Classifying Australian B2B iMarketplaces: An Australian Survey

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Abstract

Existing research on B2B iMarketplaces (and the intermediaries which operate them) has tended to focus on viewing US iMarketplace web sites or conducting case studies. This paper builds upon this work by conducting a survey of the total identifiable population of Australian B2B iMarketplace intermediaries to determine whether the classifications of such iMarketplaces provided in the literature apply in the Australian context. The paper also provides a preliminary classification scheme which is intended to provide researchers with a framework for studying and describing the evolution of B2B iMarketplaces over time.

Keywords

Business-to-business, Internet marketplaces, intermediaries, Australia, electronic commerce.

INTRODUCTION

An electronic marketplace is "an inter-organisational information system (IOS) that allows participating buyers and sellers to exchange information about prices and product offerings" (Bakos 1991). In this paper, we focus specifically on Internet marketplaces (or iMarketplaces) (Archer & Gebauer 2000). For the purposes of our study we excluded intranet-based marketplaces (because they are not open) and simple directory services such as Yahoo! (because they do not mediate trading).

Today's B2B iMarketplaces exist in a wide variety of industries and can be managed by buyer groups, seller groups or, most commonly, are operated by intermediaries which create the iMarketplace and mediate the trading activities between sellers and buyers (see Buxmann & Gebauer 1998, Chircu & Kauffman 2000, Klein & Selz 2000). As early as 1995, Sarkar et al. (1995) identified a significant number of roles for such intermediaries, including: assistance in search and evaluation, needs assessment and product matching, risk reduction, and product distribution/delivery, creating and disseminating product information and creating product awareness, influencing consumer purchases, providing customer information, reducing exposure to risk, reducing the costs of distribution through transaction scale economies; and balancing and integrating the sometimes competing needs of buyers and sellers.

The existing literature on B2B iMarketplaces has tended to focus on:

- their characteristics, including their market functions, business models, value-added services and revenue schemes(eg, Archer & Gebauer 2000, Giaglis et al. 1999, Gotschall 2000, Lucking-Reiley & Spulber 2001);

- categorisation of iMarketplaces (eg, Archer & Gebauer 2000, Chen & Siems 2001, Farhoomand & Lovelock 2001, Gotschall 2000, Kaplan & Sawhney 2000, Oliver 2001, Ramsdell 2000, Sawhney & Kaplan 1999, Turban et al. 2002).

- examining such iMarketplaces in the United States; and

- reporting on findings from viewing web sites (eg, Dai & Kauffman 2002) or from case studies of one or a few such iMarketplaces (eg, Arbin & Essler 2002, Strader & Shaw 1997).

This comparatively limited approach to the topic suggests a need for more generalisable research in countries outside the United States. In this paper, therefore, we present the results of an exploratory survey of the total identifiable population of B2B iMarketplace intermediaries in Australia. The research was designed to survey the state of Australian B2B iMarketplaces at the start of the 21st century, and to determine whether the classifications of B2B iMarketplaces in the extant literature applied equally to the Australian context (Shon et al. 2003 have already presented findings relating to the characteristics of Australian B2B iMarketplaces).

This paper makes a contribution to the literature by presenting more generalisable findings concerning the applicability of existing classifications of B2B iMarketplaces when compared to the existing literature which has tended to use a small number of case studies. In addition, we found deficiencies in the existing classifications, so that this paper outlines a preliminary alternative scheme which we anticipate will provide a framework for researchers to study the longitudinal development trends of such iMarketplaces across a number of countries.

LITERATURE REVIEW

There have been a number of attempts to classify B2B iMarketplaces – Table 1 shows the major categories which have evolved over the past four years of research in this field (Kaplan & Sawhney 2000, see also Knapp 2003). The table also illustrates the difficulties involved in classifying this complex phenomenon – not only are there three major type groups, but even within these groups there can be a variety of B2B iMarketplace types.

