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TO WHOM IT MAY CONCERN

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B2B e-Market adoption in South African retail companies

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Abstract

The purpose of this research was to investigate the current state of B2B e-market adoption among South African retail companies. The literature review found that the benefits of e-markets are not fully realized among developing country firms (Tregurtha & Fink, 2002) and that this is mainly due to the lack of technological infrastructure at that stage. Products with a high degree of standardization, a low complexity of valuation, and ease of disruption show fewer problems when traded in e-marketplaces (Schmitz, 2000, as cited by Humphry, 2002). It was further noted that organizations of all sizes have the potential to reap the benefits of e-market participation. However, the adoption of e-markets has been hindered in South Africa after the dot-com crash in April 2000 which left low confidence in information technology (Cloete & Fourie, 2004). This paper summarises the research process in order to investigate B2B e-market adoption among South African retail companies. A modified Technology Acceptance Model (TAM) was used as the research tool for this investigation and a survey technique was used in order to gather quantitative data, using questionnaires. This data was used to test the hypothesis developed, thus a positivist philosophy was used with deductive reasoning.

Keywords: B2B e-marketplaces, e-commerce, South Africa, Adoption

1. Introduction

Internet based B2B e-marketplaces are the new drivers of economic growth for developing countries like South Africa (Vatanasakdakul, Tibben & Cooper, 2004). They generate benefits relating to cost reduction, expanded network scale and improved service levels (Moodley, Morris & Barnes, 2001). Such benefits are however realised to a limited extent in developing countries including South Africa, mainly due to a lack of technological infrastructures (Paré, 2002; Humphrey, Mansell, Pare & Schmitz, 2003; Tregurtha & Vink, 2002; Vatanasakdakul et al., 2004). Furthermore, a drop in the confidence towards information technology was registered in April 2000 due to the dotcom companies' crash, which in turn hindered e-market adoption in South Africa (Cloete & Fourie, 2004). However, studies conducted after the dotcom crash in 2000 predicted an acceleration in

the e-market adoption rate (Aberden 2000; Bothma, 2000), with South Africa adopting a “wait and see” approach in order to learn from the successful strategies implemented by first world countries (Cloete & Fourie, 2004). As such, it is valuable to evaluate the state of B2B e-market adoption among South African organizations in the retail sector two years after these predictions.

The study focused on B2B e-market adoption among South African retail companies across various South African provinces. It investigated common factors for B2B e-markets non-adoption as well as factors influencing intention to maintain B2B e-market usage among South African companies who already adopted the technology.

The objectives of this research were to investigate:

- Whether most South African retail companies adopt B2B e-markets
- Whether perceived usefulness influences the intention to continue using B2B e-markets
- Whether perceived ease of use influences the intention to continue using B2B e-markets
- Whether perceived ease of use influences the perceived usefulness of B2B e-markets
- Whether the size of the organisation affects the adoption of B2B e-markets
- Whether the product category of the retail organisation affects the adoption of B2B e-markets

Results from this study might inform South African retail organisations about factors hindering adoption thus allowing them to take active measures in embracing e-market adoption. Also, by highlighting the perceived usefulness and perceived ease of use of adopters, non-adopters might be able to assess the benefits arising from participating in B2B e-markets.

2. Literature review

Businesses to business (B2B) electronic marketplaces are open systems allowing organisations to perform business transactions with suppliers and customers in a virtual market (Ordanini, 2005). Through B2B e-markets, transaction costs are reduced, market liquidity is generated and transparency of product and price is enhanced while bidding from a broad variety of potential suppliers (DeSisto, 2004; Zhu, 2004).

2.1. Perceived usefulness of B2B e-markets

On an organizational level, the benefits of B2B e-market adoption are significant (Tregurtha & Vink, 2002) and can be categorized according to its ability to reduce costs, expand network scale and improve service levels. B2B e-markets allows for cost reduction (Vatanasakdakul et al., 2004), through reduced marketing time (Moodley et al., 2001), optimized streamline and inter-firm transactions (Paré, 2002). Furthermore, Berthon, Ewing, Leyland & Naude (2003) classified the transaction costs savings that organisations might benefit from using B2B e-marketplaces into 6 categories, namely: information costs, searching costs, bargaining costs, decision costs, policy costs and enforcement costs.

