Drivers of changing supply chain capability expectations in the online retail sector: the role of sales transactions.

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Biography:

Dr Paul Alexander's research focuses include the impact of technology on supply chain processes and networks, with particular interests in supply chain capabilities, collaboration, process transformation, and virtualisation.

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Abstract

Online retailers have created new demands and opportunities for their supply chain providers. This paper reports on a five year UK-based study of this market space, whose logistics needs are in part provided by third party e-fulfilment organisations (3PEFs), businesses offering traditional and innovative services specifically to online retailers. To establish links between 3PEF capabilities and online retailer needs, the Croom e-Business Maturity Model is used to map core 3PEF capabilities and in this way link 3PEF offerings to supply chain needs of their customers. Over the five years of the study, it is observed that a significant trigger for developing new capabilities is embedded in sales transactions. A model is presented to explain how customer expectations are transformed in these same sales transactions, and application of this model in a wider logistics context is also suggested.

Keywords: e-fulfilment, logistics, e-supply chain, fulfilment, transformation, online retail, competitive advantage

1. INTRODUCTION

1.1. Online Retail and e-supply chains

The front end of e-Commerce is the online retail sector, its "sell side" [1]. Compared to traditional businesses online retailers (OLRs) have special supply chain and logistics service needs, more stringent timing constraints, potentially wider geographic regions to consider, often a requirement for tighter cost and other controls [2], and a higher reliance on delivery to the final customer, the so called "last mile" [3].

Supply chains could previously be maintained with straight forward seller-buyer transactions and long term supply contracts. Increasingly competitive advantage can often now be gained by developing more complex partnerships and alliances held together in major part by integrated and pervasive online transactions [4], and OLRs have therefore been quick to use sophisticated and decentralised relationships with providers of these services to maximise the effectiveness of their supply chains [5].

Management control of supply chains is now commonly global, and wide-spread availability of collaboration tools such as buying consortia, readily available standards that allow pervasive inter-organisational business transactions, rapidly expanding global logistics enablers, and large scale use of e-commerce have extended these opportunities to almost any business. Such supply chains are commonly referred to as "e-supply chains" [6].

1.2. Third party e-fulfilment

Outsourcing e-fulfilment to 3PEFs

OLRs must deliver what they sell and so have requirements for many fulfilment services. However, their business models must necessarily be built on effective supplier relationships, marketing plans and web sites. They in significant part rely on contracting out management of the physical e-supply chains, with their logistics and other traditional functions, to organisations with the expertise, economies of scale, infrastructure and assets to carry it out effectively. OLRs' have particular and newly recognised needs and as such they have been the catalyst for establishing providers with different characteristics from traditional supply chain providers [7-11]. This emerging group of providers are termed "third party e-fulfilment" (3PEF)

organisations and as OLRs have become increasingly significant, so 3PEFs have become an important group of supply chain service providers.

3PEFs specialise in servicing OLRs' needs, and have capabilities that overlap with more general outsourced fulfillers. While empirical observation previously reported [7] found over 60 capabilities offered, it suggested that 3PEFs have 13 core capabilities (Figure 1) representing more than 63% of such organisations' capobilities.
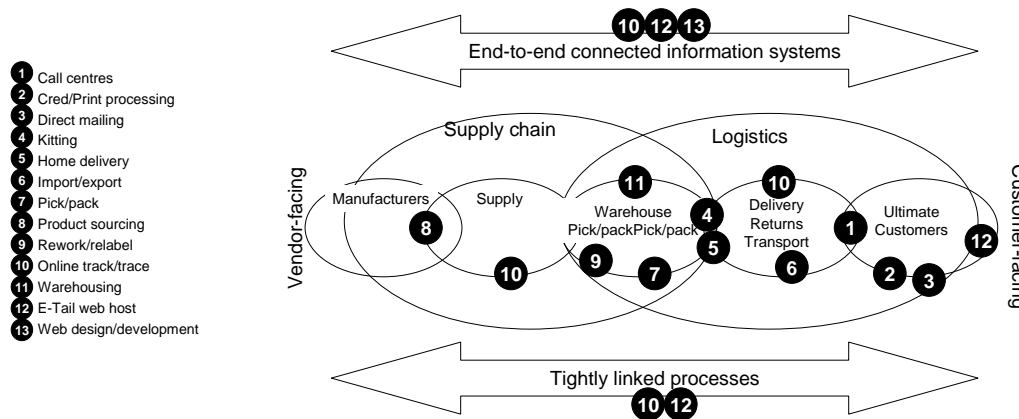

Figure 1: Core 3PEF capabilities mapped to the supply chain

Sales opportunities as a driver for developing new 3PEF capabilities

As a sector OLRs are very dynamic, with new technology and opportunities emerging rapidly. The way 3PEFs respond to sales revenue opportunities from these customers drives decisions about which capabilities would be seen as valuable, balanced by those they can actually offer. Each sales event is an important decision point for response by the e-fulfilment provider. Such events provide an opportunity to create capabilities that meet the needs of their customers and will potentially be rewarded by a sale.

