Why Australian Merchants Aren’t Adopting E-Money

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The level of usage of modern e-money systems in Australia remains low, despite potential benefits and widespread use internationally. This study investigated the characteristics of modern Australian e-money products perceived as most problematic by Australian merchants. Forty-one merchants accepting e-money online and 41 merchants accepting alternative online payments methods identified which of a series of product characteristics would require most improvement before either initial adoption or more prominent usage would be undertaken. It was found that merchants using e-money products primarily required a higher level of consumer participation and lower price, but were relatively satisfied with the levels of usability and number of features offered. In contrast, merchants without any experience using e-money systems distrusted them, and required more information about the products and their features before they made a decision to adopt. The study lends support to the ‘bundle of goods’ view rather than the pure price or ‘rational consumer’ theory as an explanation for e-money adoption behaviour.

ACM Classification: J.1 (Administrative Data Processing – Finance)

INTRODUCTION

E-money is a new technology that offers significant improvements in day-to-day commercial transactions by allowing efficient, purely electronic monetary transactions to take place. Despite potential benefits, adoption rates in Australia have remained low, although such systems have become accepted in other parts of the world. Possibly fewer than 10,000 Australian businesses are accepting payments through payment gateways and micropayment systems (Rogers, 2003). This study examines the reasons for this slow rate of domestic adoption of e-money in this country.

Soramäki and Hanssens (2003) define an electronic payment as “a transfer of an electronic means of payment from the payer to the payee through the use of an electronic payment instrument”. The European Central Bank (1998) defines e-money as an electronic store of currency that may be used for “making electronic payments to undertakings other than the issuer”. This definition removes closed community electronic payment systems, such as pre-paid phone cards, tollbooths, and bus tickets.
The term e-money encompasses stored value cards, e-coins and online e-purses. Stored value cards hold their value in a physical device that is usually, but not exclusively, a card. E-coins are prepaid electronic tokens that represent fixed amounts of value. These tokens are either individually indexed and their ownership recorded centrally, or their value is stored in an encrypted format. Online e-purses are essentially electronic bank accounts, into which deposits and withdrawals are transacted online (Kytöjoki and Kärpijoki, 1999; Abrazhevich, 2001).

E-money, utilising improvements in modern technological and telecommunication infrastructure, offers significant improvements over current payments alternatives (Tsiounis, 1997; Clark, 1996). Benefits such as improved processing efficiency have the potential to significantly increase functionality and reduce transaction costs. Rahn (2000) asserts “these changes will bring enormous economic benefits by greatly increasing the efficiency and reducing the costs of our payments systems. In addition, the absence of paper currency and coin, which is readily subject to theft or loss, should greatly reduce crime.” As of 2002, 15 percent of all adult Australians purchased goods and services online, and 42,000 Australian businesses accepted payments online (Australian Bureau of Statistics, 2003). The addition of a ubiquitous e-money system would not only increase the efficiency of this existing trade, but also allow significant expansion of the online sales market.

The problem of Australian e-money adoption is too complex to be examined in full in a single study. Trials of a number of products that have since disappeared have been reported in summary but research studies of the trials are not evident (Bank for International Settlements, 2000). A variety of factors such as domestic market failure may be inhibiting uptake of e-money, and in the long term market entry could come from overseas.

The structure of the Australian payments market may be a significant factor in the slowed adoption process. Low levels of competition in the Australian credit card market has lead to significant profits being derived from this payments method, creating a disincentive for large financial entities, such as the banks, to issue or promote more efficient payment products (Reserve Bank of Australia, 2002). There is an opportunity for smaller companies to promote alternative payment methods to gain competitive advantage, and it is unclear why this trend has not been observed.

A further issue that may be relevant to the adoption of e-money to Australia is the entry into the market by multinational systems. A range of international e-money systems have shown success in their own domestic markets. Paypal alone was reported as having around 15.8 million accounts in the United Stages as of September 2002 (CNet, 2002), enough for 1 in every 20 people to own one (the equivalent of over a million accounts within Australia). As yet, these companies have shown almost no interest in offering services in Australian dollars (Electronic Payments Systems Observatory, 2003).

