Provision of electronic banking in the UK and the Republic of Ireland

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Abstract  
Electronic or online banking is the newest delivery channel to be offered by the retail banks in many developed countries and there is wide agreement that this channel will have a significant impact on the market. Aims to quantify the current provision of electronic services by major retail banking organisations in the UK and the Republic of Ireland. Additional insight into the banks’ adoption of this new channel is gained by exploring two areas important in the analysis of new offerings, that is: an organisation’s approach to innovation; and their view of the current and future markets. By use of a mailed questionnaire, it was found that 25 per cent of the banks in the UK and the Republic of Ireland which responded to this survey are already offering online transactional services to consumers in their homes. The largest group of respondents (50 per cent) are those that are currently testing or developing such services, while just 25 per cent of the respondents were in organisations not providing or developing such services. It is also found that the organisation’s vision of the future, their prediction of customer acceptance, which tends to be very low, and their organisational culture of innovation are the most important of the suggested factors in their adoption of electronic delivery.

Introduction  
The increasingly competitive environment in the financial services market has resulted in pressure to develop and utilise alternative delivery channels. The most recent delivery channel to be introduced is electronic or online banking. The term electronic banking is used to describe the provision of information or services by a bank to its customers, via a computer or television. This paper considers retail electronic banking and hence the computer or television is most likely to be in the home. However, it may be in the workplace or it may be in the form of a public access kiosk in a location such as a railway station or airport.

In its very simplest form, electronic banking can mean the provision of information about the bank and its products via a page on the World Wide Web (WWW). A more developed service is one that provides the customer with the opportunity to gain access to their accounts and execute transactions or to buy products online and it is such ‘transactional’ services that are considered in this study.

The aim of this paper is to quantify the current provision of electronic services by retail banks in the UK and the Republic of Ireland. Additional insight into the banks’ adoption of this new channel is gained by exploring two areas important in the analysis of new offerings, that is: an organisation’s approach to innovation and their view of the market. First the background to the introduction of electronic banking services is presented. A review of the two academic literatures relevant to this study, that is: the electronic distribution literature and the new offering development literature are given. From these the research question is derived which is addressed using a detailed questionnaire. The findings are presented and discussed and managerial implications and further research topics are highlighted.

Electronic retail banking  
There is wide agreement that electronic delivery will have a significant impact on the future of retail banking (Johnson et al., 1995; Bank Administration Institute and the Boston Consulting Group, 1995; Graham, 1997; Treanor, 1997), with estimates that 60 per cent of retail banking transactions will be online in ten years time (Barwise, 1997). Skilled consumers will be able to change banks at the press of a button, in the comfort of their own homes. They will have access to online “intelligent agents”, which will give them the ability to compare products for the best terms and conditions and so push prices down. In addition, a whole new range of players, such as software and telephone companies, will view themselves as capable of providing these electronic banking services to customers and so be interested in entering the banking market (Hagel and Eisenmann, 1994; Hagel and Lansing, 1994). If they wish to survive in the online home banking age, the retail banks of today will have to earn customer loyalty through product features and service excellence, rather than allowing loyalty to stem from customer inertia, as is often the case today (McMahon, 1996).

Many of the banking organisations in the UK are currently announcing the launch or development of transactional electronic banking services (Daniel et al., 1998). However, to an observer of this activity there appears to be no obvious pattern to which organisations are doing this. It may be
expected that the largest organisations would be the pioneers of such services owing to their greater financial resources and skill bases. However, certain large organisations, such as the Abbey National do not currently provide such services. Alternatively, it may be expected that highly-innovative organisations would be most likely to undertake such leading edge developments. However, an organisation judged innovative by many, First Direct (Tomkin, 1998; Parmenter, 1997), was not one of the first organisations to launch, rather it chose to be a “fast follower” when it announced the launch of their trial PC-based service in the summer of 1997 (Nairn, 1997).

**Literature review**

In order to form a basis for the current study, two areas of literature were drawn on: 1 those that discuss the business issues and models resulting from undertaking business over computer networks, with particular emphasis on studies that discuss electronic retail banking; and 2 the literature addressing the development of new products and services.