These pressures and responses form the basis of a model to explain the development of 3PEF capabilities. This author [12] has previously described and provided evidence for the "opportunity driven capability response model" (Figure 2).

In the model, the business survives by responding to revenue-creating opportunities such as tenders or sales transactions through "action events" (shown at the top of the model). This model recognises that such events may be used either to retain or increase bonds with existing customers and results in capabilities that are "specialised" to those customers' needs, or attract potential customers by developing a more "general" portfolio of capabilities. To pursue such opportunities, the 3PEF must apply its existing inventory of capabilities and draw the resources, assets and skills to making the sale.

The model also posits a "business structure" in which capabilities exist (shown in the lower part of the diagram). The company may choose to form new capabilities through extensions of existing ones, or by some other adaptation of the business's resources or structure. Capabilities

may also be removed if they have little perceived value. Sometimes a newly developed capability may prove to be unviable in the long term and this "transient capability" may be flushed from the business's portfolio.

If it does not have the capabilities it needs to make a sale, the business can consider developing new ones if they are practical and can enhance its prospects for this sale. The model terms these "capability responses to revenue opportunities", and they link the assessment of capabilities with the decisions required to make a specific sales transaction. That is, the business will aim to derive new capabilities from existing ones if these lead to a sale.
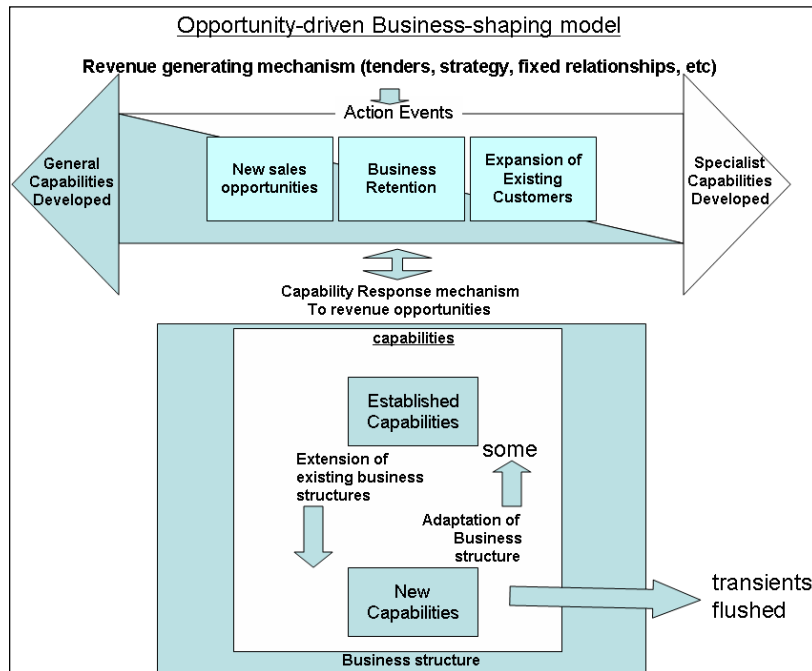

Figure 2:Opportunity-driven capability response model

If the newly developed capability proves commercially successful the business accepts and absorbs it, committing skills and assets towards its provision. If it proves commercially unviable the resources used to provide it are transferred to other capabilities. In the model, such a process is iterative, with opportunities for creating, expanding, diminishing or removing capabilities at each iteration.

The range of capabilities offered by 3PEFs

Through multiple action events (in this model), 3PEFs will establish a balance between attracting general customers and retaining and responding to existing customers. Previous studies [8] suggest that they tend to favour one or other of these forms but may change focus over time. That is, they appear to be of two distinct types; those operating as General Operators (GOs) and those operating as Specialist Operators (SOs).

GOs offer a wide range of capabilities and aim to appeal to the widest possible market of OLRs. They aim to attract a diverse range of customers by offering innovative solutions packages. In contrast SOs, with fewer capabilities, show evidence of dominant customers, have parent and

other company affiliations which bias their offerings, or are operating in a specialist niche. They are less sales transaction driven as they tend to have longer term relationships with specific customer groups [8]. Their smaller capabilities portfolio represents the more particular needs of their (smaller) group of customers.

Although GOs offer more solutions and emphasise innovation and new capabilities, they are no more sophisticated than SOs. The latter demonstrate their sophistication in specialised aspects of their chosen capabilities. For example, warehousing SOs offer sophisticated pick and racking systems, and transport SOs offer leading edge track and trace or on-line booking systems.

