Adoption of Internet Banking in Hong Kong Using Stakeholder Analysis

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1. INTRODUCTION

The Internet is revolutionizing the banking industry by providing an innovative services channel (Dewan, Freimer, & Seidmann, 2000; Seitz & Stickel, 1988). With the impact of the Internet on the industry, Internet banking has emerged and is defined as a service that allows customers to perform a variety of banking transactions on the Internet via a bank's web site (Tan & Teo, 2000). Previous research studies have generally agreed that Internet banking offers advantages for both customers and banks (Birch & Young, 1997; Dannenberg & Kellner, 1998). Internet banking is an information technology tool that re-defines the way banks interact with their customers. Yet, it has not been as thoroughly investigated and researched in the IS literature as one would have expected. There are a rather limited number of research studies on the issue (Aladwani, 2001; Liao & Cheung, 2002; Mols, 2000; S. Liao & Y.P. Shao, 1999; Tan & Teo, 2000).

Being a major international financial center in the world, Hong Kong is witnessing a rapid growth of Internet banking. Hong Kong has a high concentration of banking institutions. By the end of September 2006, there were 137 licensed banks, 32 restricted license banks and 34 deposit-taking companies in business in Hong Kong (Hong Kong Monetary Authority, 2006e). These 228 authorized banking institutions operated a huge network of 1,301 local branches. In addition, there were 87 local representative offices of overseas banks in Hong Kong (Hong Kong Monetary Authority, 2006e). The density of local bank branches is so high that there is roughly one branch for every 4634 aged 19 or above Hong Kong citizens (Census and Statistics Department (HKSAR), 2006). Table 1 shows the top 6 licensed banks in terms of number of local branches in Hong Kong.

Among the 137 licensed banks in Hong Kong, 42 of them are offering online banking services. They manage around 90% of total customer deposits in Hong Kong (Hong Kong Monetary Authority, 2006c). The number of Internet banking accounts has also witnessed an uninterruptedly increasing trend. In 2005 alone, there was a 17.9% increase (Hong Kong Monetary Authority, 2006d). The top six banking institutions in Hong Kong, in terms of number of local branches, account for 77% of all Internet banking accounts (Hong Kong Monetary Authority, 2006b). One trend, which is shared among the first 5 banks, is that their number of branches has all dropped from as much as 28.7% to 11.5%. It is argued that such a decrease is attributed to the adoption and implementation of Internet banking in Hong Kong. One compelling reason for that is the total amount of deposits have increased with a decreased number of branches, from HK$3,527.8 billion (or US$452.3 billion) in 2000 to HK$4,067.9 billion (or US$521.5 billion) in 2005. There must be a channel other than branch that allows customers to manage their larger amount of fund. Online banking is definitely the alternative.

Many banks in Hong Kong have already seized their early Internet banking adopters. The next logical step will be to capture "wait-and-see" customers. It is definitely not an easy task and requires sufficient incentives to be provided. However, before banks take Internet banking even more seriously, there is a central question to ask. Will Internet banking best be a market-share game (with the possibility of a negative-sum game) (Beckerling, 2000)? Will it just become another banking channel, a strategic tool – a new and cost-effective distribution channel or competitive necessity? The answer to these questions comes down to a key issue: how likely will those "wait-and-see" customers adopt Internet banking eventually? According to the ACNielsen Financial Services Study conducted in 2004 and 2005 in Hong Kong (ACNielsen, 2005), around 1/5 of the respondents indicated that they had used online banking. The adoption intention of the non-users is crucial to how banks in Hong Kong should formulate their Internet banking strategies in both short and long-run.

An insight into the possible large scale adoption of Internet banking in Hong Kong is of significant interest to at least three entities: (i) leading Internet banking operators are eager to find out where they should be prepared for larger online banking customer base; (ii) local banks that are lagging behind or adopting a follower strategy on Internet banking frontier need to know if Internet banking is a zero, positive, or negative sum game before they jump on the bandwagon; and (iii) HKSAR government, especially the Hong Kong Monetary Authority, needs to estimate the proliferation of Internet banking so that it can more effective serve one of its financial obligations – "promoting the safety of Hong Kong's banking system" (Hong Kong Monetary Authority, 2006a).

