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.

In this newly-emerging delivery channel, where technological change is rapid, customer acceptance is not yet proven and integration must be achieved with an increasing array of existing delivery channels, managers must make decisions in very uncertain conditions and such research will be particularly welcomed in helping to reduce this uncertainty.

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, multiple-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). Trethowan 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 here new offering development, which has been well summarised in the following reviews (Johne and Snelson, 1988; Montoya-Weiss and Cantantone, 1994; Johnne 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 development opportunity, an organisation must look both externally and internally. Two important criteria for an organisation in the analysis of new product or service opportunities are a market orientation and a complementary 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 “technology 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 opportunities, firms may have difficulty in capitalising 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 complex, for example, the culture of the organisation plays an important role (Johne and Storey, 1996). Senior management and internal systems should communicate the importance of, and support, innovation. Processes and systems that allow new offering development to flourish should be developed and nurtured, for example, new product or process 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 communication stifles innovation. Cross functional teams with minimal hierarchies have also been recognised as being another important organisational factor in innovation (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 electronic 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; and
- 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

Figure 1
Provision of online banking

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; John 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
Delivery platforms for electronic banking

Type of service	Description
PC banking (private dial-up)	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
Internet banking	Customers can access their bank and account when they use the Internet
Managed network	The bank makes use of an online service provided by another party, such as AOL
TV-based	The use of satellite or cable to deliver account information to the TV screens of customers

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”.

Market share or strength of the organisation

The intention of this factor was to determine if the respondents believed that the market share or resources of the organisation had an impact on their adoption of electronic services. Responses were analysed according to the asset bands described above. It was found that the large, national players (total assets in excess of £50 billion) felt that it was essential for them to develop electronic distribution in order to be consistent with the convenience and breadth of choice expected by a customer of a nationwide organisation. This was expressed by one such respondent as “our strong focus on good prices and wide availability mean that low

cost and widely available distribution channels are vital”.

Large and medium-sized organisations with a concentrated customer base (total assets in excess of £10 billion), such as the Scottish banks felt that electronic banking was an important way of growing their market share since it offers them a way of attracting new customers outside of their traditional region. Finally, the smaller organisations (assets below £10 billion) who also tend to have a limited geographic reach, believed that their limited resources were hampering their development of electronic banking, summed up by one respondent as “we would take our eye off the ball if we became involved in electronic banking”.

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

Table II

Miles and Snow organisational innovation typology

Innovation type	Description
Prospector	Values being first with new products, markets and technologies
Analysar	Seldom first to market, but frequently a fast follower with a more cost-efficient or innovative product
Defender	Locates and maintains a secure niche by protecting their position in a relatively stable product or service area
Reactor	Responds to market changes when required by environmental pressures

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; Johnne 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

Figure 2

Forecast uptake of electronic banking

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 2.93 (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

Figure 3

Relative importance of factors determining provision of electronic banking

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.

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