As neither the basic market structure, nor the intentions of large international corporations are subject to easy modification, the current study addresses the products currently offered by Australian e-money providers. An aim of the study was to generate findings of practical use to the Australian public and e-money providers. Thus, it was deemed that examining existing e-money systems would be the most interesting subject for study.

The domestic e-money marketplace is currently populated solely by small firms, who have limited time and financial resources to complete research into the market’s requirements for their products. While larger institutions such as banks or telecommunications companies may purchase these smaller companies once they become successful, e-money is unlikely to develop in the short term unless these small companies can reach a critical mass within the market. Understanding the shortcomings of the e-money systems these companies currently offer, specifically the
improvements required by Australian merchants before further uptake will take place, should improve uptake amongst these merchants. This will allow the economic benefits of e-money to become available to the general public.

Current literature offers few answers to the problem of Australian e-money adoption. Innovation adoption literature (Rogers, 1983; Davis, 1989; Moore and Benbasat, 1991; Agrawal and Prasad, 1997; Plouffe et al, 2001) is too generalised to take into account the specific inhibiting product characteristics proposed by electronic payments researchers. Many of these characteristics are grouped into the broad category of “relative product advantage”. While simply repeating an empirical test of Rogers’ Perceived Characteristics of Innovation model may provide some broad-spectrum information about e-money inhibition, it will not provide the level of detail required to enable e-money providers to improve their services.

At the same time, the general models proposed in the e-money literature (Medvinsky and Neuman, 1995; Abrazhevich, 2001; Walczuch and Duppen, 2002) are often based on practitioner reports and so fail to take into account significant advancements made by technology innovation researchers, such as multi-stage and multi-level adoption models (Johnston and Gregor, 2000). Further, this theoretical work has not been applied or tested in the e-money context. A comprehensive empirical study that fully tests the range of product characteristics identified in the literature is a considerable contribution to the body of knowledge.

Additionally, no research has been done into Australian take-up of e-money. Given the unique Australian regulatory system, banking environment, and spread of population, it would be very difficult to apply knowledge from international studies to the Australian situation. A study focused on domestic issues can aid Australian providers of such systems to tailor them to the market’s current needs.

The prevalent theory on e-money from the financial and economic fields simply states that as the cost of a payment system to merchants and consumers drops below that of other methods, adoption will automatically rise (Ausubel, 1991; Pippow and Schoder, 2001; Shy and Tarkka, 2002). This current study challenges this pure price or “rational consumer” theory, in favour of a “bundle of goods” (Hirschman, 1982) view of adoption, asserting that a variety of characteristics influence the final adoption decision of potential users.

Against this background, the study addresses the research question:

*Which perceived characteristics of e-money are most salient in relation to its adoption by merchants in the Australian context?*

The study has both practical and theoretical significance. Practically, it offers guidance to Australian providers of e-money services attempting to offer a product that fits market requirements. Theoretically, it contrasts a ‘bundle of goods’ adoption model with a pure price model, while building on the perceived characteristics of an innovation model in a new domain.

The remainder of the paper proceeds by first outlining the theoretical base upon which this study is premised. Following this, data collection methodologies are discussed, and an overview of the dataset is given. A detailed analysis of this data is then completed. Finally, conclusions are drawn and further research possibilities are highlighted.

**CONCEPTUAL MODEL**

In order to pinpoint the shortcomings of current e-money systems, a model of the product characteristics most important to e-money adoption had to be developed. As no conclusive pre-existing list of recommended product characteristics could be found, a new conceptual model was
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<th>Factor</th>
<th>Author</th>
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Table 1: Model of Significant E-Money Product Characteristics

built using existing research. The final product characteristics were chosen based on their prominence in a range of modern e-money literature (Table 1), particularly the Moore and Benbasat (1991) alterations to Rogers’ theory of perceived characteristics of innovation (Rogers, 1983), and Medvinsky and Neuman’s model of Internet payments characteristics (Medinsky and Newman, 1995).