In terms of expanded network scale, organisations have better access to customers and suppliers through B2B e-markets (Paré, 2002) and are able to compete globally through upstream and downstream linkages in the value chain (Moodley et al., 2001; Paré, 2002). This allows for close relationships and trading partners to be created. Service levels are improved by offering more products and services, providing faster and better information, a shortened delivery time, improved ability to compare options, a more efficient and effective customer service and an advanced supply chain management and logistics (Moodley et al., 2001). However, organisations in developing countries have yet to realise many of these benefits (Paré, 2002; Humphrey et al., 2003).

The perceived ease of use is also reflected in the technological challenges faced by organizations while adopting B2B e-markets. These include security, integration of systems, networking capabilities, content management, backup recovery and disaster recovery plans (Kenney & Lheureux, 2005). Providing adequate security to databases, applications, networks, transaction systems and payment systems is therefore important when using e-markets.

2.2. Organisational size in e-market adoption

In general, B2B e-commerce sites are not efficient in attracting customers unless the organization is the largest customer or the sole supplier (Edwards, 2001). In such case, the only option is to follow the rules of the sponsoring company or to do business elsewhere. E-marketplaces correct this imbalance by preventing the predominance of the interests of one group over another (Edwards, 2001).

The other benefit of B2B e-markets relate to small businesses. In essence, while some large organisations have the capital, name recognition and technical expertise to run successful e-commerce sites, small businesses might fall behind in this respect. However, with e-markets, small businesses are able to act as cost-effective sellers and not only buyers, in national and international markets (Edwards, 2001).

2.3. B2B e-markets adoption in South Africa

For developing economies, such as South Africa, the benefits of e-marketplaces is promising particularly when exporting goods to international markets at a relatively low risk and low-cost manner (Tregurtha & Vink, 2002). However, very few of the benefits of e-markets have been realised by developing countries (Paré, 2002; Humphrey et al., 2003; Tregurtha & Vink, 2002; Vatanasakdakul et al., 2004).

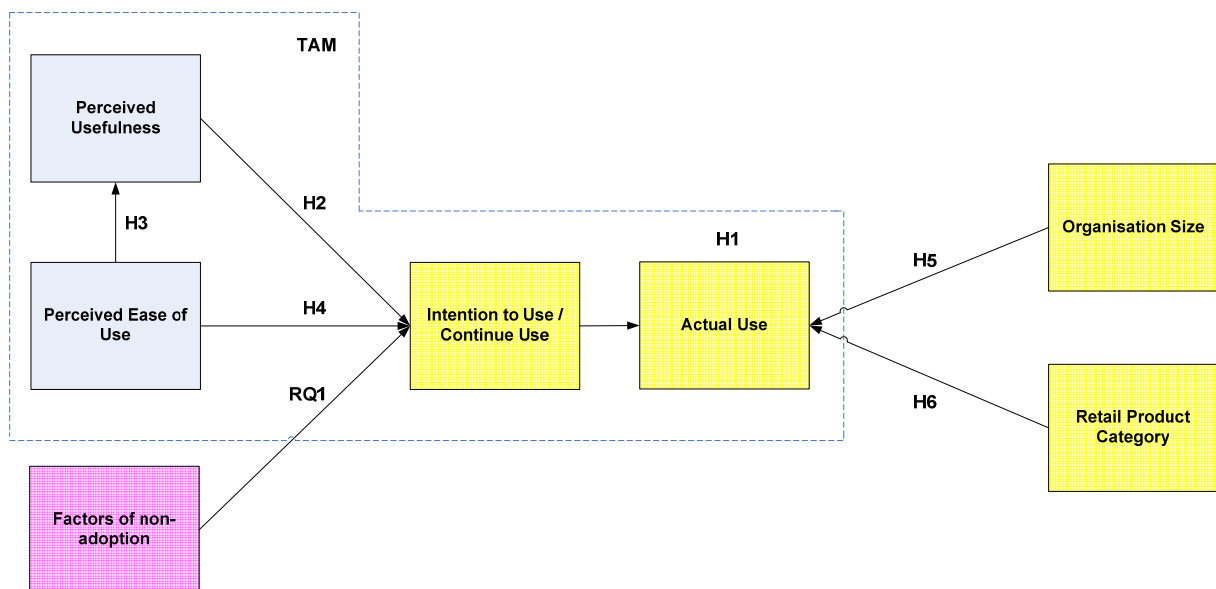
The crash of the dotcom companies in April 2000 hindered e-market adoption in South Africa as it resulted in reduced confidence in information technology (Cloete & Fourie, 2004). However many exchanges have since emerged, in an attempt to scramble market share in South Africa despite the dotcom crash (Doens, 2003). For instance, MyMarket.com, an e-marketplace and member of the JSE Securities Exchange listed in the Bidvest Group Limited, was launched in November 2000 and went live in July 2001 (MyMarket.com, 2002). Commerce One, a worldwide leader in e-procurement, provides