2. RESEARCH FRAMEWORK

The proposed research and the research framework to be adopted are grounded in the literatures of strategic management. The notion of stakeholder is no newcomer in information systems research. It does not represent a "paradigm shift" in information systems implementation. Rather, it signifies maturity of information systems research as it reflects a shift towards approaches that can afford a more holistic representation of parties (stakeholders) involved.

2.1 Stakeholder Analysis

Stakeholder (or multi-stakeholder) analysis can be defined as "an approach and procedure for gaining an understanding of a system by means of identifying the key actors or stakeholders in the system, and assessing their respective interests in that system" (Grimble & Chan, 1995).

Table 1. Top 6 licensed banks in terms of number of local branches in Hong Kong (Hong Kong Monetary Authority, 2006e)

Rank	Licensed Bank	No. of Local Branches		Drop in %
		2002	**2006**	
1	Bank of China (Hong Kong) Limited	281	225	20%
2	HSBC Limited	175	125	28.6%
3	Hang Seng Bank Limited	142	122	14.1%
4	The Bank of East Asia Limited	115	87	24.3%
5	Standard Chartered Bank Limited	78	69	11.5%
6	DBS Bank (Hong Kong) Limited (acquired Dao Heng Bank Limited which was ranked No. 6 in 2002)	0	62	N.A.

2.1.1 Stakeholder Analysis in Information Systems Literature
The use of the stakeholder concept has been extended to information systems research. The stakeholder term in the information systems literature was initially used to describe the knowledge gap between users and technical specialist (Currie, 2000). Three groups of stakeholders – users, managers and system developers are typically considered as the most important. Like stakeholder analysis in the management literature, the information systems literature employ stakeholder analysis to resolve the conflicting interests of these groups (Lacity & Hirschheim, 1995; Lyytinen, 1988; Ruohonen, 1991). It is evident that the consideration of the widest range of stakeholders is imperative for effective system management and implementation.

2.1.2 Using Stakeholder Analysis in Proposed Research
Large scale adoption of Internet banking by customers in Hong Kong is undoubtedly a multi-stakeholder problem. Identifying these stakeholders and exploring their perspectives is an essential task for understanding the complexity of the research subject. The stakeholders are likely to interact and influence each other, trying to promote their own interests. Stakeholder analysis facilitates a holistic view of stakeholders, reflecting multi-faceted concerns.

Stakeholder analysis in this research is to provide a tool for stakeholder modeling and analysis of interests, powers, and impacts of various stakeholders in the context. All in all, an investigation of adoption of Internet banking typically requires and benefits from the study of multiple and possibly conflicting stakeholder viewpoints, which in turn helps identify and understand success and failure factors for large scale adoption of Internet banking.

It is evident that from the divergence of definitions that are currently in use in both the management and information systems literature that the meaning of "stakeholder" is not straightforward and needs to be explicitly defined. Based on Freeman's (Freeman, 1984) definition of stakeholders, the following definition for stakeholder is recommended for the proposed research:

A stakeholder is any individual, group, organization or institution who can affect or be affected by large scale adoption of Internet banking by customers in Hong Kong.

3. RESEARCH OBJECTIVE
This research aims at applying stakeholder analysis to the study of information systems adoption – Internet banking in Hong Kong in this case as stakeholder analysis provides a mechanism to consider adoption issues from multiple perspectives.

4. RESEARCH METHODOLOGY
This research was a case study on the adoption of Internet banking in Hong Kong. Researchers (e.g. (Kaplan & Maxwell, 1994)) advocate qualitative research approach for its ability to understand a phenomenon from the point of view of the participants, which is largely lost when textual data are quantified. Such a research methodology is deemed appropriate for this study as it investigates a contemporary phenomenon within its real-life context (Yin, 2002). Data of this study came from secondary sources. The analysis was conducted by the researcher's evaluations and observations with the help of the analytical framework developed.