Market Reach represents merchant perceptions of the number of customers using the products, and the strength of their preference for using it over other competing products. Relative Price Advantage represents merchants’ perceptions of the financial savings e-money products offer over their alternatives. Relative Feature Advantage represents merchants’ perceptions of the additional functionality e-money products offer over their alternatives. Usability represents merchant perceptions of the ease of integration of e-money products into existing systems. Market Presence represents merchant awareness of the existence of e-money products, or of the benefits that they offer. Trust represents merchants’ perceptions of the trustworthiness of e-money products, and their providers, as well as the reliability of the security in place.

RESEARCH CONDUCTED

In order to achieve the desired goals, a survey instrument was delivered both by mail and phone to collect the necessary data from study participants (see Appendix A). Participants were delivered a paper version of the survey via the post, followed up by phone interviews of non-respondents. This method offered both the cost efficiency and clarity of a written survey with the high response rate of an orally administered survey. Many participants commented that receiving a copy of the survey in the mail encouraged them to respond to verbal treatment of the instrument.

An identical instrument was used for both written and oral sections of this study. This instrument recorded the perceived product characteristics currently inhibiting adoption using two methods. The
first used a standard five point Likert scale (Likert, 1961), while the second scale asked participants to place the chosen characteristics in preferential order (Walczuch and Duppen, 2002). The use of two different scales reduced the possibility that respondents were influenced by the type of questions asked, therefore increasing the reliability of the data.

As no existing instrument was available for use in a study of this type, the newly designed survey instrument had to undergo extensive testing to verify that it measured the intended product characteristics reliably, and was clear to all both intended recipient groups. Four detailed cognitive walkthroughs were undertaken, followed by a pilot study, allowing significant improvements to the instrument before final delivery was undertaken.

**MERCHANT SELECTION**

Two distinct groups were chosen as participants: online merchants currently using e-money products, and online merchants not currently using e-money products. Merchants currently using e-money products were questioned to find which of a range of selected perceived product characteristics would increase their current use. Potential merchant adopters of e-money products were questioned to find which of a range of selected perceived product characteristics was currently hindering their adoption.

A list of adoptive merchants was drawn from the client base of the three e-money firms currently operating within Australia, PAYbySNAP, Technocash, and PayMate, resulting in a list of 161 merchants. All merchants on this list for whom postal addresses could be found were contacted, resulting in a final list of 125 merchants.

No single centralised list of non-adoptive Australian businesses currently accepting payments online could be found, as directories such as the Yellow Pages and White pages do not currently offer lists of merchants who sell goods and services online. Thus, a list of over a thousand merchants was constructed from the contents of five different Australia online business directories (Directory Search Categories, 2003):

- www.ozebiz.com.au
- www.shopsafe.com.au
- www.alphabiz.org
- www.aussie.com.au
- www.directory.com.au

A random number generating program was written to select a sample of 125 merchants from this list, a sample equivalent in size to the adopter sample.

**INSTRUMENT DELIVERY**

Merchants from both groups were initially delivered the survey by mail, and asked to respond either by mail or fax. Initially providing the survey to merchants via post allowed inexpensive collection of a significant portion of the required data, resulting in a response rate of 18 percent, with 45 surveys returned. Additionally, it encouraged a higher response rate during the second stage of instrument delivery, a phone survey of non-respondents. Administering the survey orally allowed collection of an additional 37 responses, which improved the overall response rate to almost 33 percent. Top-up sampling was used, with data collection from non-adopters continuing until there were equally sized groups.