the software on which the e-marketplace is running. They have a South African team who support the product locally and enjoy the support of a huge buyer and seller base (MyMarket.com, 2002).

3. Research model

Figure 1 represents the modified TAM which was employed for this study. The research model has been developed in order to test B2B e-market adoption in South African retail companies. The factor 'intention to use', in the original TAM model pertaining to organisations who have not yet adopted, now also includes 'intention to continue use' which pertains to the adopters of B2B e-markets. Perceived usefulness of the original TAM model now focuses on the perceived benefits incurred by the organisation who participate in B2B e-marketplaces.

Figure 1: Modified TAM



Based on the research model, the hypotheses defined and tested in this study are described in Table 1.

Table 1: Research hypotheses for this study

Hypothesis 1	H10: Most South African retail companies do not adopt B2B e-marketplaces H11: Most South African retail companies do adopt B2B e-marketplaces
Hypothesis 2	H20: PU does not influences the intention to continue the use of an e-marketplace H21: PU positively influences the intention to continue the use of an e-marketplace
Hypothesis 3	H30: PEOU does not influence PU H31: PEOU positively influences PU
Hypothesis 4	H40: PEOU does not influence the intention to continue to use an e-marketplace H41: PEOU positively influences the intention to continue to use an e-marketplace
Hypothesis 5	H50: Organisational size is not a predictor of e-marketplace adoption H51: Organisational size is a predictor of e-marketplace adoption
Hypothesis 6	H60: Retail product category is not a predictor of intending to use e-marketplaces H61: Retail product category is a predictor of intending to use e-marketplaces

4. Research design

The epistemological stance adopted for this study was empirical and positivist. The survey technique was employed and quantitative data was gathered through the use of questionnaires which were then used to accept or reject the hypotheses. The survey was directed at South African retail companies who were easily accessible via e-mail, telephonically or personally. The sample unit was categorised by size, retail product category and branch location.

Several measures were put in place to ensure data integrity. In essence, upon receipt of a completed questionnaire, the data was immediately captured onto Microsoft Excel. The data collected was counted and analysed several times to ensure accuracy and reduce human errors.

The questionnaire was adapted from two studies entitled “The current state of B2B e-marketplace adoption in South African Agriculture” (Doens, 2005) and “Electronic Marketplaces in South Africa: Adoption factors and perceived benefits” (Hulme, Motlekar & Palmer, 2003). The questionnaire was divided into three parts namely (1) Demographics (2) Company Information, and (3) the company’s possible e-market adoption.

Part A: Demographics

In the Demographics section, information was gathered on the respondent’s role in the company, to validate the questionnaire’s data since questionnaires completed by the wrong person would lead to inconclusive data.

Part B: Company Information

In the company information section, the respondent was asked to specify the organisation's retail product category, size and location. These questions related to hypotheses five and six. Size was determined by the amount of paid employees within the organisation (Antonie, 2001) as described below:

- Micro: Less than or equal to 5 paid employees
- Very small: Less than or equal to 10 paid employees
- Small: Less than or equal to 50 paid employees
- Medium: Less than or equal to 100 paid employees
- Large: More than 100 paid employees

Part C: E-marketplace Adoption

In the E-marketplace adoption section, respondents were asked to specify whether their company participated in e-marketplaces as well as the type of participation. The questions related to the first hypothesis. Question nine and 13 were measured on a Likert scale to investigate positive or negative responses to the statements (Association for Information Systems, 2006). Question nine assessed the main reasons for e-market non-adoption and question 13 tested the perceived usefulness and perceived ease of use of e-market participation (i.e. Hypotheses Two, Three and Four). The adopters and non-adopters were divided into those who intended to continue using or to start using B2B e-markets and those who did not. These were both measured on an ordinal measurement scale. Companies were contacted by email, personally and telephonically to request for participation. This method achieved a response of 73 useful returned questionnaires. Enough respondents were gathered from all organisation sizes to allow for valid statistical analysis, including Micro (30.41%), Very Small (20.55%), Small (21.92%), Medium (13.70%), and Large (13.70%).

