intra-organizational value creation. Using further case evidence, we seek to extend the interdependency continuum (1 through 4 in Table 2) as a viable lens to explain inter-department and inter-firm relationships. We see our work as a first step to the adoption of models of interdependencies (e.g. Lenox et al. 2007; Ozaki and Vasconcellos 2011) to study their cyclical nature and impact for e-business firms in a rapidly growing B2C market.

Secondly, we propose that scholars must first identify the sources for interdependencies to occur, typical to an e-business, and from there, be able to examine the nature of an interdependent relationship through its depth, distance and resources (cf. Table 2). Regarding depth, our case findings suggest that interdependent relationships and the issue of trust (per Lim et al. 2011) therefore become critical as platforms like M.com maintain growing digital assets and rising resource demands. Regarding distance, managing interdependencies causes processes to alter (from its existing ways) and resources reshuffle, such that some activities may be demoted, others may be dropped totally as in the case of M.com. However, findings also suggest that interdependence can foster bureaucratic inertia within a platform, and impedes the process of organizational learning by interrupting the effective diffusion of information between front and back end offices, a view we share with Sorenson (2003).

Lastly, our study findings purport that interdependencies-in-activity represent building blocks to cumulative knowledge and the development of prescriptions for management to orchestrate IT capabilities and resources (c.f. Tarafdar and Gordon 2007) in a B2C firm. For pooling and coopetition interdependencies especially, the movement of resources (mathematical operators in Table 2) must rely on effective routines and a manager's ability to act on knowledge derived from the independencies. Resource orchestration has potential implications for understanding other firm phenomena, including shakeouts – a drop in the number of firms that can compete profitably (Lenox et al. 2007, p608) – which are more severe in industries with highly interdependent sets of activities (Lenox et al. 2007); examining interdependencies-in-activities in M.com offers an explanation of how the platform is able to barricade itself from competition and compete in China’s rapidly emerging B2C e-commerce platform arena.

In summary, ongoing work validates our model with subsequent data to ensure theory-data-model alignment to reach theoretical saturation (per Pan and Tan 2011) for a theory of managing interdependencies, and finally compare that with extant literature (per Dube and Pare 2003). Through ongoing examination of the nature of interdependencies, the authors attempt to extend the conceptualization of interdependency theories (in Lenox et al. 2007; Thompson 1967). For practice, this study informs the need to manage different interdependencies between two heterogeneous offices should they arise and regardless of the reason for their split. Preliminary findings also suggest that managers must be prepared to overlook traditional boundaries to seek competitive advantage of such platforms.

References


