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Inhibitors and facilitators for mobile payment adoption in Australia: A preliminary study

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Abstract

With the seamless diffusion and acceptance of mobile phones into people's everyday life as trusted communication devices, businesses have begun exploring their potential as payment devices. In this paper, we report on the findings from a pioneering study conducted in Australia, which explored inhibitors and facilitators in the adoption of mobile phones as payment devices.

1. Introduction

Recent reports have consistently reflected the rising uptake of mobile phones around the globe [1]. As of 2003, the International Telecommunication Union statistics indicated a total of 1,340,667,000 mobile subscribers across the globe [2].

In Australia, the Age newspaper reported in April 2004 that nearly every Australian has a mobile phone [1]. Early 2005, the mobile phone penetration percentage was 76.6%, with a subscriber base of 15,621,000 [2].

Combining these facts, there is tremendous potential in expanding the mobile phones from communication to payment devices. Often, people forget to carry cash, but have their mobile phones as a means of communication. Mobile payment method evolved from this habit [3].

Our study was set and conducted in this premise, in Australia, to identify inhibitors and facilitators for mobile payments. In this paper, a brief attempt has been made to define mobile payments, stakeholders, inhibitors and facilitators. Subsequently, we present our study and findings, which has been conducted essentially from a merchant viewpoint.

2. Mobile Payments

A mobile payment system is defined as a method of payment that requires or enables the use of a device to conduct financial transactions [4]. Most importantly, "mobile payments enable immediate payment anytime and any location" [5]. This allows great flexibility and creativity for businesses to increase their volume of transactions and offer customers more ways of making payments.

2.1 Stakeholders

For a mobile payment method to be successful, different players within the industry have to participate in the payment process [4]. Although not mutually exclusive, many authors [6, 7, 8, 9] listed players which are consolidated into the model below.

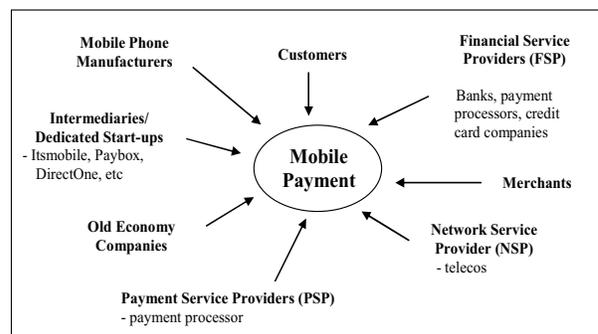


Figure 1. Stakeholders/Players in the Mobile Payment Market

Customers are the key to acceptance and adoption of any payment method including mobile payments [6]. Merchants need to make this method available and stimulate market growth. If consumers and merchants widely adopt payment via mobile phones then the network operators increase their revenue [9] as they have a broad customer base and built relationships. Mobile Phone Manufacturers build and stimulate

demand for mobile phones equipped with secure platforms. Intermediaries/Dedicated Start-Ups are a new set of stakeholders within the mobile payment domain who are payment or content providers [9]. Payment service providers cover varying parts of the payment process, such as credit check, clearing and settlement [10]. Financial Service Providers (FSPs) include international banks and credit card companies who possess a worldwide network and proven billing/charging systems [4].

2.2 Inhibitors and Facilitators

Challenges arise from understanding consumer requirements, measurable service quality, service ubiquity, adoption of multiple standards, and cost-effective secure payment services [7]. Forrester Research identifies three major inhibitors such as lack of consumer trust, partnerships struggling over the term of their collaboration and a lack of a standardized user-friendly infrastructure. Others, point to device/network limitations, maturity of payment solutions, customer indifference, disparate technology standards, security, pricing, user comfort level, and fulfilment issues [11, 12].

Table 1. Inhibitors to the Growth of Mobile payments

OBSTACLE	PHONE (%)	PDA (%)
Credit card security	52	47
Fear of "klunky" user experience	35	31
Don't understand how it works	16	16
Never heard of it before	10	12
Other	11	13

Although research suggested that mobile payments will only begin to show significant adoption after 2006 [11], results of the Mobinet study suggests that companies need to quickly provide mobile cash capabilities before consumer interest wanes [14]. The Mobey Forum [13] divided success factors into four principal categories as in table 2.