1.3. **Online retailer transformation and the role of 3PEFs**

Outsourcing as a transformation enabler for OLRs

Outsourcing of critical supply chain functions by OLRs to 3PEFs does not happen over night or without consideration. Technical and social bonds, trust and knowledge are built. Administrative systems are established and supported by co-aligned systems, and legal systems in the form of contracts are developed [13]. As businesses outsource, the potential for their transformation is strong via relationships that radically improve the enterprise's overall performance, reduce the time to market for its products, increase its use of innovation, allow it to focus on and improve its core capabilities, and reduce or mitigate its risk. As this can improve its competitive position by quantum steps, not simply incrementally, outsourcing can transform businesses [14].

Tactical competitive advantage as a driver of transformation

In achieving advantage, commercial organisations competing in a dynamic environment will *prima facie* direct their resources and develop skills to assist that aim. They can be expected to be working at both a strategic and tactical level to attain and grow acceptable profits, remain and gain stability, and work towards company visions, all of which will be occurring in an environment driven by the market forces noted by Porter [15, 16], and with which they must deal to gain competitive advantage.

Porter [16] notes that in the e-economy many companies have responded to the combination of achieving only extremely short term competitive advantage gained by exploiting technology, the low barriers to the entry of online businesses and the need to monitor and respond to dynamic changes in competitors' offerings, by ditching strategic longer term, proactive thinking in favour of reactive and operational decision-making. Others, for example [17], consolidate this thinking, suggesting it makes sense to focus on operational and tactical levels in such dynamic environments. Indeed (they say) it is the basis of a new operating paradigm for online companies.

Javalgi et al [18] consider this practical environment. While strategy may well control longer term initiatives that achieve and maintain a competitive advantage, that advantage is gained transaction by transaction. Tactical and operational focus on gaining favourable transaction outcomes is the practical means of achieving positive strategic outcomes. They suggest a framework consisting of three interconnected components that work at the operational level to build favourable transactions (Figure 3).
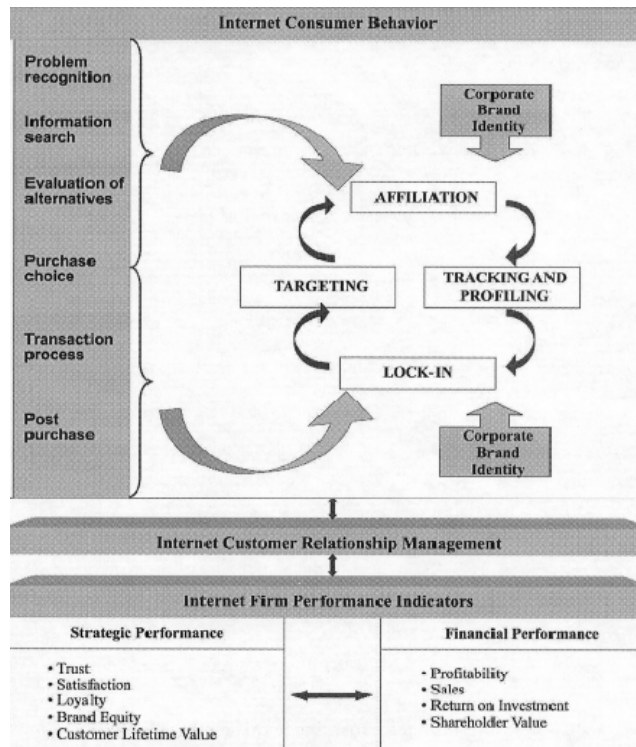
Figure 3: Tactical competitive advantage [18]

In this framework consumer decision making processes effectively align with the six phases of consumer decision making outlined by Seth and Garrett [19] (problem recognition, information search, evaluation of the alternatives, purchasing choices, transaction process, post purchase actions) and drive targeting of customer requirements by the supplier, enhancing customer affiliation and ultimately locking in the customer. These processes are particularly well facilitated by OLRs since one of their differentiating characteristics is to use online channels to provide consumers with easy access to information about choices, costs and available services.

E-commerce further supports this process as it effectively enables day to day management of relationships with customers, allows monitoring of customer response to offerings and helps to tailor unique strategic positioning. Sensitive indicators are provided that can improve affiliation with a supplier's customer base and allow the business to lock them in. It also provides information for targeting campaigns, pricing, and product/service value offerings to obtain maximum effect. Thanks to supply chain integration tools and internet facilities e-businesses also have ready access to performance indicators to measure important metrics such as loyalty, satisfaction and customer lifetime value, and to integrate them into financial indicators. These all provide a means of achieving business goals at a tactical level without the need for a formal strategic direction. That is, businesses meeting the needs of their customers through short term tactical sales responses can nevertheless be guided to successful strategies.

Phases of e-supply chain maturity

This tactical perspective is also evident when looking at how e-businesses focus their efforts over time. Croom [20], treating e-supply chain evolution in the context of the whole business suggests newly started e-businesses must necessarily be focussed on generating revenue. As that

grows they seek to stabilise the sell-side of their value chain, and once stable, they concentrate on improving the supply side of the value chain. Having leveraged the individual elements of the supply chain they then seek to integrate the logistics and fulfilment components and so achieve an efficient, sophisticated supply/sell "pipeline". Croom [20] suggests a model with five discrete business maturity stages. This model readily embraces 3PEF capabilities (Figure 4).

