Online Conversion Variations of Australian Financial Institutions

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Abstract

This paper examines firm-related and consumer-directed variables associated with online conversion rates among financial institutions in Australia. Through a hierarchical cluster analysis on data collected from 21 financial institutions, online conversion is found to cluster around three groups. A comparative analysis of the characteristics, financial performance and online service quality of the three groups shows that size is not a key driver of online conversion, but length of adoption of online banking does have some effects. Likewise, a limited online product and/or service portfolio with a lower level of online system quality is also of limited consequence, so long as responses to online enquiries are speedily attended to.

Keywords: electronic banking, online conversion, Internet banking.

Background

Banks have traditionally been pushing new technology to consumers to reduce costs even without considering customer habits, like the introduction of ATMs (Hensmans, van den Osch and Volberda 2001). Since banks with a large ATM network have been leveraging on ATM technology to gain cost-effectiveness, it may be expected that they would also be pushing hard to convert offline clients to transact online. Furthermore, given that banks with lower cost structure have gone on a big way to automate their service delivery (Bughin 2001), it may be inferred that banks look for efficiency behind the move to migrate existing clients online.

Partly because of the difficulty of collecting the requisite data, studies attempting to investigate variations in financial institutions' abilities to convert customers to bank online are rare. Among them, Bughin's (2001) study of online banking in Europe suggested that both firm-specific and country-specific factors are possible drivers of online banking conversion. Drawing from a sample of 65 European banks, Bughin (2001) found that the level of Internet penetration in a country is a major pull factor, while cost structure and a strong ATM network are among the strong firm-specific factors.

In a more recent investigation, Bughin (2004) discovered that factors responsible for converting existing clients to bank online no longer hold in situations relating to acquiring new clients. The level of Internet penetration in a country does not seem to explain a bank's acquisition outcome. While bank customer base is also a key factor explaining acquisition results, the effect is found to be opposite to that in the case of conversion outcome, i.e., smaller banks are better in acquiring than converting clients to bank online. In relation to organizational structure, customer acquisition strategy seems to work well for banks with a stand-alone business and when linked to e-brokerage activities.

Notwithstanding Bughin's (2001) findings, marketing activities implemented by banks, such as product or service range offered online, accessibility features, security, and responsiveness, to influence online conversion have rarely been included in the equation. These variables already play an important role in satisfying online bank users (Jun and Cai 2001; Patricio, Fisk and Falcao e Cunha 2003; White and Nteli 2004) and may also contribute to explain

online conversion variations. These and other studies seem to suggest that customer service quality online has some benchmarks and that despite changes in technology, customer's still want, above all, quality service, regardless if these services are delivered via new technologies (ATMs, telephone, Internet) or face-to-face (Bitner 2001). These benchmarks, according to Bitner (2001), are dependable outcomes, easy access, responsive system, flexible response to customer needs, apologies and compensation when service delivery goes wrong. An understanding of the role of these variables in assisting financial institutions to convert offline clients online is thus relevant, as they are company actionable, whereas country Internet penetration and e-commerce usage are not within the sphere of influence of a bank. This study attempts to assess the role played by these marketing variables, which characterise online service quality, in helping financial institutions to convert clients online. Given the importance of online banking as a source of cost efficiency, understanding the impact online service quality may have on online conversion could help shed light on the cost-effectiveness of measures adopted by financial institutions to convert offline customers online.

Methodology

Sample Units

The sample used in this study comprises 21 Australian financial institutions: 12 retailing banks and nine credit unions. These 21 institutions were not selected using a probabilistic sampling frame, but largely the result of information availability. While attempts were made to approach executives of all the major financial institutions in Australia, only 21 agreed to provide the requested data with the proviso that the name of their institutions would not be revealed in research publications.