**Electronic distribution**

Like the technology that it addresses, academic literature on use of electronic distribution is at an early stage but growing rapidly. Both the academic and the popular literature forecast the rapid growth and significant impact of electronic distribution on all types of markets (e.g. Internet Computing Staff, 1998; Kalakota and Whinston, 1997; O’Connor and Galvin, 1997).

A starting point for understanding the electronic distribution of goods and services is the work of Rayport and Sviokla (1994, 1995), in which they highlight the differences between the physical marketplace and the virtual “market space”, which they describe as an information-defined arena. Some of the important differences they identify include: • pricing should be based on value and not cost since most services have little marginal cost; • consumers are unlikely to return to the marketplace after experiencing the benefits of the market space; and • that suppliers can easily offer additional products and services to customers in the market space.

Negroponte (1995) classifies both products and distribution channels as either atoms (physical) or bits (digital or electronic) and encourages firms to move from distributing atoms via physical channels to moving atoms via digital networks.

Another key significance of electronic distribution was recognised by Malone et al. (1989). They recognised that by facilitating customers’ comparisons of purchase alternatives, electronic networks will encourage a move from hierarchical, single-supplier relationships to market-based, multi-supplier scenarios. This shifting of power from the supplier to the buyer, in this case via the value of customer information, was also recognised by Hagel and Armstrong (1997).

However significant electronic distribution is forecast to become, it is recognised by Patterns et al. (1997) that this is just one distribution channel in a plurality of co-existing channels and that consumer markets are heterogeneous and complex. They predict that consumers will undertake different information search and purchase strategies based on the type of goods or services sought and that they will move between the co-existing channels to undertake these activities.

A number of recent academic studies are helpful in considering the issue of the provision of electronic transactional services by banks. The impact of major trends, such as technology and deregulation, has caused the retail banking sector to focus considerable attention on their distribution channel strategies (Devlin, 1995; Lockett and Littler, 1997). Trehowan and Silicone (1997) found that the percentage of customers that visit bank branches is expected to fall while the number of alternative delivery channels will increase. They forecast the growth in direct delivery of services and list the advantages of such services as:
• convenience;
• sales;
• orientation; and
• lower costs.

Electronic banking services were first launched in the UK in the early 1980s with the “Homelink” service provided by the Nottingham Building Society and the Bank of Scotland (Tait and Davis, 1989). However, in general, they failed to gain widespread acceptance and most were discontinued (Vinson, 1978). Since the rapid growth of other types of electronic services, most based on the Internet, there has been a renewed interest in electronic banking services and many banks have recently launched or are developing such services (Booz Allen and Hamilton, 1996; Daniel, 1998).

The advantages of electronic banking services, such as increased convenience and
functionality, are discussed in detail by Johnson et al. (1995). Baldock (1997) uses the
term “virtualisation”, by which he means “the removal of the constraints of time, place
and form, made possible by the convergence of computing, telecommunications and
visual media”, to describe the benefits offered to both the bank and the customer by
electronic banking. McMahon (1996) considers three direct delivery means:
1 telephone;
2 PC; and
3 the WWW.

McMahon concludes that these should be employed in a complementary and integrated
way with existing distribution channels if financial service providers are going to
survive into the next decade. Finally, Dannenberg and Kellner (1998) propose the next
step in electronic banking provision when they discuss the possibility of offering
individual customer advice through Internet picture telephony or video conferencing.

New offering development
There is a significant body of academic
literature that describes the development of
both new products and new services, termed
new offering development, which has
been well summarised in the following
reviews (Johne and Snelson, 1988; Montoya-
Weiss and Cantantone, 1994; Johne and
Storey, 1996). The activity of new offering
development has been divided into three key
stages:
1 opportunity analysis;
2 project development;
3 implementation and evaluation (Johne
and Storey, 1996).

The focus of this study is on opportunity
analysis and the other stages will not be
explored further. In analysing a new devel-
opment opportunity, an organisation must
look both externally and internally. Two
important criteria for an organisation in the
analysis of new product or service opportu-
nities are a market orientation and a com-
plementary internal aptitude or competence
for innovation (Ennew and Watkins, 1992;
Thwaites, 1992).