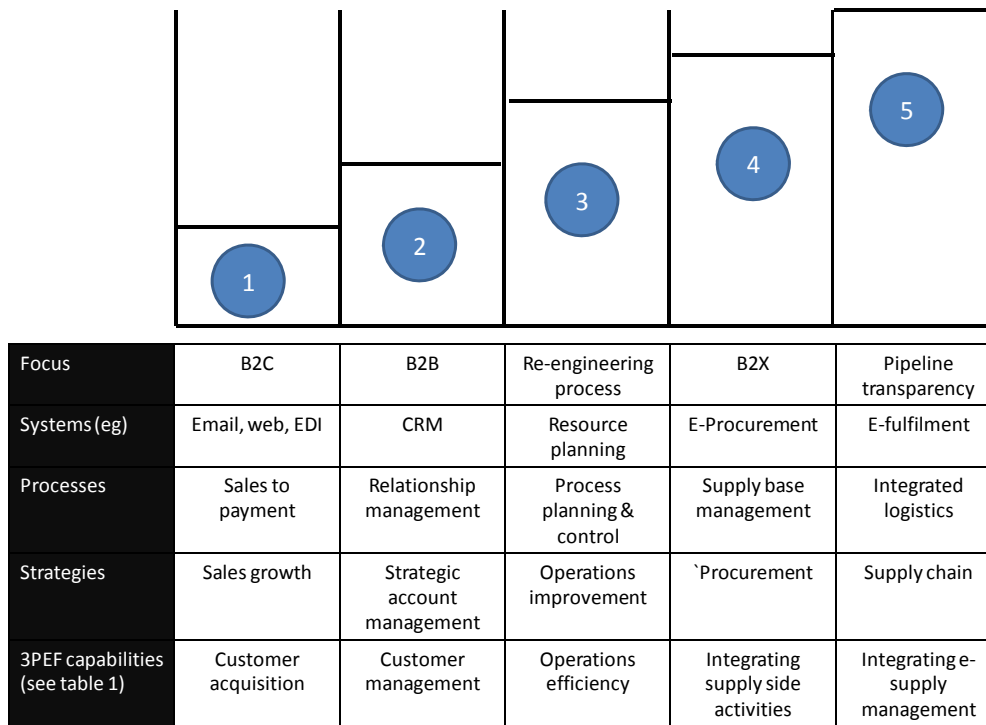|					
Focus	B2C	B2B	Re-engineering process	B2X	Pipeline transparency
Systems (eg)	Email, web, EDI	CRM	Resource planning	E-Procurement	E-fulfilment
Processes	Sales to payment	Relationship management	Process planning & control	Supply base management	Integrated logistics
Strategies	Sales growth	Strategic account management	Operations improvement	`Procurement	Supply chain
3PEF capabilities (see table 1)	Customer acquisition	Customer management	Operations efficiency	Integrating supply side activities	Integrating e-supply management

Figure 4: Maturity of companies in the e-business environment after [20]

In phase 1 (customer acquisition) standard e-business tools such as web sites and e-mail are used to improve connections with customers, markets and suppliers. Businesses in this stage are highly focused on growing their customer base, and on sales revenue. They seek innovative means to gain sales-lead competitive advantage, and are preoccupied with incorporating 3PEF capabilities that focus on immediate by fulfilling obligations to gain immediate revenue, or on directly providing revenue opportunities.

In phase 2 (customer management) customer relationships become a focus. Customer Relationship Management (CRM) and market intelligence gathering are important, and sales penetration evolves into strategic account management, including "whole-of-life" approaches to customers. 3PEF capabilities are expected to be aligned to these relationships, for example as per-customer standards and long term performance guarantees.

In phase 3 (operations efficiency) operations process management is emphasised using Enterprise Relationship Planning (ERP) systems. Using cost as well as revenue strategies to achieve competitive advantage is now considered, and this may involve significant process re-

engineering. 3PEF capabilities focus on operations efficiencies and the opportunity to re-engineer processes, often with an outsourced relationship.

In phase 4 (integrating supply-side activities) e-procurement systems are typically used to improve supply chain inputs. Such businesses focus on reducing their total costs of acquisition, and 3PEF capabilities are therefore also aimed at integrating supply side activities through leveraging their networks, partnerships and resources.

In phase 5 (integrated e-supply chain management) e-business platforms such as e-fulfilment, global positioning and order tracking are used to assist in optimising materials management. 3PEF capabilities deliver integrated e-supply chain management with large scale outsourcing, potentially affecting the OLR's business model in the process.