Author(s)	Classification scheme based on…	Types of B2B iMarketplaces
(Arbin & Essler 2002, Chen & Siems 2001, Gotschall 2000, Kalakota & Robinson 2000, Oliver 2001, Ramsdell 2000, Sawhney & Kaplan 1999)	whether products/services traded are industry-specific or non industry-specific	Vertical or Horizontal B2B iMarketplaces
(Archer & Gebauer 2000, Oliver 2001, Turban et al. 2002)	who initiated the iMarketplace	Seller, Buyer or Third party-driven B2B iMarketplaces
(Kaplan & Sawhney 2000)	what and how products/ services are purchased	MRO Hubs, Yield Managers, Catalogue Hubs or Exchanges

Table 1: Identified Classifications of B2B iMarketplaces

We can see from Table 1 that the first and second classification schemas are uni-dimensional, whereas the third is based on a two-dimensional matrix. The following sections discuss each classification schema in more detail:

Classification Scheme 1: Horizontal or Vertical B2B iMarketplace

The horizontal versus vertical classification scheme relates to whether products/services being traded are industry-specific or non industry-specific (Arbin & Essler 2002, Chen & Siems 2001, Gotschall 2000, Kalakota & Robinson 2000, Oliver 2001, Ramsdell 2000, Sawhney & Kaplan 1999). Although the concept of the vertical B2B iMarketplace serving a specific industry has received a great deal of academic attention, horizontal B2B iMarketplaces serving multiple industries have also become a topic of increasing interest in the literature (see, for instance, Chen & Siems 2001, Gotschall 2000, Ramsdell 2000). We describe each type in more detail below:Horizontal B2B iMarketplaces

Horizontal marketplaces automate functional processes such as repair, maintenance, HR management and procurement across several industries (Schneider & Schnetkamp 2000).

The products/services traded in horizontal markets share a number of common characteristics: they are often standardised in nature (Chen & Siems 2001); catalogue driven (Baron et al. 2000, Kalakota & Robinson 2000); do not require specialised logistics or fulfilment (Kaplan & Sawhney 2000); and have fragmented demand and supply markets (Ramsdell 2000). The group of products most commonly traded in this way are Maintenance, Repairs, and Operating (MRO) goods (often over-stocked products), because they are generally not industry-specific (Kaplan & Sawhney 2000). In many cases, sellers and buyers of MRO goods are highly fragmented groups; and the purchasing process is often poorly managed because of inadequate information or insufficient resources (Kalakota & Robinson 2000, Ramsdell 2000, Vikas & Gupta 1997). Horizontal B2B iMarketplaces can thus provide value both to sellers and buyers by improving the efficiency and accuracy of matching demand and supply, automating workflow and reducing process costs (Chen & Siems 2001, Ramsdell 2000).

Horizontal B2B iMarketplaces are sometimes called 'Functional Hubs' because general services/functions common to multiple industries, such as advertising and transportation, are also traded (Oliver 2001, Sawhney & Kaplan 1999). Common general services/functions traded in these iMarketplaces include travel management and entertainment (Kalakota & Robinson 2000); human resources services (Sawhney & Kaplan 1999); eProcurement (Kalakota & Robinson 2000); and financial services (Kalakota & Robinson 2000).

Since MRO products and general services/functions are the main products/services traded in horizontal B2B iMarketplaces, we defined these iMarketplaces for the purposes of our research as *B2B iMarketplaces in which many buyers from any industry can trade MRO products and general services/functions with many suppliers*.

Vertical B2B iMarketplaces

In contrast to horizontal B2B iMarketplaces, with their cross-functional trading support, industry-specific goods such as manufacturing inputs (Kaplan & Sawhney 2000) and a variety of other non production-related industry-specific products are generally traded in vertical B2B iMarketplaces (Gotschall 2000, Ramsdell 2000). Vertical marketplaces, then, help to streamline inefficiencies in industry practices and automate vertical supply chains by providing services such as normalising product catalogues (Schneider & Schnetkamp 2000).

Symonds (1999), Kaplan and Sawhney (2000) and Oliver (2001) believe that in-depth domain knowledge seems to be particularly important for the success of vertical B2B iMarketplaces, because the products traded in these iMarketplaces are industry-specific. Copacino (2000) points out that supply chain management is an important value-added service in vertical B2B iMarketplaces, because their industry-specific nature leads vertical B2B iMarketplaces to serve market participants primarily through bringing buyers and sellers together along the entire industry supply chain, by automating workflow and reducing associated process costs (Chen & Siems 2001).