Although every effort was made to ensure that organisations from all provinces are represented in this research, 90.41% of respondent's head offices were located in the Western Cape which was most accessible to the researchers. The others were located in Gauteng (6.85%) and KwaZulu-Natal (2.74%).

The respondents were categorised according to their hierarchy within the organisation: owners, directors, managers, buyers and clerks. Owners (38.36%) and directors (10.96%) were involved in the organisation's decision making process of operations whilst managers (32.88%) and buyers (4.11%) were aware of the organisations operations. These respondents were assumed to have credibility and provided quality responses.

5. Data analysis

This section details the analysis of results obtained from this study. In order to investigate whether retail product category influences B2B e-market adoption, the product categories were divided into durable (49%) and non-durable goods (51%). This categorisation could be interpreted as a limitation of the study but was necessary, due to the limited number of respondents in the initial categories proposed in the questionnaire. In essence, 27% of the companies belonged to the food industry while the other categories (e.g. automobiles, cell phones, clothing, toys, etc.) had very low percentages ranging between 10% and 2%.

75.34% of the respondents did not participate in e-marketplaces. Even though the majority of those non-adopters (70.91%) were not introduced to the use and potential benefits of e-marketplaces adoption, 65.45% considered participating in e-marketplaces in the future.

Table 2 represents the expected e-market adoption spread per organisational size based on the study results. It can be noted that 55.56% of micro organisations do not intend to use e-marketplaces in the future. However, very small (78.57%), small (83.33%) and large organisations (80.00%) intended to participate in e-marketplaces in the future.

Table 2: E-market participation per organisational size

	Intend to use	% of total	Do not intend to use	% of total	Total
Micro	8	44.44%	10	55.56%	18
Very Small	11	78.57%	3	21.43%	14
Small	10	83.33%	2	16.67%	12
Medium	3	50.00%	3	50.00%	6
Large	4	80.00%	1	20.00%	5
	36	65.45%	19	34.55%	55

Table 3 represents the product categories of the B2B e-markets adopters. It can be seen from the table that the majority of the adopters (23.53%) belonged to the electronics product category. This is followed by Food and Pharmaceuticals who both represented 17.65% of the adopters.

Table 3: Adopters product categories

Product Category	Adopters	% of Adopters
Cell phones	2	11.76%
Food	3	17.65%
Electronics	4	23.53%
Pharmaceuticals	3	17.65%
Lifestyle Products	1	5.88%
Hardware	2	11.76%
Travel	1	5.88%
Digital Printing	1	5.88%

According to the results, most of the respondents adopted e-marketplaces around 2001 (27.78%) and 2002 (22.22%) in spite of the dotcom crash which happened between April 2000 and October 2002. Also, 48.39% of the adopters used e-marketplaces for buying

goods while the others used it for selling (22.58%) and advertising (25.81%).

6. E-Market adopters' perception

The 17 respondents who participated in e-marketplaces were asked their perceptions on 11 statements (see Table 4) regarding their e-marketplace participation. The respondents had to specify their amount of agreement with the 11 statements on a 5-point Likert rating scale:

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

The data was interpreted using a mean of 3. Statements with a mean of 3 and above denoted disagreement while statements with a mean lower than 3 denoted agreement.