The term market orientation describes
how a company listens to its customers and
develops products and services that meet
their needs. It is often described as “market-
pull”, as opposed to the concept of “technol-
gy or supplier-push”, where organisations
try to find or create a need for a product they
have developed in isolation from the market.
Market-led innovation requires knowledge of
both current customer needs and behaviour
and the offerings of competitors (Cooper
et al., 1994; Edgett, 1994). Another important
feature is a view or vision of the future
development of that market, so that the
product or service will be well placed to serve
developing needs (de Brentani, 1991; 1993).

While there are always market opportu-
nities, firms may have difficulty in capita-
alisng on these due to internal barriers and
limitations (Thwaites, 1992; Drew, 1995a).
These may be simply a lack of financial or
human resources but are often more com-
plex, for example, the culture of the organi-
sation plays an important role (Johne and
Storey, 1996). Senior management and inter-
nal systems should communicate the import-
ance of, and support, innovation. Processes
and systems that allow new offering devel-
opment to flourish should be developed and
nurtured, for example, new product or pro-
cess ideas should be encouraged from staff
throughout the organisation, and even from
customers, and not seen as the preserve of
the marketing or new products division. Fear
of failure should be removed, as should
excessive bureaucracy, since hindering com-
munication stifles innovation. Cross func-
tional teams with minimal hierarchies have
also been recognised as being another
important organisational factor in innova-
tion (see for example, Hardy and Dougherty,
1997).

In summary, the literature on new offering
development suggests that the two important
criteria for the analysis of opportunities are:
1 an understanding of the relevant market; and
2 a corresponding internal new offering
development capability.

In the case of electronic banking services,
which are highly innovative, it might be
expected that the organisation’s culture of
innovation, their prediction of customer
acceptance or uptake and their vision of the
future of the retail banking market would be
particularly important.

Research question
Based on the literature review outlined in the
previous section, the development of an
innovative distribution system, such as elec-
tronic banking, seems likely to depend on
both organisational and market factors. At
present, however, our knowledge of the
extent to which electronic banking services
are being developed or deployed is limited,
likewise there is little systematic research
relating to the factors which influence banks
to develop such services. This study aims to
quantify the current state of provision of
electronic banking by retail banks in the UK
and the Republic of Ireland and to understand the factors which drive the development of such services. The two dimensions of analysis:

1. Organisational;
2. Market

were further divided into the more detailed factors shown in the following list, which shows the proposed factors affecting the provision of electronic banking, being judged as a balance between the quantity of data requested and insight gained. The resulting five factors were also guided by the findings of an earlier qualitative study of the provision of electronic banking in which face-to-face interviews were carried out with UK bankers responsible for such services (Daniel and Storey, 1997):

1. Organisational:
   - culture of innovation;
   - market share or strength;
   - restrictions and limitations.

2. Market:
   - prediction of customer acceptance
   - vision of the future

Given the rapid growth and significant impact forecast for electronic banking, both managers and academics will value a study that not only reliably quantifies its current status, but also explores the factors determining or limiting the supply of such services. It will then be possible for academics and practitioners to further enhance those factors stimulating supply and develop strategies to minimise or mitigate the factors limiting supply. To date, academic studies that have addressed electronic distribution have tended to be theoretical in nature (e.g. Johnson et al., 1995; McMahon, 1996; Baldock, 1997) with very little empirical data, often because the newness of the technology prevented there being a sufficient number of organisations to study. This study is valuable since it contains both quantitative and qualitative information from a range of organisations that are actually developing strategies and services for this new route to market.

**Research methodology**

Data were collected by means of a questionnaire (available from the author), that was mailed to the 44 largest retail banks and building societies in the UK and the Republic of Ireland (Dun & Bradstreet, 1997). The questionnaire was addressed to a manager in the electronic banking department where it was known that this activity existed. Where this group could not be identified, the questionnaire was addressed to a manager in the IT department. Questionnaires were first posted in July 1997 and then remailed in October 1997.

Responses were received from 25 organisations, representing a 57 per cent response rate, itself indicating the interest in this area. Of those replying, 68 per cent were banks and 32 per cent building societies and 88 per cent were based in the UK and 12 per cent based in the Republic of Ireland. The responding organisations represent approximately 75 per cent of the UK and Irish retail banking assets. Six of the respondents had total assets (1997) in excess of £50 billion, ten had total assets in excess of £10 billion but less than £50 billion and nine had total assets between £1 billion and £10 billion. For the purposes of this study these three groups will be referred to as large, medium and small banking organisations respectively.