5. STAKEHOLDER ANALYSIS
5.1 Composing a Stakeholder Table
5.1.1 Defining Stakeholder Characteristics
The following information about stakeholders is assessed:

1. Knowledge: the level of accurate knowledge that stakeholders have regarding Internet banking, and how each stakeholder defines Internet banking. This is important for identifying stakeholders who oppose adopting Internet banking due to misunderstanding or lack of information.

Table 2. Stakeholder table

	Knowledge	Position	Interest	Alliances	Power	Leadership
Banks	Best knowledge	6 major banks support	Ample interest	Possible strong alliances	Strong	Strong
Customers	Moderate	Gaining support	Moderate	Not possible	Moderate	Weak
HKMA	Good knowledge	Passive support	Relatively strong interest	Possible with banks	Strongest	Relatively strong

Table 3. Cross-references of multiple dimensions

	Knowledge	Interests
Relative Importance	There is around 31% of the population in Hong Kong who are not Internet users (Miniwatts Marketing Group, 2006). Their attitude and intention to adopt of these Internet laggards (Cavaye, 1995) are critical to an extended proliferation of online banking. However, they will not stop online banking from penetrating further in Hong Kong since history has already proven that the number of online banking users has been increasingly in a healthy manner. Their resistance, if any, or non-participation will only lessen the chance of adoption of in an accelerated speed in future.	With all the stakeholders identified, a larger scale of adoption of online banking in Hong Kong benefits all of them. In particular, the authority – HKMA would welcome further development of online banking in Hong Kong. Hong Kong is a developed economy, where GDP and GDP per capita were US$177.2 billion and US$25,546 in 2005, respectively (Census and Statistics Department (HKSAR), 2005). A sustained development of online banking can help strengthen the financial position of Hong Kong in the world economy. It can also demonstrate that the financial system of Hong Kong is capable of staying abreast of technological development.
Positions	There is probably no stakeholder who opposes to online banking in Hong Kong. The major reason for those Hong Kong citizens who choose not to adopt online banking is a lack of computer self-efficacy and confidence (Chan & Lu, 2004). Education is probably the best way to encourage the potential adopters to try out the service. Success stories of online banking users are an effective measure for promoting intention to use.	Continued and further adoption of online banking in Hong Kong is to the advantages of both supporter and laggards of the service. With a growing customer base, network externalities will be achieved to attain economies of scale (Milne, 2006). As such, banks are to be able to provide improved online banking services in a more cost-effective manner. Existing and potential users will have incentives to continue or consider employing the service.

2. Position: whether a stakeholder supports, opposes, or is neutral about large scale adoption, which is key to establishing whether or not he or she will block such an adoption.

3. Interest: a stakeholder's interest in the advantages and disadvantages that large scale adoption may bring to him or her or his or her organization. Determining a stakeholder's vested interests helps better understand his or her position and address his or her concerns.

4. Alliances: organizations or persons that collaborate to support or oppose large scale adoption. Alliances can make a weak stakeholder stronger, or provide a way to influence several stakeholders by dealing with one key stakeholder.

5. Power: the ability of a stakeholder to affect large scale adoption.

6. Leadership: the willingness to initiate, convoke, or lead an action for or against large scale adoption. Establishing whether or not a stakeholder has leadership will help target those stakeholders who will be more likely to take active steps to support or oppose large scale adoption (and convince others to do so).

5.1.2 Obvious Stakeholders

The obvious stakeholders of large scale adoption of Internet banking include the following entities:

1. Banks in Hong Kong offering Internet banking at the moment are the *sponsors*, who are also *innovators* (Cavaye, 1995).

2. Banks in Hong Kong *not* offering Internet banking at the moment are the *adopters*, who may range from *innovators* to *laggards* (Cavaye, 1995).