The final sample included a group of 41 merchants currently accepting payments for goods and services online via an Australian e-money system, and 41 merchants currently accepting payments for goods and services online via an alternative method.
SAMPLE OVERVIEW
Seventy-seven percent of the 82 respondents were male, with a median age of 40-50, and a median of 15 years of computer experience. The majority of respondents were owners or proprietors of the company in which they worked.

The majority of the firms surveyed were either one or two person businesses, although some firms employed as many as 350 people. The orders taken by these businesses fell into a bimodal distribution, and either tended around $75, or over $300. Firms reported a diverse range of industry backgrounds, with a significant proportion from either retail (24.4 percent) or technology industries (Information Technology: 18.3 percent, Web Development: 4.9 percent). Finally, firms reported being relatively technologically competent, with over 60 percent providing their own technical support, and an average of almost one personal computer per employee.

Table 2 shows the products used by the merchants using an Australian e-money product. It is interesting to note that these merchants reported collecting an average of thirteen percent of their income via e-money. This distribution was highly skewed, with half of all respondents reporting levels of less than one percent. Thirty-nine merchants in this group used the American e-money system Paypal to collect international currency.

BARRIERS TO INITIAL ADOPTION
The data from the Likert questions of the survey given by non-adoptive merchants were collated, allowing analysis and comparison (Figure 1). The findings were verified by comparison with

<table>
<thead>
<tr>
<th>Product</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paymate</td>
<td>21</td>
</tr>
<tr>
<td>PAYbySNAP</td>
<td>9</td>
</tr>
<tr>
<td>Technocash</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 2: E-Money Adopters Product Usage (n:41)

Note: Degree of Importance Measured on Scale: 1 = Not Important, 5 = Very Important

Figure 1: Relative Importance of E-Money Characteristics to Non-Adopters (n:41)
answers given to the Ranking scale questions. Friedman tests showed at a significance level of 99% that these merchants assigned different levels of importance to the different product characteristics.

Merchants currently not using an e-money system required higher levels of Market Reach, Relative Price Advantage, Market Presence and Trust before further adoption would take place. Perhaps more significantly, merchants had fewer concerns about how easy to use current systems were, and the level of features and functionality they provided.

BARRIERS TO FURTHER ADOPTION
The data collected from merchants currently using an e-money system were also collated (Figure 2). Again, comparing with the results from the ranking scale questions validated the analysis. Friedman tests were run for this data set, confirming that the variations between product characteristics were non-random at a significance level of 99%.

The most significant findings of this analysis were that merchants currently using an e-money system required higher levels of Market Reach (the amount of customers using e-money), and to a lesser extent required lower prices, before further adoption would take place. They also showed a relatively high level satisfaction with the Features, Usability, Market Presence and Trust in the products they were trialing.

ADOPTERS VS. NON-ADOPTERS
Comparative descriptive statistics are shown in Table 3. The Wilcoxon-Mann-Whitney technique was used to test the difference between merchant adopters and non-adopters for each of the six perceived product characteristics requirements measured using the Likert scale. This test determined that there was a statistically significant difference (p < .05) between merchant adopter and non-adopter requirements for Relative Price Advantage, Relative Features Advantage, Market Presence, and Trust (Table 4 and Figure 3).

At the 99% significance level, Market Presence and Trust were the only two factors that were significantly different. Therefore when comparing both merchants currently trialing e-money
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Table 3: Comparative Descriptive Statistics – Adopters vs. Non-Adopters

<table>
<thead>
<tr>
<th></th>
<th>Adopters</th>
<th>Non-Adopters</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>Market Reach</td>
<td>4.38</td>
<td>5</td>
</tr>
<tr>
<td>Price</td>
<td>3.66</td>
<td>4</td>
</tr>
<tr>
<td>Features</td>
<td>3.08</td>
<td>3</td>
</tr>
<tr>
<td>Usability</td>
<td>2.91</td>
<td>3</td>
</tr>
<tr>
<td>Market Presence</td>
<td>2.65</td>
<td>3</td>
</tr>
<tr>
<td>Trust</td>
<td>2.67</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4: Relative Importance of E-Money Characteristics – Adopters vs. Non-Adopters