Table 4: PU, PEOU and ITCU statements

	Statement	Mean	SD	Decision
	<u>Perceived usefulness (PU)</u>			
a.	<i>Using the e-marketplace leads to significant operational improvements for our company</i>	2.22	1.26	Agree
b.	Since our company participates in the e-marketplace our company has traded products with a growing number of overseas companies.	3.56	1.20	Disagree
c.	Our company generates business with most of our new customers through the use of the Internet and the e-marketplace our company participates in.	3.44	1.34	Disagree
d.	Using the e-marketplace helps our company to reduce process and transaction costs.	2.39	1.29	Agree
e.	Using the e-marketplace makes our company respond to changing trade preferences more rapidly than in the past.	2.39	1.20	Agree
f.	Using the e-marketplace allows our company to streamline and optimise trade preferences more rapidly than in the past.	2.44	1.15	Agree
g.	Using the e-marketplace allows our company to provide the other companies on the e-marketplace with better information faster.	2.33	1.24	Agree
	<u>Perceived ease of use (PEOU)</u>			

h.	<i>I find the e-marketplace easy-to-use.</i>	2.00	1.19	Agree
i.	It is easy to become skillful at using e-marketplaces in a short period of time.	2.11	1.28	Agree
j.	Interaction with most e-marketplaces is concise	2.33	1.24	Agree
	<u>Intention to continue use (ITCU)</u>			
k.	<i>Our company intends to continue using the e-marketplace rather than discontinue its use.</i>	1.33	0.97	Agree

The following statements from Table 4 had a mean of 3.00 or above, thus denoting disagreements:

- Since our company participates in the e-marketplace our company has traded products with a growing number of overseas companies.
- Our company generates business with most of our new customers through the use of the Internet and the e-marketplace our company participates in.

These were the only two statements that overall adopters disagreed upon. Statement (a) obtained the highest level of agreement for perceived usefulness (mean 2.22), denoting that adopters found that e-marketplaces lead their company to significant operational improvements. All PEOU statements were agreed upon by all adopters (mean 2.00, 2.11, and 2.33) denoting that e-marketplaces are easy-to-use.

There was also a very strong level of agreement as to continuing their use of e-marketplaces (mean 1.33). In essence, only 1 of the 18 adopters disagreed to the idea of continued usage of e-marketplaces. This particular adopter was from medium sized company selling lifestyle products, with branches in Eastern Cape, Kwazulu-Natal and Western Cape. The respondent added a comment at the end of the questionnaire explaining that within the lifestyle environment, people want to see and touch the product in the correct physical environment. For this reason, e-marketing/selling did not add value to the company, thus explaining the discontinued usage intention.

7. Hypotheses and research questions results

Due to the paper restrictions, only a summary of the hypothesis testing will be presented. Detailed analysis can be obtained from the researchers. As can be seen in the tabulations summarized in Appendix 1, there is sufficient evidence to support the null hypothesis which indicates that:

- Most South African retail companies do not adopt B2B e-marketplaces (Hypothesis 1).
- PU positively influences the ITCU of an e-marketplace (Hypothesis 2).
- PEOU positively influences PU (Hypothesis 3).

- PEOU does not influence the ITCU of e-marketplaces (Hypothesis 4).
- Organisational size is not a predictor of e-marketplace adoption (Hypothesis 5).
- Retail product category is not a predictor of e-marketplace adoption (Hypothesis 6).

8. Non-adoption factors

The 55 respondents who did not participate in e-marketplaces were asked their perceptions on 17 statements (see Table 5) regarding non-adoption factors. The respondents had to specify the relevance of these 17 statements based on a 5-point Likert scale shown below:

1	2	3	4	5
Highly relevant	Relevant	Neutral	Irrelevant	Highly Irrelevant

The data was interpreted using a mean of 3. Statements with the mean of 3 and above denoted irrelevance and statements with a mean of less than 3 denoted relevance.

Table 5: Factors of non-adoption

	Statement	Mean	SD	Decision
	Technological Factors			
a.	<i>Lack of infrastructure</i>	2.45	1.40	Relevant
b.	Security	2.87	1.45	Relevant
c.	Lack of technical expertise within the company	3.00	1.43	Relevant
	Business Factors			
d.	Too costly	2.78	1.41	Relevant
e.	Lack of management support	3.22	1.44	Irrelevant
f.	Too few suppliers	3.04	1.23	Irrelevant
g.	Too few buyers	3.04	1.40	Irrelevant
h.	Expected benefits don't outweigh the costs	2.51	1.26	Relevant
i.	Caution with regards to current economic environment	3.22	1.20	Irrelevant
j.	No appropriate models exist	3.13	1.33	Irrelevant
k.	<i>Still in the planning stages</i>	3.51	1.32	Irrelevant
l.	Successes are difficult to ascertain	2.80	1.13	Relevant