According to Weller (2000), the products/services traded in vertical markets, unlike those in horizontal markets, are often custom-made to a buyer's specification and a buying decision is influenced by factors such as quality, availability, delivery schedules and level of customisation.

VerticalNet.com is an interesting variation because it provides a common infrastructure and functions for a number of industry-specific iMarketplaces (Lucking-Reiley & Spulber 2001). Although individual vertical iMarketplaces are less likely to consolidate with other vertical iMarketplaces, the dedicated infrastructure and common functions provided by VerticalNet.com (Sawhney & Kaplan 1999) suggest that VerticalNet.com itself serves multiple industries while each of its individual vertical iMarketplaces serve particular industries.

For the purposes of this paper, therefore, we defined vertical B2B iMarketplaces as *B2B iMarketplaces in which buyers in an industry can trade products/services (including manufacturing inputs) specific to that industry with many suppliers.*

Classification Scheme 2: Seller-driven, Buyer-driven or Third party-driven B2B iMarketplaces

The second classification of B2B iMarketplaces is based on the initiator and manager of the iMarketplace – that is sellers, buyers or third parties (Archer & Gebauer 2000, Turban et al. 2002):

Third party-driven B2B iMarketplaces

Here the iMarketplace is initiated by a third party intermediary, which typically creates the iMarketplace and mediates various trading activities for both sellers and buyers. The main objective of these iMarketplaces is to create a critical mass to sustain economies of scale (Scharl & Brandtweiner 1998), especially when competing with other third party-driven B2B iMarketplaces (Berryman & Heck 2001). This is important because only a few B2B iMarketplaces can achieve critical mass and others will be forced out of business (Bakos 1991).

Buyer or Seller-driven B2B iMarketplaces

These iMarketplaces are typically initiated by buyer or seller groups, and include either collaboration among a few large, concentrated buying organisations where suppliers are fragmented; or strategic collaboration among a group of larger suppliers who actively form the iMarketplace (Wise & Morrison 2000). Such B2B iMarketplaces are also often referred to as Industry-sponsored Marketplaces, Industry-sponsored Exchanges, or Aggregators by the industry press (see, for example, Democker 2000, Dorio 2000). Gartner Research (Pastore 2001) and McKinsey (Hoffman et al. 2002) identify three types of seller/buyer-driven B2B iMarketplace – public eMarkets, essentially transaction-focused; consortia, which use standardised products to streamline business processes for their members; and private exchanges, where one powerful customer is connected to all its suppliers.

Classification Scheme 3: MRO Hubs, Yield Managers, Catalogue Hubs or Exchanges

Kaplan and Sawhney (2000)have developed a two-dimensional classification based on: **what** buyers purchase (manufacturing inputs versus operating inputs) and **how** they purchase (systematic sourcing vs. spot sourcing). The term 'direct inputs' is often used interchangeably with 'manufacturing inputs', because these are goods/services used in producing finished products, such as raw materials or components. 'Indirect inputs', by contrast, refer to operating inputs which are are generally capital equipment, operating resources or industrial supplies needed to run the day-to-day business(Kalakota & Robinson 2000, Vikas & Gupta 1997). In systematic sourcing, buyers and sellers generally have negotiated contracts and thus tend to have a long-term relationship, whereas the main goal of buyers in spot sourcing is to fulfil immediate needs.

By combining the two dimensions of **why** and **how** buyers purchase, four types of B2B iMarketplaces were identified and described by Kaplan and Sawhney(2000):

- MRO Hubs (horizontal markets which enable systematic sourcing of operating inputs);

- Yield Managers (horizontal markets which enable spot sourcing of operating inputs);

- Exchanges (vertical markets which enable spot sourcing of operating inputs); and

- Catalogue Hubs (vertical markets which enable systematic sourcing of operating inputs).

In MRO Hubs, the main focus is on increasing procurement process efficiencies, because manufacturing inputs generally have high transaction costs. The Yield Managers provide spot markets for common operating resources such as manufacturing capacity, labour and advertising. In Exchanges, commodities or near-commodities are traded for immediate needs without negotiating contracts. Catalogue Hubs focus on reducing transaction costs for non-commodities like manufacturing inputs such as plastics and chemicals (Kaplan & Sawhney 2000).