<table>
<thead>
<tr>
<th></th>
<th>Market Reach</th>
<th>Price</th>
<th>Features</th>
<th>Usability</th>
<th>Market Presence</th>
<th>Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>500.000</td>
<td>452.500</td>
<td>437.000</td>
<td>595.500</td>
<td>186.500</td>
<td>354.000</td>
</tr>
<tr>
<td>Wilcoxon W</td>
<td>1028.000</td>
<td>1155.500</td>
<td>1067.000</td>
<td>1225.500</td>
<td>889.500</td>
<td>1057.000</td>
</tr>
<tr>
<td>Z</td>
<td>-1.362</td>
<td>-2.336</td>
<td>-2.583</td>
<td>-0.206</td>
<td>-5.412</td>
<td>-3.626</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.173</td>
<td>.019</td>
<td>.011</td>
<td>.837</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Degree of Importance Measured on Scale: 1 = Not Important, 5 = Very Important

Figure 3: Relative Importance of E-Money Characteristics – Adopters vs. Non-Adopters (n=82)
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systems with those yet to implement such a system within their business, the most significant difference was that non-adopters had significantly higher requirements for both information about the product (Market Presence) and trust in the technology and business processes of the companies providing e-money services (Trust).

At the 95% significance level, Features and Price were found to be significantly different. Therefore, to a lesser degree, merchants currently using e-money were happier with the current price levels, but had higher requirements for additional features.

ASSUMPTIONS AND LIMITATIONS
Given the limited availability of merchants using electronic payments systems, and the difficulties in randomly selecting a comparable group of merchants, issues of selection bias may have limited the validity of this study. The assumption was made that the two groups of merchant participants, adopters and non-adopters, were all drawn from a homogeneous group. As few Australian merchants are currently using e-money, a truly random selection from a single source could not be made. However, care was taken to record a large range of control variables, and no significant difference was found between the two groups.

Due to the small user base and recency of e-money implementation in Australia, this study was also forced to assume that the three e-money products currently on the market were homogeneous. All products offered comparable functionality, and had strikingly similar interfaces. When a statistical examination was done comparing the products, no significant difference was found between any of the demographic controls, or, more importantly, the identified inhibiting product characteristics.

A common problem with studies using survey data is that of non-response bias. To address this potential problem, a comparison of early and late responses was completed, with a Wilcoxon-Mann-Whitney used to test for any indication of a developing bias, an accepted indicator of a non-response bias (Hansen and Hurwitz, 1946). No such bias was found to exist.

The study also faced potential construct validity issues. As no proven survey instruments existed for the empirical examination of e-money, it was possible that questions answered by subjects did not measure the constructs for which they were intended. While cognitive walkthroughs and a pilot study reduced this threat significantly, it still remains a potential weakness.

Finally it must be noted that the results are indicative of participants’ perceptions of the products, not necessarily the products themselves. Hence a limitation of this study is that it examines the perceived product improvements that the market required, rather than the actual product improvement required. Given the critical role that the perceptions of a technology play in its adoption (Rogers, 1995), this may or may not be a significant limitation.

CONCLUSION AND IMPLICATIONS
This paper has presented the results of a study into the product improvements Australian merchants feel are required before they are willing to proceed further along the adoption process. Three critical findings were made.

First, merchants currently using an e-money system were found to require a larger and more attached customer base and lower prices before investing resources into the adoption of e-money. This finding has intuitive appeal, but the consistency and strength with which merchants expressed this view was striking. One merchant commented that they had e-money “available for customers on my internet site for over two years. In that time only a handful of customers have chosen to use the system”, while another succinctly stated “Needs more customers.”
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Second, merchants with e-money systems were found to be relatively satisfied with the current levels of usability and the number of features offered by Australian e-money providers. This finding indicates that e-money providers should consider carefully whether allocating resources to further additions to the feature set or improvements to usability is warranted. The providers should consider also how they can bring about improvements seen as more critical by the marketplace.