Despite the small sample size, a range of retailing banks and credit unions are represented. In terms of total assets, five of retailing banks may be classified as large (above A$200 thousand billion), five may be considered medium (above A$20 thousand billion but less than A$200 thousand billion), and two would be regarded as small (less than A$20 thousand billion). Among the nine credit unions, five are considered large (above A$90 billion in assets), two medium (between A$20 billion and up to A$90 billion) and two small (with assets not exceeding A$20 billion). Based on figures reported in APRA (2002), the combined asset value of the 21 financial institutions in the sample is estimated to account for about 75 percent of the total asset value in the banking and non-banking sector in Australia.

Data Definition

The variables used in this study contain a cohort of firm-specific characteristics and financial performance indicators as well as customer-directed, online service quality variables. The firm-specific characteristics include size (represented by client base, staff and assets), spatial coverage (represented by number of branches and number of ATMs), and year of Internet adoption. The financial performance indicators employed are cost-effectiveness (measured by cost to income (C/I) and cost to assets (C/A) ratios) and profitability (represented by return on asset (ROA) and return on equity (ROE)). The customer-directed, online service quality variables adopted were established based on their influence on customer satisfaction in Internet banking (Jun and Cai, 2001). They are responsiveness, accessibility, product and/or service range, security content and ease of navigation.

While information on firm-related variables, i.e., firm-specific characteristics and financial performance indicators, were sourced directly from banks' records, the values of customer-

directed, online service quality variables were arrived at through a detailed content analysis of the Web site of each of the 21 institutions using a predefined coding procedure. Online portfolio was determined by the presence or absence of various products and/or services offered. Accessibility was measured based on access to email, overseas contact number, Bobby (or disability access) and the total weekly operating hours of technical service. Online security was gauged by the range of tips and hints offered, recommendations on security and software, encryption and automatic time outs. Responsiveness was measured by the average time the financial institution took to respond to questions emailed to the Web site. Ease of navigation was assessed by noting the presence of demos, site maps, index, searching facility, and links on the web site. Online conversion rate is measured by the proportion of clients who are registered online bank users as of 2002 and was obtained from ACNielsen (2002).

Method of Analysis

In this study, online banking conversion was explored through a two-step cluster procedure using the Akaike's method. The algorithm employed by this procedure has several desirable features that differentiate it from traditional clustering techniques (Hair et al. 1987). The limited number of observations also precludes the use of other parametric techniques.

Results

The cluster analyses identified three groups of banks on the basis of six firm-specific variables, four financial performance variables, and five customer-directed online service quality variables (see Table 1). In descending order, the three clusters show average online adoption rates of 29.5% (Cluster 1), 24.7% (Cluster 2) and 14.1% (Cluster 3) respectively. With respect to bank-specific characteristics, Cluster 1 has an average client base almost 60 times that of Cluster 2 and seven times that of Cluster 3. The average size of its asset is over 200 times that of Cluster 2 and 18 times that of Cluster 3. Besides being among the earlier adopters of online banking, the five financial institutions grouped under this cluster also have a more extensive ATM network, larger number of branches and a proportionately bigger staff size than the other two. For these reasons, this cluster is labelled as Top-heavy Pushers.

While Clusters 2 and 3 may also be labelled according to the bank-specific characteristics, it is noted, which will be elaborated later, that an inverse relationship exists between the variables that describe those characteristics and online conversion rate as far as these two clusters are concerned. As such, rather than labelling Clusters 2 and 3 based on bank-specific characteristics, it was deemed most appropriate to simply name them by virtual of their relative online conversion rates. Financial institutions in Cluster 2, with an average conversion rate of 24.7%, are thus labelled Well-off Pushers. Their counterparts in Cluster 3, with the lowest mean online conversion rate, are termed Poor Pushers.

In terms of financial performance, the Top-heavy Pushers also appear to be high achievers - they have a higher ROA and ROE, but a lower C/I ratio, than both Well-off and Poor Pushers on average. With regard to online service quality, this group only excels in three of the five measures compared with the other two. While the online portfolio of this group is far more extensive than the other two clusters, the level of access to their products and services is marginally lower than that provided by Poor Pushers. Likewise, though their online sites display a higher level of security and an easier navigation regime than the other two clusters, their speed of response to online enquires is, on average, a tad slower than the Well-off Pushers. Taken together, it would appear that all the variables investigated do have an effect on online conversion success.