m.	Behavioural and Educational Factors			
	Lack of information	2.89	1.49	Relevant
n.	Existing buyer/supplier relationships (locked-in)	3.16	1.40	Irrelevant
o.	Hesitant to embrace the new technology	3.47	1.45	Irrelevant
p.	Waiting for general industry adoption	3.44	1.21	Irrelevant
q.	Lack of willing suppliers to co-operate	3.07	1.27	Irrelevant

As can be seen in Table 5, the 11 statements had a mean of 3.00 or above which denote irrelevance. *Still in the planning stages* was the most irrelevant factor of non-adoption (mean 3.51), although 65.45% of non-adopters plan to participate in e-marketplaces in the future.

Table 5 also shows that 6 of the statements were found relevant by respondents as to why they did not adopt B2B e-marketplaces. *A lack of infrastructure* (mean 2.45) was the main reason for which respondents did not adopt B2B e-marketplaces. The *expected benefits don't outweigh the costs* (2.51) was the next most relevant factor.

The most relevant non-adoption factors per organisational size, based on the mean values, are listed in Table 6.

Table 6: Factors of non-adoption per organisational size

	Statement	Micro	Very Small	Small	Medium	Large
	Technological Factors					
a.	Lack of infrastructure	1.83	2.71	2.75	2.33	3.40
b.	Security	3.33	2.57	2.75	3.00	2.20
c.	Lack of technical expertise within the company	2.94	3.07	2.75	2.67	4.00
	Business Factors					
d.	Too costly	2.33	2.93	2.83	3.33	3.20
e.	Lack of management	3.61	3.14	3.25	2.67	2.60

	support					
f.	Too few suppliers	3.11	3.00	2.67	3.50	3.20
g.	Too few buyers	3.00	2.79	3.42	3.00	3.00
h.	Expected benefits don't outweigh the costs	2.33	2.14	3.08	2.67	2.60
i.	Caution with regards to current economic environment	3.11	2.93	3.42	3.33	3.80
j.	No appropriate models exist	3.11	3.07	2.83	3.17	4.00
k.	Still in the planning stages	4.00	3.00	3.50	3.17	3.00
l.	Successes are difficult to ascertain	2.78	2.71	2.67	3.17	3.00
	Behavioural and Educational Factors					
m.	Lack of information	3.06	2.29	3.08	3.17	3.20
n.	Existing buyer/supplier relationships (locked-in)	3.28	2.57	2.75	3.00	2.20
o.	Hesitant to embrace the new technology	3.44	3.43	3.00	4.00	4.20
p.	Waiting for general industry adoption	3.67	3.00	3.42	3.83	3.40
q.	Lack of willing suppliers to co-operate	3.17	2.50	3.25	3.17	3.80

As can be seen in table 6, factors affecting non-adoption in micro organisations are:

- Lack of infrastructure
- Expected benefits do not outweigh the costs
- Too costly
- Successes are difficult to ascertain
- Lack of technical expertise within the company.

A lack of infrastructure is the factor which mostly impacted on micro organisations (mean 1.83). It was also the most relevant factor of non-adoption of B2B e-marketplaces among all organisational sizes. Interestingly, only 4 factors were relevant to micro organisations' non-adoptions and no behavioral and educational factors were relevant to micro-organisations' non-adoption.

Table 6 also indicates that factors affecting very small organisations non-adoption are:

- Expected benefits do not outweigh the costs
- Lack of information
- Lack of willing suppliers to co-operate
- Security
- Existing buyer/supplier relationships (locked-in)
- Successes are difficult to ascertain
- Lack of infrastructure
- Too few buyers
- Too costly
- Caution with regards to current economic environment

Expected benefits don't outweigh the costs was the most common factor of non-adoption (mean 2.14). This factor is also the second most relevant factor that all non-adopters are not participating in e-markets.