While it is clear that there is some overlap between these three classification schemes (particularly between schemes 2 and 3), each represents a different perspective from which to view the B2B market-space. We took advantage of these perspectives when designing the research project described below.

RESEARCH DESIGN

The comparatively small number of businesses in Australia, compared to countries such as the USA, gave us the opportunity to identify and survey the total population of Australian B2B iMarketplaces. We used non-probability (purposive/judgemental) sampling (Babbie 1990, Neuman 1997) because the number of organisations in the target population was unknown and we needed to judge whether they were truly B2B iMarketplaces.

We attempted to include all Australian B2B iMarketplace intermediaries through an extensive search. The sample was drawn from many sources: Internet search engines, Australian Internet business directories, eCommerce community web sites, newspapers and B2B iMarketplace forum web sites; and newsgroups/industry reports. B2B iMarketplaces permitting B2C transactions were included if they were still mostly B2B, but not *vice versa*. We included organisations whose website iMarketplace description corresponded with our definition.

This search identified 47 Australian B2B iMarketplaces, which we believed represented the total population of such organisations in Australia. 40 of these organisations agreed by phone or email to participate in the survey, and 26 completed the questionnaire. Three respondents were removed from the sample because their responses indicated that they did not, in fact, operate B2B iMarketplaces. 23 out of the 44 eligible respondents, or 52%, of the total identifiable population participated in the study.

Crucially, buyers and sellers participating in Australian B2B iMarketplaces were not surveyed, because of the intense rivalry in the embryonic Australian B2B iMarketplace environment. We could not, therefore, investigate the applicability of Classification Scheme 3, because only sellers/buyers would know how they sell/purchase their products (systematic or spot sourcing); and concentrated on Classification Schemes 1 and 2 in gathering our data.

The authors of the identified classification schemas did not explicitly state their schema's objective, but the possibilities include describing the state of B2B iMarketplaces and predicting/viewing their development trends over time. To define criteria for the applicability of these schemas in the Australian context we adopted the former objective, because we were studying B2B iMarketplaces in Australia at a particular point in time. As a consequence, we developed the following assessment criteria:

- All types of iMarketplaces should be catered for – that is, there should be no new category/ies

- Each category of the classification scheme should contain at least one iMarketplace.

- The iMarketplaces should not exist primarily in one category, because this would not adequately categorise (or describe the state of) the Australian B2B iMarketplaces

The classification schema had to satisfy all three criteria to be applicable in the Australian context.

FINDINGS

Profile of the Participants

The respondents were predominantly managers within their organisations (57% were executives, 35% were managers, and 8% were analysts). The iMarketplaces were all Australian-based, with 57% entirely Australian, 22% a joint venture between Australian and overseas organisations, 17% were an Australian subsidiary of an overseas organisation and 4% were part of a global business operating in Australia. In all cases the iMarketplaces had an Australian domain name (ie, .com.au) which provided services only to Australian domestic companies.

The majority (64%) of the iMarketplaces were operated by relatively new organisations (established 1999-2000). The remainder were formed by long-established organisations, but the iMarketplaces themselves were only launched between 1997-2000. Although the literature does not indicate the percentage of B2B iMarketplaces established by new organisations, this confirms the view that both physical and cyber intermediaries create and operate B2B iMarketplaces (see Buxmann & Gebauer 1998, Chircu & Kauffman 2000, Giaglis et al. 1999).

Details of the iMarketplace industries were not solicited and have not been included in this paper because of the risk of identifying particular organisations.

Transactions Supported

We mentioned previously that iMarketplaces allowing B2C transactions were included, so long as the marketplaces themselves were predominantly B2B. Not surprisingly, this combination was typically found in B2B iMarketplaces in which products suitable for businesses and consumers were traded. In the paper we therefore distinguish between B2B-only (74%) and B2B-B2C (26%) iMarketplaces.