1.4. **Objectives of this research**

The Opportunity Driven Capability Response Model previously developed [8] links OLR supply chain services, sales transactions, tactical decision making and 3PEF capabilities. This paper extends previous studies related to this model to determine the nature and the extent to which sales responses between 3PEFs and OLRs act as a force that changes expectations of capabilities for the online retail sector as a whole. As a result, it presents a mechanism to explain how tactical sales-related actions can be important in aligning both suppliers and customers in an market sector, and how that sector can evolve based on those actions.

2. METHODOLOGY

2.1. **Data sources**

Publicly available annual surveys known as the "E-fulfilment Index" [21-25] provided information from 2003 to 2007 for a sample of 3PEFs. Respondents were selected from mailing lists of all UK third party fulfilment businesses servicing online retailers and represented all known organisations defining themselves as 3PEFs. The findings are therefore restricted to this group.

Businesses in this sample were largely local to the UK, though some organisations offering services to, or even concentrating on international clients. The nature or location of the clients was not considered in the selection process. Approximately 70 organisations were considered across five years, though actual participants varied each year as new companies entered and others exited the survey and in most cases, the industry. The sample represented around 7% of the UK population of approximately 970 3PEFs [26].

2.2. **Analysis of the data**

To develop a link between the customer's required capabilities and the phases of evolution developed by Croom [20], 3PEF capabilities were compiled from respondents in the UK sample. They were then categorised based on the degree each contributed to business maturity as defined by Croom (2005). Capabilities were assigned to e-business phases based on a judgment of what the capabilities contributed to. For instance, a 3PEF offering "payment processing" services is providing a tool for the business to acquire customers, a Phase 1 activity according to the maturity model. While this approach created a degree of subjectivity, it was applied equally across the entire sample allowing valid longitudinal and comparative analysis. The complete capability portfolio is shown in Table 1.

Table 1: 3PEF capabilities categorised according to Croom's (2005) maturing e-business needs

e-business maturity phase	Need satisfied by the capability	Capabilities provided by 3PEFs in the sample
1	Customer acquisition	Catalogue and internet production, Internet hosting, Any web content, Point of Sale, Outbound telesales, Web enabled mail order, Lead generation, Order processing bureau, Marketing services, Web-based communication, Payment processing
2	Customer management	Contact centre, Inbound call centre, CRM, Internet B2B, Data entry and Optical Character Recognition (OCR), Competition, charity handling (banking and thanking), Customer service and consumer advice (inbound telesales)
3	Operations efficiency	Multi-channel solution design, refrigerated vehicles, Returns management, back-order management, gift messaging, physical fulfilment, Database cleansing, standard logistics only, Direct mail, Catalogue and internet production, Import/Export, Returns and reverse logistics management, Delivery, home delivery (last mile), Air Express, Registration lines, Track and Trace
4	Integrating supply-side activities	decoupled replenishment, Printing, Store replenishment, Product sourcing
5	Integrating e-supply management	bureau-based home shopping solutions, Tailored solutions, design solutions, Strategic advice, Channel development and systems, Multi-channel solution design, bureau-based home shopping solutions, Complete mail-order process management, design solutions

Capabilities measured in the quantitative UK surveys were collated according to these categories, and frequencies were calculated as percentages of the sample as a whole. This was conducted for 2003 to 2007 data, and plotted to determine the extent of changes, and allowed changes in phase to be seen over time, that is, as the e-businesses mature.

3. RESULTS

3.1. Transformation of 3PEF capabilities over 5 years

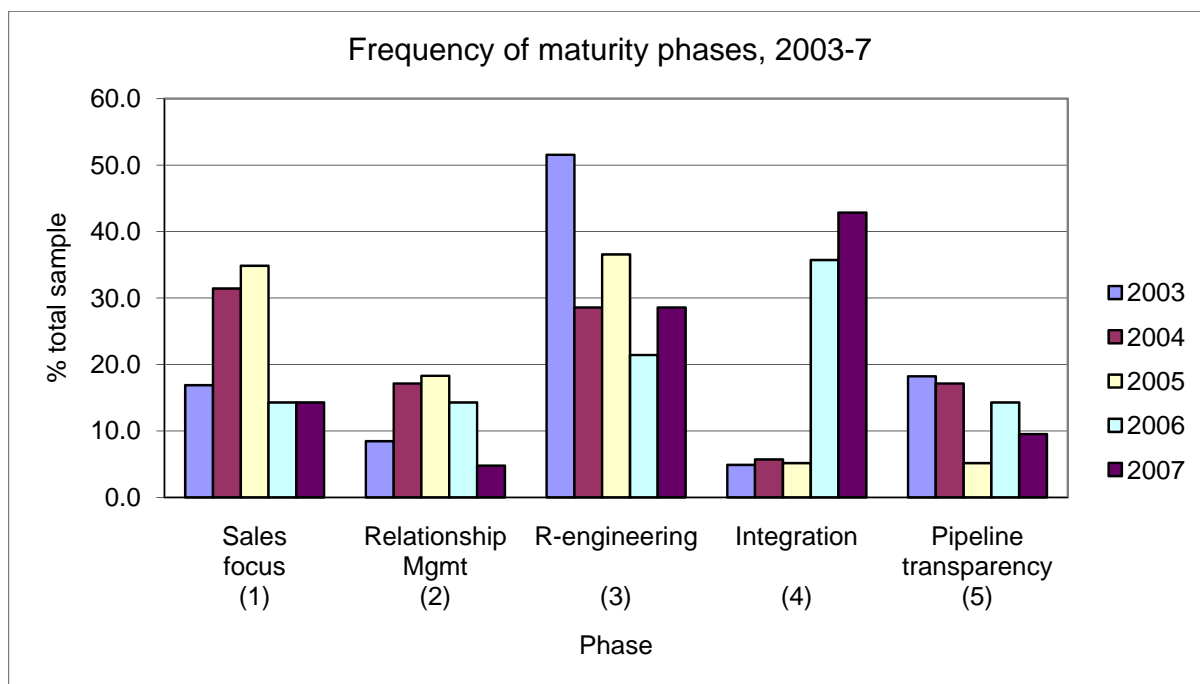Figure 5: Capabilities based on e-business maturity phases