Factors affecting small organisations non-adoption, according to Table 5, are:

- Too few suppliers
- Successes are difficult to ascertain
- Existing buyer/supplier relationships (locked-in)
- Lack of infrastructure
- Security
- Lack of technical expertise within the company
- Too costly
- No appropriate models exist.

The most relevant non-adoption factors in small organisations are too few suppliers (mean 2.67) and successes are difficult to ascertain (mean 2.67). It is interesting to note that all technological factors are relevant factors of non-adoption for small organisations.

It can also be seen from Table 6 that factors affecting medium organisations non-adoption are:

- Lack of infrastructure
- Lack of technical expertise within the company
- Lack of management support
- Expected benefits do not outweigh the costs

As is the case in micro organisations, the most common factor of non-adoption in medium organisations is a lack of infrastructure (mean 2.33). Lack of technical expertise within the company, lack of management support and expected benefits don't outweigh the costs all scored the same level of relevance (mean 2.67).

Factors affecting large organisations non-adoption, as shown in Table 6, are:

- Security
- Existing buyer/supplier relationships (locked-in)
- Lack of management support
- Expected benefits don't outweigh the costs.

The most common factors of non-adoption in large organisations are security (mean 2.20) as well as existing buyer/supplier relationships (locked-in) (mean 2.20).

9. Factor analysis

Results from the factor analysis (see Appendix 2) revealed the following:

The expected benefits do not outweigh the costs between organisations that have existing buyer/supplier relationships (locked-in). The lack of suppliers willing to co-operate can be due to the fact that there are no appropriate models that exist when adopting e-marketplaces and organisations exercise caution with regard to the current economic environment. Too few suppliers willing to co-operate can be due to security issues related to e-market participation.

Organisations are still in the planning stages of e-market adoption which contributes to the fact that they are still lacking in the infrastructural needs of e-marketplaces. Lack of technical expertise within the company contributes to the cost of e-market adoption which can prove to be too costly in an organisation. The lack of technical expertise within the company also contributes to the organisation being hesitant to embrace the new technology.

There will be more information available as more industries adopt e-markets. This current lack of information introduces a lack of management support which can be combated once there is general industry adoption.

A major limitation to the data analysis of this study is the small sample size. Caution should be taken with regard to making conclusions about the population as the 73 respondents do not represent the population adequately. Conclusions cannot be made for different organisational sizes, as categorising the sample even further results in a poorer representation of the population. Therefore, the conclusions in this study represent the sample only.

10. Conclusion and recommendations

This study has provided insight to the state of B2B e-market adoption among South African retail companies through its literature review and data analysis. It has tested the variables of the TAM model as well as the organisational size and retail product category in B2B e-market adoption.

Most South African retail companies have not adopted B2B e-marketplaces at the time of this study. Most organisations have not yet been introduced to the use and potential benefits of e-markets. Despite this lack of awareness, most non-adopters consider participating in e-marketplaces in the future. All size organisations, besides micro organisations considered partaking in e-marketplaces in the future.

The study pointed out that most of the organisations who have adopted e-markets were large organisations. Electronics was the most common retail product category among the adopters. Most organisations began operating in B2B e-marketplaces during 2001 and 2002 and mostly use e-marketplaces for buying activities.

As opposed to past studies (Edwards, 2001), the study could not identify organisational size as a predictor of e-marketplace adoption. For instance, most micro organisations, did not intend to use e-marketplaces in the future. The majority of non-adopters were not introduced to the use and potential benefits accruing to those making use of e-marketplaces. However, the majority of respondents considered using e-marketplaces in the future.

Further research could be undertaken in the following areas:

- The B2B e-market adoption in South Africa in relation to social and cultural aspects requires further investigation.
- It could be interesting to further investigate e-market adoption in South Africa among other sectors such as mining and agriculture.
- An investigation into the difference between international e-marketplaces and South African e-marketplaces.
- An investigation into what is causing the lack of technological infrastructure among South African organisations.

Based on the findings and conclusions of this study, some recommendations can also be made to practitioners. For instance, as a lack of technological infrastructure was rated the most relevant factor of non-adoption, organisations should invest in their technological infrastructure in order to participate in e-markets and reap the benefits thereof. Particularly, small to medium sized organizations should also be made aware of the benefits pertaining to e-marketplaces, especially in cost-savings.