Classification Scheme 1 in Australia

Classification Scheme 1 categorises B2B iMarketplaces as vertical or horizontal. In Table 2 the Australian B2B iMarketplaces in our study are grouped by the categories in Classification Scheme 1 (the *Discussion* section assesses the applicability of this scheme in the Australian context). We considered B2B-only and B2B-B2C iMarketplaces separately and together, to identify the major differences resulting from B2C transactions.

Type of iMarketplace	B2B-Only	B2B-B2C	Overall
Vertical iMarketplace	8 (47%)	0 (0%)	**8 (35%)**
Horizontal iMarketplace	6 (35%)	3 (50%)	**9 (38%)**
Vertical-Horizontal iMarketplace (new category)	3 (18%)	3 (50%)	**6 (27%)**

Table 2: Types of Australian B2B iMarketplaces Based on Products/Services Traded

The most interesting finding in Table 2 was the identification of a third type of B2B iMarketplace within this classification scheme, in which:

- industry specific products and MRO goods were traded – 2 respondents;

- industry specific products, MRO goods, and general services/functions were traded – 2 respondents; and

- manufacturing inputs, industry specific products, MRO goods, and general services/functions were traded – 2 respondents. The respondents also stated that any products/services, in addition to the four types of products/services, *could be* traded through their iMarketplaces.

We defined this new type as a "vertical-horizontal B2B iMarketplace", because both vertical B2B iMarketplace products (manufacturing inputs and industry specific products) *and* horizontal B2B iMarketplaces (MRO goods and general services/functions) were traded. Table 2 shows that there was a fairly consistent spread of Australian B2B iMarketplaces across the three identified categories although, naturally, no B2C activities were carried out in the Vertical iMarketplaces.

In the following Sections, we discuss each type of B2B iMarketplace *seriatim.*

Vertical B2B iMarketplaces

Table 2 showed that there were 8 vertical B2B iMarketplaces trading manufacturing inputs and/or industry specific products. Table 3 provides further insight, summarising whether the vertical B2B iMarketplace focused

on trading manufacturing inputs only, industry specific products only, or both types of products (the distinction between B2B-only and B2B-B2C transactions has been omitted because vertical iMarketplaces were B2B-only).

General type of products/services traded	Number of Vertical B2B iMarketplaces
Industry specific products only	4
Manufacturing inputs only	1
Industry specific products and manufacturing inputs	3

Table 3: Types of Products Traded in Australian Vertical B2B iMarketplaces

The literature did not indicate whether vertical B2B iMarketplaces trade both manufacturing inputs and industry specific products, but Table 3 shows clearly that three of the vertical B2B iMarketplaces traded both types of product. Our observations of two of these three iMarketplace web sites suggested that the sites supported several industry-specific markets by providing a common infrastructure and services. Thus each industry-specific vertical iMarketplace was created separately by the intermediary but shared the infrastructure(Sawhney & Kaplan 1999).

Horizontal B2B iMarketplaces

Table 2 showed 9 horizontal B2B iMarketplaces trading MRO goods and/or general services/functions. Table 4 provides further insight into these horizontal B2B iMarketplaces by summarising whether the horizontal B2B iMarketplaces focused on trading MRO goods only, general services/functions only, or both types of goods.

Table 4 shows that most horizontal B2B iMarketplaces focused on trading either MRO goods or general services/ functions (8 of 9 respondents). Some respondents also provided additional information, identifying the types of general services/functions they traded, including travel, temporary staff, printing, HR, mobile phone, business insurance, internet, advertising, legal and accounting services.

As with vertical B2B iMarketplaces, the literature did not indicate whether both MRO goods and general services /functions were traded in horizontal B2B iMarketplaces. Table 4 suggests, however, that this is indeed possible.

Type of product/services traded	B2B-Only	B2B-B2C	Overall
Maintenance, Repair & Operating (MRO) goods only	3	2	**5**
General services/functions only	2	1	**3**
MRO goods and general services/functions	1	0	**1**

Table 4: Types of Products Traded in Australian Horizontal B2B iMarketplaces

The comparison of B2B-only and B2B-B2C iMarketplaces in Table 4 shows that both types can be horizontal B2B iMarketplaces, in contrast to vertical B2B iMarketplaces which were all B2B-only. This is not surprising because, as Turban *et al.* (2002)pointed out, individual consumers purchase various products/services from different industries for their own needs. It also seems apparent that the products/services in horizontal B2B iMarketplaces are more general, enabling them to be purchased by both consumers and businesses. For instance, individual consumers can purchase general office supplies such as chairs and computers for their personal needs.