Figure 5: Capabilities based on e-business maturity phases

The data shows a change in maturity in the 3PEF sample occurring after the first year of the survey. In 2003, 3PEFs offered more than 50% of their capabilities in Phase 3 with relatively small offerings in the other categories.

From 2004 though, around 30% of all 3PEFs offered both Phase 1 (sales focus) and Phase 3 (re-engineering focus) capabilities. 18% of organisations offered Phase 2 (relationship management focus) capabilities and about 5% offered Phase 4 (integration focus) capabilities; in other words, much more evenly spread across the different maturity phases.

While the frequency of each of phases 1 to 4 was consistent for both years 2004 to 2005, phase 5 capabilities, the most advanced of the evolutionary phases, decreased substantially over the 2 years, from 16% in 2004 to 5% a year later. In 2006-7 Phase 3 penetration continued to decline. Phase 2 declined also, though this was offset by sharp increases (36 to 42%) in Phase 4.

Croom's (2005) view of the evolution of the supply chain in e-businesses might suggest a much narrower distribution of the capabilities offered by any 3PEF; that is, specialising in providing efficient process re-engineering options (phase 3) for the customer. This was observed in the 2003 survey but dissipated thereafter.

The broader spread in 2004 to 2007 suggests there is a need being met for more than just efficient logistics, warehousing and transport options. All aspects of the customer's supply chain needs and beyond, have had capabilities developed by the 3PEFs. In 2006-7 this spread continued, but with a new focus on Phase 4 activities.

3.2. Groups of capabilities: SOs and GOs compared

Aggregating survey data from 2003 to 2005 (data collection gaps prevented inclusion of 2006-7 data) (Figure 6). The data shows considerable difference between the two groups. From 2003 to 2005 GOs show an evolutionary trend to service all the maturity phases of their OLR customers. It is SOs who have altered their behaviour most dramatically after 2003. Notably, where in 2003 they offered largely Phase 3 capabilities, assisting businesses to improve the efficiency of their supply chain processes, and Phase 5, assisting businesses to integrate their e-supply chain, from 2004 they spread much more pervasively into all five of the maturity phases.
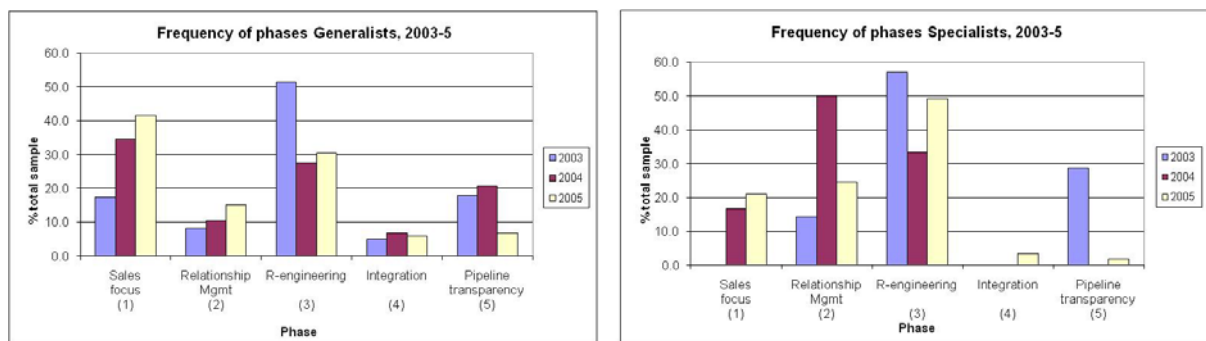

Figure 6: Distribution of capabilities by phase of business maturity – SOs and GOs

4. Discussion

4.1. Sales responses can act as a driver of transformation

3PEFs have adopted strategies to rapidly provide new capabilities to on-sell to their customers. This is especially true of GOs, who use their portfolio to create a unique selling proposition for competitiveness in the open marketplace in which they operate. SOs, while still interested in adapting rapidly, have significant existing customer relationships, and they increase these bonds by aligning their capabilities more precisely to specific customer's needs, and by concentrating on offering the most cost effective solutions.