Respondents were asked detailed questions about the five factors mentioned in the list on this page (contained in the questionnaire). They were then asked to complete a four-point Likert scale on each factor indicating its importance in defining their strategy towards the provision of electronic banking (1 = not important, to 4 = very important).

**Provision of electronic retail banking**

Respondents were asked if their organisation currently provided online transactional banking services and if so, what type of service they provided. Figure 1 shows that 25 per cent of those responding currently offer fully operational systems while the majority, 50 per cent, either have a trial system or currently have a system under development or consideration. In all but two cases the companies not offering or developing a system consisted of the smaller banking organisations (total 1997 assets less than £10 billion) and the reasons given for the lack of services included that they:

- did not offer money transmission services; or
- viewed it as an issue of cost versus limited current customer uptake such that their approach could be described as “not yet rather than not at all”.

The two exceptions were medium-sized organisations, one giving a reason for the lack of a service as “our prime business area is in lending rather than banking and therefore our resources tend to be with lending sales initiatives”.

Services currently being provided or under development are split roughly evenly
between direct dial PC banking (44 per cent) and Internet services (50 per cent), with services based on managed networks or television being very rare (6 per cent when taken together). A brief description of each of these delivery platforms is given in Table I.

Reasons given for adopting a direct dial service include the ability to provide a consistent level of service, since the customer is not reliant on the variable level of service inherent in any use of the Internet and allaying customers concerns about security, which arise from the use of an open public network. Those banks providing an Internet-based service cite customer demand, ease of accessibility, since their customers can access their bank account from any computer linked to the Internet and the reduced costs involved in distributing software, since software upgrades do not need to be sent to each customer, rather they are downloaded once to the bank servers. The trade off between these two types of service has been characterised as a balance between supplier reach and consumer control (Daniel and Storey, 1997). Supplier reach is greatest via a broadcast media such as the Internet or digital TV, while consumer control, such as perceived security, speed and reliability of access is greatest via direct dial services.

Factors affecting the provision of electronic banking

Each of the five proposed factors affecting the provision of electronic banking and the relevant questionnaire findings are discussed below.

Organisational culture of innovation

As stated earlier, one of the most important criteria for the development of successful new offerings is an organisational competence for innovation (Ennew and Watkins, 1992; Johne and Storey, 1996; Ghoshal and Ackenhusen, 1998). It is also recognised that building a reputation for innovation may make it easier for a company to introduce new products or services in the

Table I

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<th>Type of service</th>
<th>Description</th>
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<td>PC banking (private dial-up)</td>
<td>Proprietary software, distributed by the bank, is installed by the customer on their PC. They then access the bank via a modem linked directly to the bank</td>
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<tr>
<td>Internet banking</td>
<td>Customers can access their bank and account when they use the Internet</td>
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<tr>
<td>Managed network</td>
<td>The bank makes use of an online service provided by another party, such as AOL</td>
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<tr>
<td>TV-based</td>
<td>The use of satellite or cable to deliver account information to the TV screens of customers</td>
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future, as consumers are more ready to accept new offers from proven innovators (MacMillan and McCaffery, 1984).

In order to understand the degree of innovation within the target organisations the typology developed by Miles and Snow (1978) and used widely thereafter, see for example Griffin and Page (1996), was utilised. Respondents were provided with the definitions shown in Table II and asked which of the four innovation types best describes their approach to new product and service development.

The majority of respondents (56 per cent) described their organisations as “analysers”. When asked if their approach to electronic banking could be described in the same way 64 per cent felt that it could. Where they felt there was a difference (36 per cent), it tended to be that their development of electronic banking was slower than that of other products and services. Reasons given for this included “the rate of change of technology in electronic services is too great to develop a final proposition in one go and therefore a more evolutionary approach is being adopted”; “senior level inertia” and “our focus is on our core business of lending”.

**Organisational restrictions and limitations**

A factor that could be expected to explain the observed differences in the adoption of electronic services is restrictions or limitations within the organisation, as these may be expected to vary between organisations. Such limitations may arise from a lack of finances or staff with suitable skills. Respondents were split roughly evenly between those who felt that there were no restrictions on the developments of such services (43 per cent) and those that felt that there were (57 per cent). Those stating reasons frequently mentioned the squeeze on management and IT resources currently being caused by year 2000 and EMU considerations. Others felt that the culture of their organisation hindered the development of such systems or there was not a fit with their current customer base, for example, “the culture in our organisation views online banking as novel and having no place in our customer base in the Midlands”.