All findings give providers of e-money a compelling case for focussing on the promotion of their products so as to increase their user base. Personal experiences of one of the authors who has worked with an e-money provider suggested that the provider had a focus on what might be termed “featurism”, a pre-occupation with adding more features and functions to the product. The findings here suggest that this strategy should be carefully evaluated, as resources may be more productively expended.

Finally, it was found that non-adopters required more information about the product and its capabilities, and higher levels of trust, both technical and business, before an initial adoption would be considered. Disseminating product information and establishing trust throughout communities of potential merchant adaptors appears to be a method of increasing the number of trial users, starting merchants on the path toward full adoption.

Theoretically, the study lends support to the ‘bundle of goods’ view (Hirschman, 1982) rather than the pure price or ‘rational consumer’ theory from the financial and economic fields (Ausubel, 1991; Pippow and Schoder, 2001; Shy and Tarkka, 2002). Relative price advantage was found to be an important inhibitor of both initial adoption and further adoption. This characteristic, however, was not the most important factor inhibiting adoption. The study makes a further theoretical contribution in synthesizing and extending previous work on the perceived characteristics of innovation to give a conceptual model that can be used in studying the uptake of e-money. This model has potential for the study of other e-commerce technologies that have network externalities and require critical mass for successful adoption.

All findings give a consistent message: e-money products in themselves are not lacking in terms of a technological solution. The problem is rather with conveying their advantages to consumers and merchants in a clear and unambiguous manner and finding other mechanisms to support uptake in order for a critical mass to be achieved. Comparisons with international trends show that this outcome is achievable and by implication provides value to stakeholders.

FURTHER RESEARCH

Further research into the preferences of consumers and the perceptions of e-money providers would provide greater insight into the current adoption situation within this market. Additionally, this research also raises questions about the links between product information and product trust within the electronic finance industry. A critical examination of this relationship could aid future adoption of such trust-critical products. Another interesting area of potential research is the use of e-money products as business-to-business billing solutions.
APPENDIX A: MERCHANT SURVEY

SECTION 1: Individual Demographics (optional)

1. Indicate the highest level of education you have obtained so far.
   - □ Primary School
   - □ Secondary School
   - □ Trade Qualification
   - □ Certificate/diploma
   - □ University Degree
   - □ Post-Graduate Degree

2. Age?
   - □ 18-25
   - □ 26-35
   - □ 36-45
   - □ 46-55
   - □ 56-65
   - □ 65+

3. How many years of basic computer experience do you have? _____ years

4. Gender: □ Male   □ Female

5. What is your position in the company (title/department) ______________________________

SECTION 2: Firm Demographics

6. Number of equivalent full time employees (including owners working in the business):_____

7. In what industry(s) does your business operate? __________

8. How many personal computers does your company use? _____

9. Does your company have its own in-house IT support?  □ Yes  □ No

10. What is the average cost of the orders you receive from customers?
    - □ <$50
    - □ $50–$100
    - □ $100–$150
    - □ $150–$200
    - □ $200–$250
    - □ $250–$300
    - □ >$300

SECTION 3: Current Use

11. Does your company currently accept online payments?  □ Yes  □ No
    (If no, go to section 6)

12. Have you ever heard of any Australian non-credit card electronic money systems
    (such as PayMate, PAYbySNAP, or Technocash)? □ Yes  □ No

13. Has your company ever used such an Australian electronic money system?  □ Yes  □ No
    (If no, go to section 5)

14. What is the name of this system?
    - □ PayMate
    - □ PAYbySNAP
    - □ Technocash
    - □ Other ______________

15. What percentage of your revenue is collected with this system? _____%

16. How long (in months) has your company used this system? _______ months
SECTION 4: Initial Adoption Decision

Please show how important the following reasons are in your initial decision to use the electronic money system identified in question 14 by answering the following question.