This inference, however, does not seem to be supported when the characteristics of Clusters 2 and 3 are compared. Well-off Pushers, with an average of 4.2 years of Internet adoption, have a considerable smaller client base, less staff, fewer branches, less ATMs and a very minute asset base compared with Poor Pushers. With regard to financial performance, Well-off Pushers have a marginally higher ROA but a lower ROE than Poor Pushers. Conversely, Poor Pushers, with a marginally lower mean of 4 years of online adoption, have a much higher average C/A ratio but a slightly lower C/I ratio compared with Well-off Pushers. This implies that Well-off Pushers are more cost-asset effective than Poor Pushers, suggesting that asset management ability benefits online banking conversion.

In regard to online service features, Well-off pushers have much inferior online system qualities with respect to security, navigation, access, and product service range than Poor Pushers. Despite that, Well-off Pushers, however, show a higher responsiveness performance, even exceeding that achieved by Top Heavy Pushers. This strongly suggests the likely significance of this variable in online banking conversion. A modest configuration of prompt responsiveness through limited contact access points may lead to online conversion. Conversely, it may be interpreted that Well-off Pushers, with a smaller clientele, are more responsive to consumers on their offline presence, thus prompting online migration.

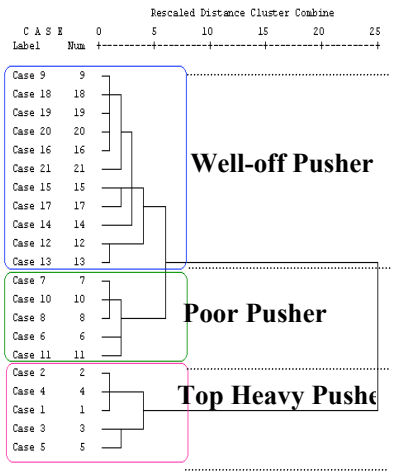
Since having either an extensive online portfolio, as exemplified by the range of online products and services offered by Top Heavy Pushers, or a rather limited focus-orientation, as those provided by Well-off Pushers, could both achieve considerable online conversion, it thus appears that online conversion rate can be increased either with a broad range of products and/or services or a targeted, limited number of products and/or services. The results may also be interpreted as Poor-Pushers (mostly small regional banks) are not leveraging their resources to convert clients to transact online as much as the larger banks (Top Heavy Pushers) or credit unions (Well-off Pushers). It is also possible that Poor Pushers' low ROA performance may be due to their breadth of product services online. A broad on-line product portfolio can be negatively related to ROA, mainly because of the lack of marketing opportunities due to low industry dynamism and low heterogeneity (Zahara 1996). This is congruous with the Australian Banking Industry's reliance on lending market as reported in IBIS (2004), which would likely create high product competition and low margins. Although not measured in this study, it has been posited elsewhere (see for example Kolletzki 1996 and NCA 2002) that high online conversion may, among other factors, depend on elevated expenditures on sophisticated technology or equipment.

This study also reveals that early adopters of online banking do command higher conversion rates and perform more cost-effectively and profitably than laggards. This finding confirms Grosse's (1997) contention that early adoption of Internet banking can lead to improved internal efficiency ratios and to enhanced use of cheaper delivery methods.

Conclusion

Findings from this study suggest that, on an aggregate basis, size is not a key driver of online conversion, but length of adoption of online banking does have some effects. Likewise, a limited online product and/or service portfolio with a lower level of online system quality is also of limited consequence, so long as responses to online enquiries are speedily attended to. Given that the online service quality variables employed in this study are not based on customers' perceptions, such findings are not surprising. This is a major limitation of the study. In addition, the small sample size achieved may also raise concerns regarding questions of external validity. The generalisation of the results is thus cautioned.