While 3PEFs may or may not have strategic development plans (this was not tested) this study reveals they at least operate on a tactical level which serves as a direct incentive for providing many of the capabilities they offer. For many, particularly GOs, the speed of innovation and expansion of their portfolio of capabilities is a critical factor in competition.

3PEFs seek to extend their existing capabilities to achieve quite specific advantage for a specific sale; to better the equivalent capabilities from their direct competitors, to bridge gaps in their offerings to align with a specific customer's needs, and to offer their customer improved competitive advantage by improving their overall services. It is evident that adoption of new e-fulfilment provider capabilities has a definite purpose, to gain and maintain a competitive advantage by linking the development of each capability with revenue opportunities.

GOs and SOs operate somewhat differently, though still tactically. While GOs are intent on creating a unique selling proposition to assist them in "hunter" roles (finding new customers), SOs, being more "farmers", with significant existing customer relationships they wish to nurture, focus more on adapting and making their capabilities more effective for their customers [27].

The need to maintain this sale-by-sale advantage makes for a responsive and reactive environment, and 3PEFs appear to be strongly incentivised to deliver innovative capabilities through outsourcing, new capability development, or refining existing capabilities. It is arguable therefore that these tactical sales responses are a major, perhaps *the* major driver underlying changes in capabilities portfolios.

Inevitability, as the GOs successfully acquire valuable clients as outsource partners they fill their existing capacity with services to these organisations. In so doing they make a transition to being farmers, and to SOs. Information from previous studies [28] supports the reducing overall GO-ness of 3PEFs and suggests that the industry will move much more to a SO focus, and an approach to efficiency over innovation that this implies.

4.2. E-businesses seek to fast-track competitive advantage gains

3PEFs are very aware of the competitive environment they are in, and of their existing and potential customers' needs, which they assess through business intelligence and by the needs expressed to them in the form of sales requirements, tenders and requests for solutions. These act as a strong incentive for delivering new, or refining existing capabilities, and a driver underlying the creation of new capabilities.

This study establishes a direct link between development of 3PEF capabilities, and sale-by-sale opportunities for e-businesses. It links capabilities development with business needs. Thus, where businesses are growing and stable and responding rationally to their competitive environment, the availability of capabilities within the industry is also strongly linked to the needs of their customers and the OLR marketplace in general. Such a link allows capabilities measured in this study to be indicators of customer requirements too.

3PEFs are mature enough to realise business opportunities by being outsourcers for less mature OLRs. Croom's (2005) anticipated role for fulfilment as a process engineering enhancer, and 3PEFs' observed role, as broad service providers in an evolving e-business, provide good evidence that 3PEFs are providing extensive supply chain outsourcing services, and that such services are the norm. As OLRs mature, their e-supply chain requirements also change, more recently focusing on providing Phase 4 capabilities. In addition to e-businesses evolving to a stage 5 environment of transparency and integration, it can be asserted that 3PEFs have the knowledge to increase their customers' ability to move to Phase 5 much more rapidly. This argues for a changing and more specific business role of these outsourcers.

Adding the finding that 3PEFs develop capabilities specifically to meet e-business needs therefore suggests that 3PEFs provide a means for OLRs to achieve rapid maturity in their supply chains. By utilising a large range of supply chain capabilities in a tightly outsourced relationship, even new OLRs can benefit from the already mature portfolio offered by the 3PEFs. The increasing focus on Phase 4 capabilities in the last two years of the study further reinforces this, suggesting that maturing customers who have now secured their customer base are more preoccupied with integrating their supply chains to make them more competitive.

4.3. Transactions between industry and market create linked evolution

This study evidences a tight relationship between 3PEFs and OLRs, their customers. Each of these parties is driven by the same thing – a desire to gain competitive advantage. As outsourcers to OLRs, 3PEFs' close alliances make not only the desire but also the means,

mutual. The means is based on capabilities provided by 3PEFs and used by OLRs, and the opportunity is created each time a sales transaction is completed between the two parties.