Some mentioned the lack of senior management support as a restriction to development. Given the profound effects that electronic delivery is predicted to have on the future of retail banking, it is alarming that

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<td>Miles and Snow organisational innovation typology</td>
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<tr>
<th>Innovation type</th>
<th>Description</th>
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<tr>
<td>Prospector</td>
<td>Values being first with new products, markets and technologies</td>
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<tr>
<td>Analyser</td>
<td>Seldom first to market, but frequently a fast follower with a more cost-efficient or innovative product</td>
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<tr>
<td>Defender</td>
<td>Locates and maintains a secure niche by protecting their position in a relatively stable product or service area</td>
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<tr>
<td>Reactor</td>
<td>Responds to market changes when required by environmental pressures</td>
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the development of an online strategy is not being championed by senior level staff within these organisations. All academic studies on the successful development of new products and services in the financial services sector have stressed the need for a clear corporate vision and top management commitment (Ennew and Wright, 1990; Thwaites, 1992; Drew, 1995; Johne and Pavlidis, 1996).

Prediction of customer acceptance
In order to understand the respondents' views on customers' willingness to use electronic services they were asked to estimate, within given bands, the percentage of their customer base that would make use of such services today. The results, shown in Figure 2, indicate that the majority of organisations predict less than 5 per cent of their customers would currently use such a service. This low usage was based upon customer access to suitable PCs and the high level of customer inertia in changing their established banking arrangements.

It would appear that the low usage forecasts are not hampering the provision of electronic services, since 79 per cent of organisations predicting an uptake among current users of less than 5 per cent are currently providing or developing services. Respondents were expressly asked if uncertainty about customer acceptance was affecting their development of such systems and 76 per cent stated that this was not the case. Explanation for the provision of such services, despite low usage forecast, could be that the customers making use of them may ascribe particular value to these services. The user group may also represent the most profitable customers of the organisation, a fact that has been observed in the USA (Tower Group, 1997) and are, therefore, important to retain. When asked to rank how highly the segment of active users would value an electronic service on a seven-point scale (1 = value highly; 7 = little or novelty value), the mean score was 2.85 (standard deviation of 1.31), showing that these services would add value to this customer group. The features that customers would value were cited as:
- convenience;
- increased choice of access to bank; and
- improved control over their banking activities and finances.

However customers would also demand ease of use, speed and security. It was also recognised by the respondents' comments that the type of customer using electronic services is likely to be of a higher net worth and, therefore, more profitable.

Vision of the future
Respondents were asked to outline the main trends that they forecast in retail banking in the UK over the next five to ten years. Their responses included many of the trends already occurring in this market, such as increased competition from non-bank players entering the market. They also cited decreased consumer loyalty and increased transparency of pricing combining with electronic channels, such as the Internet, to yield easier comparison shopping. Many also forecast a continued migration from current distribution channels to electronic channels. It is thought by many that digital TV will be a key driver of the uptake of electronic delivery by the large proportion of customers that are not highly technically literate and do not...
Currently have regular access to a suitable PC.

Respondents were asked to rank on a seven-point scale how important electronic banking is to their future strategy (1 = very important; to 7 = unimportant). The mean score of 2.95 (standard deviation of 1.70) indicated that it is of importance to most organisations. Those who rated it as important to their strategy cited that it was necessary to offer customers the convenience associated with electronic banking if they were to stay competitive. In particular, some stated that it will be the most profitable customers that will adopt these services and therefore “electronic banking will be a key component in our ability to prosper”. Many respondents who rated it as important also recognised that it could be a key component in the reduction of costs and hence offer further competitive advantage.

Respondents stated that electronic delivery was unimportant to their strategy if they do not currently offer money transmission services. However this view causes them to overlook the possibility of offering access to savings, loans or other accounts online. Others who rated electronic banking as unimportant stated that they had other issues that were currently more important to them, for example, one respondent stated that they had issues regarding other channels of distribution to resolve before introducing additional distribution channels.