My company initially decided to use our electronic money system because:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot of people were using it</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>Of requests from our customers</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>Of the financial savings it offered</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It was cheaper than other payment options</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It offered additional features over the alternatives</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It allowed us to do something than other systems didn’t</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It integrated easily into our existing business systems</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It was easy to install and use</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>We had a sufficient understanding of its uses</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>We were highly aware of the system</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It had excellent security features</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It was a trustworthy system</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
</tbody>
</table>

SECTION 5: Alternate Systems

17. Has your company ever accepted online payment with a system or service other than the Australian electronic money system you identified in question 14?
   ☐ Yes ☐ No (if no, go to Section 6)

18. If so, which: ☐ Credit card, ☐ Paypal, ☐ Other ____________

19. How long ago (in months) did your company start using this system? _______ months

20. Does your company still use this system? ☐ Yes ☐ No (if yes, go to Section 6)

21. How long ago did your company stop using this system? _______ months

22. Why did you stop using it?

___________________________________________________________________________

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___________________________________________________________________________
SECTION 6: Further Use

My company would start to use, or increase its current use of electronic money systems if:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Not Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>More people used the system</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>More of my customers asked us to use it</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>Fees were reduced</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It was cheaper for us to use</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>Additional features were added</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It had more functionality</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>Integration with existing business systems was made more simple</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>It was easier to install and use</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>We had more knowledge of the possible uses of the system</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>We had a higher awareness of the system</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>Additional security was added</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
<tr>
<td>We trusted the system more than we do now</td>
<td>☐ 1</td>
<td>☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ NA</td>
</tr>
</tbody>
</table>

SECTION 7: System Features

Please rank the following factors in order of their importance to you in an electronic money system. (1 = most important, 6 = least important) – PLEASE USE EACH NUMBER ONLY ONCE

<table>
<thead>
<tr>
<th>Factor</th>
<th>Explanation</th>
<th>Ranking (1 to 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Reach</td>
<td>How many customers use the system</td>
<td>___</td>
</tr>
<tr>
<td>Relative Price Advantage</td>
<td>How much money you save using the system</td>
<td>___</td>
</tr>
<tr>
<td>Relative Feature Advantage</td>
<td>How much more you can do with the system</td>
<td>___</td>
</tr>
<tr>
<td>Usability</td>
<td>How easy the system is to install and use</td>
<td>___</td>
</tr>
<tr>
<td>Market Presence</td>
<td>How much you had heard about the system</td>
<td>___</td>
</tr>
<tr>
<td>Trust</td>
<td>How much you trust the system</td>
<td>___</td>
</tr>
</tbody>
</table>

SECTION 8: Additional Information

Please add any comments you have about electronic payment systems:
REFERENCES


AGARWAL, R., and PRASAD, J. (1997): The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies, Decision Sciences, 28(3): 557–582


SORAMÄKI, K. and HANSSENS, B. (May 2003): E-payments: what are they and what makes them different? *ePSO Discussion Starter No. 1*, May.


**BIOGRAPHICAL NOTES**

Hugh Roberts, BIT/BEc(Hons), currently holds a position within the Information Technology division of Institutional and Business Services at the Commonwealth Bank of Australia. This work was preceded by several years with an Australian technology startup company focusing on developing online electronic micropayment systems for small to medium businesses.

Professor Shirley Gregor, BSc, GrDipComp, MApSc, PhD, heads the Electronic Commerce Research Group and is Associate Dean Research for the Faculty of Economics and Commerce at the Australian National University. Dr Gregor has led several large projects in the e-commerce area funded by the Meat Research Corporation, the Department of Communications, Information Technology and the Arts, and the Australian Research Council. Professor Gregor spent a number of years in the computing industry in Australia and the United Kingdom before beginning an academic career. Professor Gregor was inaugural President of the Australasian Association of Information Systems and is Vice-President of the Australian Council of Professors and Heads of Information Systems.