What will happen when the cumulative impact of these transactions, affecting both 3PEF and OLR customer capabilities, is considered over a period time? Figure 4-1 describes how the transaction processes could shape fulfilment for OLRs; how this affects customers, and the way they iteratively feed back their collective needs to the suppliers of the services.
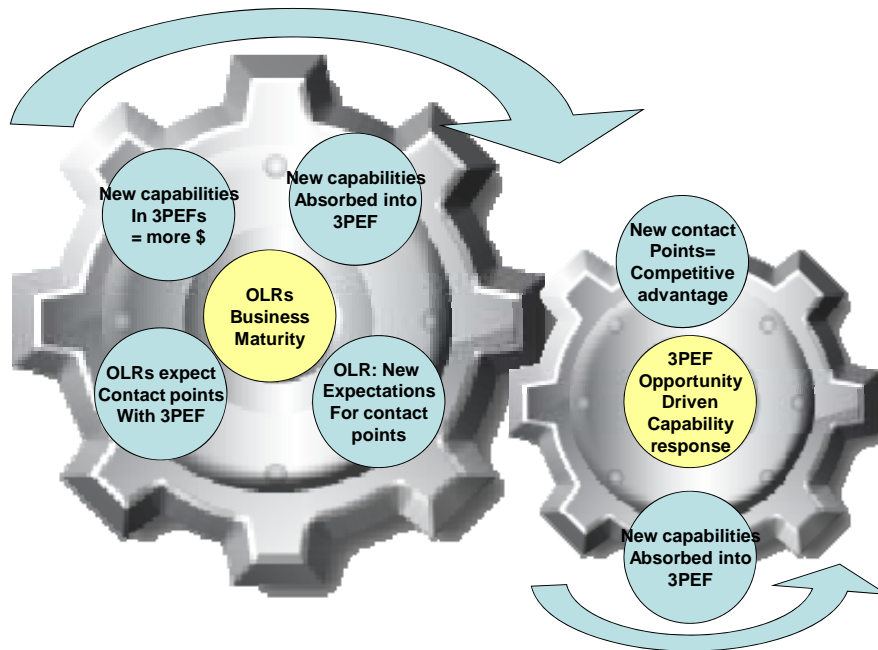

Figure 4-1: Linked evolution between 3PEFs and OLRs

In this model 3PEFs offer capabilities to OLRs that can then accelerate their maturity. Their services not only address the efficiency of supply chain processes of the OLRs (Phase 3 needs), but also assist with OLR needs right across their maturity spectrum. When these novel services are being offered by enough 3PEFs, an expectation of these services being available to the entire OLR segment is created. This in turn drives further changes in 3PEF capabilities according to the opportunity driven capabilities model. Additionally it creates opportunities for competitive advantage through ongoing transformation of both 3PEF and OLR.

These two interactions each affect the other, both connected by the need to seek competitive advantage, particularly through innovation. This interaction can be conceptualised as two interconnected "gear wheels". As one turns it drives the other in a tightly interconnected way. There is an iterative nature to the phenomenon, with the wheels turning repeatedly, delivering at each turn changes in both 3PEF and OLR capabilities, and with the rate of change related directly to the rate of turn of the wheels and driven either by new OLR needs or new 3PEF capabilities.

5. Conclusions

This study suggests that 3PEFs choose to develop and prioritise each of their specific capabilities to meet customer needs, aiming to gain and retain competitive advantage. They place a high priority on this quite tactical process, progressing to their visions for success transaction by transaction. Such a process is quite responsive and supports the development of e-supply chain capabilities.

This intimate connection between 3PEFs and OLRs, and it works both ways, must be a fundamental shaper of these e-businesses, with 3PEFs allowing their customers (OLRs) to concentrate on a narrower set of core activities (potentially as narrow as an online presence and maintaining a business model and customer relationships) while at the same time allowing the e-business to offer sophisticated services at a high level of maturity. 3PEFs for their part have used their value to OLR customers to become pervasive outsourcers with tight integration, and to achieve the growth and stability benefits so conferred. In making this transition GOs become SOs and specialise in a smaller portfolio of capabilities in which they can be competitive.

The "opportunity-driven capability response" model describes how new capabilities are developed, and how they become absorbed into the regular activities of 3PEFs, in which a newly created capability proves to be commercially beneficial. Gradually the business accepts and absorbs this capability as core, committing skills and assets towards its maintenance.

Innovation will likely continue and provide fertile opportunities to create new capabilities by leveraging existing traditional ones, but there is also evidence in this study that this pace will relax. Those new capabilities will become absorbed into the business, and traditionalisation will serve to establish a new portfolio of capabilities giving rise to a stable and reproducible (new) class of 3PEFs.

In turn, these transformations impact the OLRs, and there is a mutual evolution – of both the suppliers and the providers. While it is necessary to define 3PEFs in terms of a portfolio of capabilities, it is also likely that a changing portfolio of required services will be sought by OLRs. As newly traditionalised and specialised functions serve to meet the needs of existing customers, there is likely to be stratification into several segments in the e-fulfilment business, as well as an evolution of the industry as whole. Answering both these questions provides a productive line of research, and also warrants study of capabilities-based transformation in other industries

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