Vertical-Horizontal B2B iMarketplaces

In Table 2 we classified 6 out of 23 respondents as "vertical-horizontal B2B iMarketplaces" because products in the domain of vertical B2B iMarketplaces and of horizontal B2B iMarketplaces were traded through these iMarketplaces. The various combinations are shown in Table 5.

Type of products/services traded	B2B-Only	B2B-B2C	Overall
Industry specific products and MRO goods	2	0	2
Industry specific products, MRO goods and general services/functions	0	2	2
Manufacturing inputs, industry specific products, MRO goods and general services/functions	1	1	2

Table 5: Types of Products/Services Traded in Australian Vertical-Horizontal B2B iMarketplaces

We classified 2 respondents as vertical-horizontal B2B iMarketplaces, because, as Table 5 shows, industry specific products (the domain of vertical iMarketplaces) as well as MRO goods (the domain of horizontal

Shon, Parker, Swatman (Paper #205)

iMarketplaces) were traded. It was not clear why both industry specific products and MRO goods were traded in these iMarketplaces. However, some possible explanations can be surmised based on other findings:

- 1 respondent stated that their iMarketplace was formed by buyers in a particular industry to purchase industry specific products (that is, a vertical B2B iMarketplace). However, these purchasing companies also need MRO goods (that is, a horizontal B2B iMarketplace) for their day-to-day operations. The purchasers have attracted MRO goods suppliers to the iMarketplace so that they do not need to use other iMarketplaces.

- the other respondent stated that they operated a number of vertical B2B iMarketplaces (trading industry specific products) and horizontal B2B iMarketplaces (trading MRO goods), providing the same infrastructure and features for each. This iMarketplace is similar to the multiple vertical B2B iMarketplaces which share the same infrastructure, but differs because of its inclusion of horizontal B2B iMarketplace goods.

Table 5 shows that we also classified another 2 iMarketplaces as vertical-horizontal B2B iMarketplaces because the respondents selected all four types of products/services which were included in the questionnaire. The respondents clarified this when they stated that *any* products/services could be traded through their iMarketplace, not just the four types stated in the questionnaire.

Our observations of the web sites of these two iMarketplaces suggested that they provided an open electronic platform through which many buyers and many suppliers could join and trade almost any products/services. Schneider and Schnetkamp (2000)describe this type of iMarketplace as an "open marketplace world". This finding implies the need for future research to determine what particular types of products/services (besides the four types identified in the literature) *are actually traded* in these iMarketplaces and whether buyers, sellers, or intermediaries are most likely to create and/or operate such an entity.

The remaining 2 iMarketplaces which we classified as vertical-horizontal B2B iMarketplaces traded both industry specific products (the domain of vertical B2B iMarketplaces) as well as MRO goods and general services/functions (the domain of horizontal B2B iMarketplaces). Our observations of the web sites of these iMarketplaces indicated that they appeared to have been created by iMarketplace developers who also operated the market-space, which satisfied our definition of B2B iMarketplace intermediaries. We were not able to determine the reasons why they allowed both vertical and horizontal products/services, but one possible reason for excluding manufacturing inputs could be that these were both B2B-B2C iMarketplaces.

Classification Scheme 2 in Australia

In Table 6 we have grouped the Australian B2B iMarketplaces in our study as buyer, seller or third party initiated. We considered B2B-only and B2B-B2C iMarketplaces separately and together to identify major differences resulting from B2C transactions.

Types of iMarketplaces	B2B-Only	B2B-B2C	Overall
Third party-driven iMarketplaces	13 (76%)	5 (83%)	18 (78%)
Buyer-driven iMarketplaces	1 (6%)	0 (0%)	1 (4%)
Seller-driven iMarketplaces	3 (18%)	1 (17%)	4 (18%)

Table 6: Initiators of Australian B2B iMarketplaces

Table 6 shows that all 23 iMarketplaces in our survey fell into one of these three categories. The comparison of B2B-only and B2B-B2C iMarketplaces in Table 6 also shows that third party-driven iMarketplaces were by far the most common, but that there were no major differences in the distribution of the iMarketplaces between the three categories, with the exception of buyer-driven iMarketplaces, where there was no B2C activity.