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Appendix 1

Hypothesis One

H10: Most South African retail companies do not adopt B2B e-marketplaces ($P \leq 50\%$)

H11: Most South African retail companies adopt B2B e-marketplaces ($P > 50\%$)

z-Test: Proportion	
	<i>Column 1</i>
Sample Proportion	0.2466
Observations	73
Hypothesized Proportion	0.5
z Stat	-4.3305
P(Z<=z) one-tail	0
z Critical one-tail	0
P(Z<=z) two-tail	0
z Critical two-tail	0.6745

Hypothesis Two

H20: PU does not influences the ITCU e-marketplaces

H21: PU positively influences the ITCU e-marketplaces

Independent Variable: PU; Dependent Variable: ITCU

	PU	PEOU	ITCU
PU	1.000000		
PEOU	0.488200	1.000000	
ITCU	0.481249	0.388555	1.000000

Hypothesis Three

H30: PEOU does not influence PU

H31: PEOU positively influences PU

Independent Variable: PEOU; Dependent Variable: PU

	PU	PEOU	ITCU
PU	1.000000		
PEOU	0.488200	1.000000	
ITCU	0.481249	0.388555	1.000000

Hypothesis Four

H40: PEOU does not influence the ITCU e-marketplaces

H41: PEOU positively influences ITCU e-marketplaces

Independent Variable: PEOU; Dependent Variable: ITCU

	PU	PEOU	ITCU
PU	1.000000		
PEOU	0.488200	1.000000	
ITCU	0.481249	0.388555	1.000000

Hypothesis Five

H50: Organisational size is not a predictor of e-marketplace adoption

H51: Organisational size is a predictor of e-marketplace adoption

Independent Variable: Organisational size; Dependent Variable: E-marketplace adoption

chi-squared Stat	7.8352
sdf	4
p-value	0.0978
chi-squared Critical	9.4877

Hypotheses Six

H60: Retail product category is not a predictor of e-marketplace adoption

H61: Retail product category is a predictor of e-marketplace adoption

Independent Variable: Retail product category; Dependent Variable: E-marketplace adoption

chi-squared Stat	0.2217
df	1
p-value	0.6377
chi-squared Critical	3.8415

Appendix 2 – Factor Analysis Results

	Question	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Technological Factors	Q. 9. a.	0.089327	0.246403	-0.285570	0.612518	0.106227	0.418106
	Q. 9. b.	0.019824	-0.081703	0.685872	-0.270209	0.229711	0.248822
	Q. 9. c.	0.131557	0.337508	-0.141448	0.050635	0.797862	0.069509
Business Factors	Q. 9. d.	0.271961	0.170866	0.011254	0.443045	0.441111	0.427121
	Q. 9. e.	0.175463	0.378626	0.060709	-0.039125	0.220269	0.572004
	Q. 9. f.	0.129595	0.172570	0.725907	0.310436	-0.042027	0.001306
	Q. 9. g.	0.208759	0.303277	0.597647	-0.095466	-0.168102	0.043565
	Q. 9. h.	0.798927	0.118495	0.234024	0.010458	-0.033372	0.102353
	Q. 9. i.	0.086693	0.684838	0.097411	0.168754	-0.071300	0.273604
	Q. 9. j.	0.310787	0.747935	-0.056991	-0.260169	0.132331	-0.001051
	Q. 9. k.	0.029159	0.142571	-0.080690	-0.866276	-0.081312	0.109739
	Q. 9. l.	0.402096	0.450573	0.236211	0.019736	0.357573	0.068856
Behavioural Factors	Q. 9. m.	0.123134	0.074441	-0.021787	-0.025541	0.067991	0.781345
	Q. 9. n.	0.659971	0.283959	0.428235	-0.055291	-0.073775	0.186037
	Q. 9. o.	0.044221	-0.089011	0.073689	0.085437	0.857236	0.140596
	Q. 9. p.	0.010906	0.039930	0.265366	0.073383	0.047217	0.713371
	Q. 9. q.	0.104869	0.715491	0.325276	0.054558	0.157073	0.109152
	Expl.Var	1.559519	2.349024	1.955238	1.620528	1.903757	2.040887
	Prp.Totl	0.091736	0.138178	0.115014	0.095325	0.111986	0.120052