3. Bank customers in Hong Kong are the *adopters*, who may range from *innovators* (active Internet users) to *laggards* (less-active and non-Internet users) (Cavaye, 1995).

4. HKSAR government, in particular HK Monetary Authority (HKMA), is a *policy maker* and *regulator*. It is utmost important for the government to consider all possible stakeholders in their policies regarding Internet banking (Hong Kong Monetary Authority, 2006a).

A stakeholder table is presented in Table 2 summarizing the characteristics of various stakeholders.

Stakeholder analysis can be more than just *descriptive* (Donaldson & Preston, 1995) – facilitating the description of the often conflicting interests and providing a richer understanding of who *all* the relevant stakeholders really are but also both *predictive* – foreshadowing the outcome of that innovation (e.g. degree of adoption), and *explanatory* – providing a rationale for the outcome. The descriptive aspect is particularly important to information systems implementation (Pouloudi, 1999).

5.2 Analyzing Stakeholder Table

Once a stakeholder table is completed, the information needs to be analyzed by cross-referencing multiple dimensions. Such an analysis focuses on comparing information and developing conclusions about the stakeholders' (i) relative importance (power and leadership provide the bases for determining relative importance), (ii) knowledge, (iii) interests, (iv) positions, and (v) possible allies. In this study, only relative importance, knowledge, interests and positions are cross-referenced as they are regarded as most appropriate in this case.

5.2.1 Cross-Referencing Multiple Dimensions

Cross-referencing multiple dimensions can provide more insights into the information collected. Table 3 shows the cross-referencing performed for the research.

6. CONCLUSIONS

According to the stakeholder analysis conducted, there is no obvious opposition to online banking in Hong Kong from the stakeholders identified. Internet banking is here to stay and will become more prevalent in Hong Kong. Relevant stakeholders in Hong Kong cannot afford not to embrace it. The growth of Internet banking is evidenced by increasing number of Internet banking customers, banks offering Internet banking services, and services available on existing Internet banking websites. Leading Internet banking operators seek to find out what can be done to attract laggard Internet banking customers, retain its own customers, or lure

customers who are already banking online with competitors through marketing, education, re-assurance, better design of Internet banking website,…etc. Banks that are adopting a follower strategy are eager to find out the predicted growth of Internet banking so that they can decide whether to re-align their strategies. HKSAR government needs to forecast the growth of Internet banking before it strengthens its policies to regulate Internet banking to promote the safety of Hong Kong's banking environment.

The role of stakeholder analysis is significant in this research as it helps identify *all* stakeholders involved and assess their importance, knowledge, interests, positions, and alliances related to adoption of Internet banking. By doing so, the analysis provides a macro-analysis of the issue. It helps identify *key* stakeholders.

7. FUTURE RESEARCH DIRECTION

It is suggested stakeholder analysis be conducted *before* a technology acceptance model which is able to assess the likelihood of adoption at individual level. An appropriate model is the well-established Technology Acceptance Model (TAM) (Davis, 1989). Using a model such as TAM after stakeholder analysis is suggested because the analysis yields useful and accurate information about those persons and organizations that have highest relevance to successful large scale adoption. With the help of stakeholder analysis, stakeholders are identified and further analyzed by mapping multiple dimensions. After such a systematic analysis, it becomes clear who key stakeholders are. TAM is then applied to examine the adoption intentions and the reasons behind of each individual key stakeholder. In essence, the framework provides a micro-analysis of each stakeholder. Once the adoption intentions and the reasons behind are determined, a rather definite prediction of large scale adoption would emerge as it is argued that key stakeholders' adoption inclinations are the most vital determining factors of large scale adoption. Such a two-step analysis guarantees no key stakeholders are left out of the equation and adoption intention of each key stakeholder is thoroughly analyzed. Recommendations on how to accelerate adoption can also be formulated as antecedents of adoption decisions of key stakeholders are revealed. Sponsors of adoption can acquire information about what can be done to attract laggard Internet banking customers, retain existing customers, or even customers from competitors.

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