In the following Sections, details of the three types of Australian B2B iMarketplaces will be discussed in order to provide insight into each category.

Third party-driven B2B iMarketplaces

Table 6 shows that the majority of Australian B2B iMarketplaces (18, or 78%) were third party-driven. In addition, the table shows no major differences between B2B-only and B2B-B2C iMarketplaces, because a similar proportion (approximately 76% versus 83% respectively) were third party-driven.

The survey results did not investigate why Australian iMarketplaces were primarily third party-driven iMarketplaces, although buyers and sellers may not see the potential for initiating their own B2B iMarketplaces, or the Australian business community may be too small for a many buyer and seller-driven iMarketplaces. The

third party-driven B2B iMarketplaces could be classified further (on the basis of the products/services traded) as vertical, horizontal or vertical-horizontal B2B iMarketplaces:

- industry-specific products were traded in 3 iMarketplaces (vertical iMarketplaces);

- non industry-specific products/services were traded in 6 iMarketplaces (horizontal iMarketplaces); and

- both types of products/services were traded in 4 iMarketplaces (vertical-horizontal iMarketplaces).

Seller-driven B2B iMarketplaces

Table 6 showed that 4 out of 23 respondents were classified as seller-driven B2B iMarketplaces. Table 7 provides further insight into the Australian B2B seller-driven iMarketplaces by summarising the types of transactions (that is, B2B-only or B2B-B2C) they allowed and the products/services they traded.

Respondents	Type of transaction allowed	Type of products/services traded
iMarketplace 1	B2B-only	Industry specific products
iMarketplace 2	B2B-only	Industry specific products and manufacturing inputs
iMarketplace 3	B2B-only	Industry specific products and manufacturing inputs
iMarketplace 4	B2B-B2C	MRO goods and general services/functions

Table 7: Types of Products/Services Traded in Seller-driven B2B iMarketplaces in Australia

Interestingly, all three seller-driven B2B iMarketplaces allowing only B2B transactions focused on trading industry specific products and/or manufacturing inputs (vertical B2B iMarketplaces). The remaining seller-driven B2B iMarketplace traded MRO goods and general business services (a horizontal B2B iMarketplace) and permitted B2C transactions, perhaps because they are appropriate for both business and consumer use.

Please note that we cannot provide more detail about the products/services being traded in this category due to the risk of identifying the participants (see the *Research Design* section for further explanation).

Buyer-driven B2B iMarketplaces

Table 6 showed there was only 1 Australian buyer-driven iMarketplace. It is not surprising that this iMarketplace was B2B-only, because it would be rare for consumers to initiate an iMarketplace. However, the findings related to this respondent must be taken with caution because there was only a single occurrence of this type.

We were not able to determine possible explanations for the very low number of buyer-driven iMarketplaces, but we did identify at least two more which did not participate in our research project, because their iMarketplaces were still under development at the time of the survey. This suggests that:

- future research is needed to determine whether new types of B2B iMarketplaces have since emerged ; and

- the small number of buyer-driven B2B iMarketplaces in Australia could be due to non-response bias, although the total number is still likely to be low compared to third party-driven B2B iMarketplaces.

DISCUSSION

In the *Findings* section we applied Classification Schemes 1 and 2, which were identified in the literature, to B2B iMarketplaces in the Australian context. Using the schema evaluation criteria outlined in the *Research Design* section we were able to conclude whether each scheme applied in Australia.

We can see from the *Classification Scheme 1 in Australia* section that:

- the scheme **did not** satisfy the first assessment criterion, because a third category "vertical-horizontal B2B iMarketplaces" was discovered, in addition to the "classical" vertical and horizontal B2B iMarketplace structure suggested by the literature;

- the scheme **did** satisfy the second assessment criterion, *with the addition of vertical-horizontal B2B iMarketplaces*, because each category of the scheme had at least one iMarketplace – 8 vertical B2B iMarketplaces, 9 horizontal B2B iMarketplaces and 6 vertical-horizontal B2B iMarketplaces;

- the scheme **did** satisfy the third assessment criterion, *with the addition of vertical-horizontal B2B iMarketplaces,* because it produced a proportional spread of B2B iMarketplaces across the 3 categories – 35% of vertical iMarketplaces, 38% of horizontal iMarketplaces and 26% of open iMarketplaces.