### Relative importance of factors

In the final summary question respondents were asked to indicate the importance of each of the five factors discussed above on their adoption of electronic banking services. The responses were grouped according to whether the organisation currently provided an electronic service or had one under trial or development, referred to as “service” and those that have no service and are shown in Figure 3. Respondents were also asked to note if there were any additional factors that they felt determined their electronic banking strategy, but no distinct factors were measured.

All five factors were judged as important by both groups and the ranking of factors was the same for the three highest-ranked factors. Respondents considered that the most important factor was their organisation’s vision of the future. This vision, outlined above, is of a continued move from current distribution channels to electronic distribution driven by both increasing competition and customers demanding increased service at lower prices.

Customer acceptance was the second-highest rated factor but 62 per cent of organisations only expect less than 5 per cent of their customers to use such services if they provided them today. However, this low forecast of demand has not prevented the deployment of services, with 79 per cent of those predicting less than 5 per cent customer uptake currently providing a service or developing one.

Organisational culture of innovation was also seen as an important driver in the provision of electronic banking services by both groups. As discussed earlier, a reputation for innovation can help in the launch of new products and services in the future.

Organisational restrictions and limitations were ranked as having the least impact on the provision of electronic banking by those organisations that have a service or are developing one. However, these organisations did mention that management and IT resources were scarce, owing to other major system issues. They also mentioned cultural difficulties including a lack of top management support or vision.

Those not currently operating or developing services ranked market share or strength of the organisation as the least important factor affecting their electronic banking strategy. This finding is driven by the smaller organisations, who have a small market share and limited financial and human resources and would, therefore, tend to rank this factor as unimportant.

### Conclusions and management challenges

Electronic delivery is forecast to become a major distribution channel for retail banking over the next three to five years (Banking Administration Institute and the Boston Consulting Group, 1995; Booz Allen and Hamilton, 1996; Barwise, 1997). This study has shown that 25 per cent of the banks in the UK and the Republic of Ireland responding to this survey are already offering online transactional services to consumers in their homes. The largest group of respondents (50 per cent) are those that are currently testing or developing such services, while just 25 per cent of the respondents were in organisations not providing or developing such services.

This study has shown that the decision to adopt electronic banking is led by a corporate vision of the future in which the banking market becomes even more
competitive, while consumers demand greater accessibility, functionality and service at a lower price. Electronic channels, both PC and digital TV are expected to become increasingly important means of satisfying these competing challenges. Major challenges that can be expected to face managers in such a future scenario include integration with existing distribution channels, pricing of electronic services and products and increased competition as new entrants and overseas banks find it easier to promote their products and services to customers in the UK. Other challenges which require considerable research, due to their far-reaching consequences, include the origin of trust in a relationship that does not include tangible contact or the protection of customer privacy when banks can monitor and record their every key stroke.

Current usage of electronic banking services is expected to be by a small minority of customers with 62 per cent of respondents estimating that less than 5 per cent of their customer base would make use of these services if they offered them today. However, it is recognised that it is important to provide the customer with maximum choice and convenience, especially for the large nationwide players. It is also recognised that this small segment of customers is likely to be the most profitable, due to their high net worth, and, therefore, vital to retain. One major challenge to managers and an area for further research is to understand the service characteristics that will drive or hinder customer acceptance of these services and hence how they can be adapted to maximise the rate and level of customer uptake.

As suggested by the academic literature on new offering development, the organisational culture of innovation was also found to be an important factor in the decision to develop such leading edge services. The majority of respondents (56 per cent) felt that their organisations could be described as “analysers”, according to the Miles and Snow typology and that their approach to electronic banking could be similarly described. However, some organisations (36 per cent) felt that their development of electronic banking services was slower than that of other products and services and it was suggested that this was due to the rapid changes in this area. An important subject for further research in new offering development would be to understand to what extent companies adapt their innovation style in the face of rapid and significant market change and how this adaptation is achieved.

Restrictions and limitations within the organisation and its market share or strength are viewed as important to the decision to operate such a service, but to a lesser extent than the three factors discussed above.

References
Bank Administration Institute and the Boston Consulting Group (1995), *The Information Superhighway and Retail Banking*, Bank Administration Institute, Chicago, IL.