Table 2. Facilitators in mobile payments

Customer proposition	<ul style="list-style-type: none"> • Convenient user experience • Freedom to choose bank, operator and handset, and change them independently of each other • Wide acceptance and mass market penetration • Customer habituation • Technical and perceived security
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Business Priorities	<ul style="list-style-type: none"> • The service proposition has to offer value for all the relevant parties • Business processes of different players have to remain independent of each other • Solutions need to scale across all financial opportunities
Technical Issues	<ul style="list-style-type: none"> • Open and non-proprietary technologies have to be used seamlessly, so as not to incur expensive license fee • Existing standards and solutions should be used, where possible • Technological solutions have to enable independence between banks, operators and mobile phones • End-to-end security, authentication and non repudiation have to be guaranteed.
Implementation Issues	<ul style="list-style-type: none"> • Costs to banks, merchants, consumers need to be relatively low • Time-to-market

2.3 Mobile Payment Trials in Australia

Mobile payment trials were successful in Australia but are still probationary. There has been two trials in Australia, conducted by Telstra, limited to its post paid subscribers only. The 'Dial a Coke' service which allows customers to buy a drink without change from specific machines and the parking scheme that allows payment via mobile phone [15, 16]. And since January 2004, the mPARK scheme, of North Sydney Council enables motorists in the area to pay for on-street parking using their mobile phones on any mobile network.

3. Research Methodology

An interpretive epistemology was chosen for this study as it adopted a practical orientation [17]. The semi structured interview method to collect data enabled the flexibility to probe on the leads provided by individual participants, to elicit further meaning. In order to achieve a representative sampling size, businesses, typically dealing with small amount cash transactions valuing between AUD 1 to AUD were randomly selected. It is critical however, to note that results from this research are not exhaustive, rather is indicative. Information gathered through interviews has a certain bias due to the unique way in which each business conducts itself. The meaning condensation method in conjunction with successive approximation was used to synthesize the information.

4. Discussion of Findings

The businesses interviewed could be classified into three categories: unaware/uninterested; trialled/abandoned; and successful/continuing.

The first category of businesses had vague awareness regarding mobile payments from the publicity campaigns of dial-a-coke or mParking. They preferred cash transactions, with some preferring only coins. Apart from the inconvenience of obtaining and counting coins, the businesses had the advantage of not having debtors, and enabling quick turnover time for customers, especially during peak hours such as lunch time. For these businesses, to consider a new payment method, there should essentially be two criteria: viable business opportunity and customer demand.

For the first criteria, we considered the rates at which various banks charge these businesses for servicing their current payment methods. For EFTPOS service AUD 19.60 monthly subscription with 0.99% commission per transaction; for credit cards AUD 27.00 monthly subscription with 3.1% commission and for debit cards 1.7% commission were charged. This group was willing to consider mobile payments, if the service charges were similar to EFTPOS, as it offers an additional facility to customers. This brings in the second dimension i.e. customer demand. Some customers have expressed a desire to mobile payments in place and the businesses are open for considering this demand. Nevertheless, they had an allocated budget between AUD 1000 to AUD 2000, as most of them were standalone fixed stores. And it added to their overheads. In addition to service charges incurred payable to the bank, there would be an additional charge of A33¢ - 55¢, per phone call, to be paid to the network operator, in case of mobile payments. As the businesses were not willing to absorb this cost, it would be passed on to the customer – which in turn might have adverse effect.

The group in the trialled/abandoned category of businesses, were motivated by the increased usage of mobile phones. They believed in impulse purchases driving up their market share and therefore, not losing them. If customers do not carry sufficient cash, the sale may be lost which may not be the case if there is a mobile payment option, as people do carry mobile phones. Despite the enthusiasm however, this group had abandoned mobile payments.