- We can see from the *Classification Scheme 2 in Australia* section that:

- the scheme **did** satisfy the first assessment criterion, because there were no new categories discovered from the findings;

- the scheme **did** satisfy the second assessment criterion, because each category of the classification scheme had at least one iMarketplace – 18 third party-driven B2B iMarketplaces, 1 buyer-driven B2B iMarketplace and 4 seller-driven B2B iMarketplaces;

- the scheme **did not** satisfy the third assessment criterion, because there were a large number of iMarketplaces which fell into a single category – the third party-driven B2B iMarketplace category (18 or 78%).

The analysis provides indicative support for the view that both Classification Schema 1 and 2, while superficially good, were not truly appropriate in the Australian context because they did not satisfy all three assessment criteria. A modified version of Classification Scheme 1 including vertical-horizontal B2B iMarketplaces would, however, satisfy the three assessment criteria. Naturally there are alternative objectives for the use of classification schema, such as its use as a framework for viewing B2B iMarketplace development trends. This objective might be especially useful in longitudinal research aimed at investigating the changes in the B2B iMarketplace environment over time, such as classification quadrants exhibiting reduced or increased numbers of iMarketplaces.

We therefore propose a preliminary classification scheme, combining Classification Schemes 1 and 2, which we believe would be useful in viewing the evolution of B2B iMarketplaces over time – because, for instance, the findings showed that Australian third-party driven B2B iMarketplaces could also be further categorised as vertical, horizontal or vertical-horizontal. Table 8 shows how this preliminary classification scheme would apply.

	Third party-driven	Buyer-driven	Seller-driven	Total
Vertical	5	0	3	8
Horizontal	8	0	1	9
Vertical-Horizontal	5	1	0	6
Total	18	1	4	23

Table 8: Preliminary Classification Scheme for B2B iMarketplaces

We believe that the preliminary classification scheme presented in Table 8 will provide a framework for follow-up studies of Australian B2B iMarketplaces (including an investigation into the possible non-response bias evident in our survey) to determine, for instance:

- whether the empty quadrants now have any representatives (although buyer-driven vertical iMarketplaces seem unlikely at any time)

- whether the populated quadrants now have additional or fewer representatives

- possible reasons (perhaps through a combination of surveys and case studies) for changes over time.

CONCLUSION

In this paper we have examined the existing research concerning the classifications of B2B iMarketplaces (and the intermediaries which operate them), which has tended to focus on viewing US iMarketplace web sites or conducting case studies. This paper has extended this work by conducting a survey of the total identifiable population of Australian B2B iMarketplace intermediaries. The findings from this survey indicate that:

- the scheme classifying B2B iMarketplaces as either vertical or horizontal did not apply in the Australian context because a third category, which we called vertical-horizontal B2B iMarketplaces, was discovered – but the scheme did apply if this third category were included;

- the scheme classifying B2B iMarketplaces as either third party, seller or buyer driven did not apply in the Australian context because the majority of the iMarketplaces are third party-driven – the scheme therefore did not adequately describe the state of such iMarketplaces at the time of the survey.

The paper describes a preliminary classification scheme, combining the two schemas studied, which provides a useful framework for studying the evolution of B2B iMarketplaces over time. Researchers can investigate this evolution by identifying which quadrants in the two dimensional scheme show increasing and decreasing representation. It also provides a framework for researchers to explore possible reasons underlying the trends through surveys and in-depth case studies.

Clearly, this research marks only the first stage of a longer-term investigation of this increasingly important market mechanism. Surveys are not designed to uncover rich data and, following the understanding of the Australian iMarketplace landscape which this paper has provided, a method which can provide such data, most probably case study-based, is the next step (although the competitiveness of these market-spaces, and the concern for confidentiality which our respondents evinced, suggest that gathering the data will not be an easy task).

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