Table 1: Clusters' Characteristics*



	Number of Financial Institutions	Online Conversion Rate	Bank-Specific Characteristics						Financial Performance				Quality of Online Services				
			Year of Internet Adoption	Client Base	Staff	No. of Branches	No. of ATMs	Assets (A$ Billion)	ROA	ROE	C/I Ratio	C/A Ratio	Range of Online Products and/or Services	Accessibility	Level of Online Security	Ease of Navigating Online	Speed of Response to Online Enquiries
Well-off Pusher	11	0.247 (0.143)	4.2 (1.09)	109,847 (127,877)	239 (143)	28.5 (16.8)	39.4 (69.8)	0.776 (0.456)	0.008 (0.003)	0.096 (0.025)	0.681 (0.077)	0.300 (0.005)	10.2 (4.79)	72.8 (54.9)	3.22 (0.67)	4.77 (1.79)	19.89 (22.91)
Poor Pusher	5	0.141 (0.068)	4.0 (1.29)	897,264 (130,859)	2,109 (2,736)	95.2 (76.7)	146 (99.3)	11.800 (13.049)	0.007 (0.001)	0.126 (0.021)	0.64 (0.203)	0.414 (0.009)	17.7 (4.37)	100.6 (47.1)	7.57 (2.44)	6.14 (0.90)	37.57 (23.5)
Top Heavy Pushe	5	0.295 (0.149)	5.2 (0.44)	6,140,000 (296,108)	19,086 (8,768)	753.0 (221.3)	1,662 (839.5)	211.236 (116.928)	0.010 (0.001)	0.169 (0.022)	0.524 (0.059)	0.36 (0.005)	26.5 (5.90)	100.2 (44.2)	9.6 (0.89)	7.40 (1.14)	20.8 (18.6)

***** *Note: Figures show mean values of clusters. Values in parentheses are standard deviations.*

REFERENCES

ACNielsen (2002). Australian online banking update.

APRA (2002). Banking services provided to Australians., Australian Prudential Regulation Authority.

Bitner, M. (2001). "Serice and technology: opportunitites and paradoxes." Managing Serice Quality **11**(6): 375-379.

Bughin, J. (2001). "E-push or e-pull? Laggards and First-movers in european on-line banking." Journal of Computer-Mediated Communications **7**(1).

Bughin, J. (2004). "Attack or convert? Early evidence from European online banking." Omega **32**(1): 1-7.

Grosse, R. (1997). "The future of the global financial services industry." The International Executive **39**(5): 599-617.

Hair, J. J., Anderson, R., Tatham, R. and Black, W. (1987). Multivariate Data Analysis with readings. Ontario, Macmillan Publishing company.

Hensmans, M., A. J., van den Osch, A.J. and Volberda, H. (2001). "Clicks and bricks in the emerging online financial services industry." Long Range Planning **34**: 231-247.

IBIS (2004). K7325 - National and Regional Commercial Banks in Australia. Melbourne, IBISWorld Australia.

Jun, M. and Cai, S. (2001). "The key determinants of internet banking srvice quality: a content analysis." The International Journal of Bank Marketing **19**(7): 276-291.

Kolletzki, S. (1996). "Secure internet banking with privacy enhanced mail - A protocol for reliable exchange of secured order forms." Computer Networks and ISDN Systems **28**: 1891-1899.

NCA (2002). SNS banks N.V. Foreign currency, long term, short term outlook, Netherlands Credit Analysis.

Patricio, L., Fisk, R. and Falcao e Cunha, J. (2003). "Improving satisfaction with bank service offerings: measuring the contribution of each delivery channel." Managing Service Quality **13**(6): 471-482.

White, H. and Nteli, F. (2004). "Internet banking in the UK: Why are there not more customers?" Journal of Financial Services Marketing **9**(1): 49-56.

Zahara, S. (1996). "Technology strategy and financial performance: examining the moderating role of the firms competitive environment." Journal of Business Venturing **11**: 189-219.