These businesses had high set up, implementation and ongoing costs. First, they had allocated a budget of AUD 10,000 to AUD 15,000 for mobile payment trials. However, the number of trial machines planned or implemented often represented less than one percent

of the total number of machines. For example, a business which had about 78 trial machines had them distributed among Sydney, Melbourne, South Australia, Western Australia and Queensland. This spread did not constitute a fair trial. Increasing the number of machines would mean additional investment which these businesses did not budget for. AUD 600 had to be paid for attaching mobile payment units to each machine, for implementation. In addition, they were charged at 8% per transaction and paid AUD 25 per month, per machine to a third party business for hosting their software programs for mobile payments.

A major inhibitor was the telecommunication provider, Telstra which was the only operator who could be involved in trials. It restricted participation in mobile payment trials only to its post paid customers. Prepaid SIM cards were termed as complex to handle, the actual reason being that these were sold through agents who collected commission, thereby decreasing its profit. In addition, only 1900 numbers which incur premium charges were allowed to be used. The cycle of reimbursement of sales from Telstra (30 days) was too long, putting financial strain on the businesses. Subsequently, Telstra wants to pull out of the trials due to increasing cost of churning out longer itemised bills. In summary, the operator has been quoted to be unfair, non cooperative and difficult. The perceived increase in customers which drove these businesses is now lost. The limit of AUD 20 cap per month on mobile payment trials imposed on all accounts to reduce risk and prevent fraud, neither encouraged consumers to spend more nor was able to foster the culture of mobile payments. These businesses are also worried about Bill Shock i.e. negative reaction of customers due to higher mobile phone bills, due to purchases made with phones.

From another perspective, these businesses were reasonably mid sized offering cash transactions ranging from AUD 1 to AUD 15. The additional cost of A33¢ - 55¢, which was often making up 20% of the transaction (as the volume of transactions were between AUD 1 to AUD 2) passed on to the consumer due to unwillingness to absorb this by the businesses, was set to have adverse effect. In addition to these inhibitors, there is industry feedback that mobile payments do not justify high set up, implementation and ongoing costs. With several methods already competing for funds, and low uptake rate of 3% not providing a financial viability (as in many cases coin or cash procedure needs to continue) – these businesses have abandoned the mobile payment trials.

The third group of businesses categorised as successful/continuing had implemented trials and upgraded their mobile payment methods using

customer feedback, as summarised in table 3. They were able to invest AUD 96,000 to several millions for trials and implementation and were charged AUD 3.30 per month for each machine.

Table 3 : Feedback from Customers on mobile payment Trials

POSITIVE FEEDBACK	NEGATIVE FEEDBACK
Liked the option of making payments using mobile phone	Display screens on the machines were hard to read
The value added service of SMS reminder especially with parking was well liked	There was confusion with the number of words and instructions on the machines
Convenient when exact change is not available in person	Unsure of the upfront costs incurred
Payment reflected in the mobile bill and can be used for reimbursements from employers	Misrepresentation by media. There was incorrect information that if customers went near machines, they will get SMS for making a purchase
Better than cash from the perspective of convenience	Limited to one telecoms provider – Telstra.

These businesses aim at young generation who do not feel it is 'cool' to carry coins or cash, and are impulse buyers. However, the desired outcome of high revenue is only possible with mass market acceptance and fostering the mobile payment culture. This is still too far as all other payment methods participate in the same market.

5. Conclusions and Outlook

It is evident that mobile payments are still not a commonly accepted method in Australia. While some businesses are not willing to trial this method before mass acceptance, others have abandoned trials due to financial and other restraints. Successful businesses still feel uncertain about the time period in which they can make a reasonable return on the investment. Conversely, customers are either unaware or unwilling to try this method due to cost and discomfort with the method.

A major inhibitor is the telecom provider involved who is monopolising the trials and have placed several restraints directly on businesses and indirectly on consumers. To achieve equitable participation, all telecoms in Australia need to be included. In addition, all stakeholders, including businesses and consumers need to participate in this method. For example, as banks lower commission and subscription rates, businesses are willing to absorb some of costs for the method of payment (such as credit cards) rather than passing it on to consumer. There has also been scepticism regarding the role of aggregators who may drive the costs up. The inhibitors pointed out in this

research need to be addressed for smooth facilitation of this method in Australia. We hope to further research the progress of mobile payments in future, extending this study.

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