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# Evaluating a Financial Service Opportunity via Judgemental Modelling

Evaluating a  
Financial Service  
Opportunity

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Fundamental shifts in the European marketplace are forcing companies critically to review their business and financial activities. This involves reorganizing their cash management departments, installing state-of-the-art automated treasury systems, establishing sophisticated cross-border cash and currency management systems, and revamping their banking arrangements in the region. A substantial number (26 per cent) of European-based corporations have centralized their treasury operations within Europe. It is expected that within three years this will rise to 55 per cent, and 20 per cent will operate regionally[1]. From the other point of view, two factors have recently made banks within Europe more concerned about their strategies for achieving market share. The first is the movement towards the Single European Market, since after 1992 banks licensed in one European Community state will be free to operate throughout the Community[2]. The second is the improvements in the technology of Electronic Data Interchange (EDI), or Electronic Funds Transfer (EFT), and the competitive benefits that this can bring[3,4]. This article reports on a pilot study carried out for a large multinational bank ("Globalbank") in order to assess how it could harness these recent developments to gain market share in the European corporate transactional banking market. More specifically, the article describes work undertaken to test the concept of utilizing EDI technology to enable Globalbank to relay a detailed pre-advice message and cross-border payment from a customer to its supplier. For confidentiality reasons the subsequent marketing strategy adopted by Globalbank has not been described in any great detail. However, it is sufficiently documented in order to indicate how the judgemental modelling approach used can form the basis for such plans.

## **Concept Testing, Services Marketing and Attribute Importance**

Very little work has been published on the new product development process within financial institutions[5], and most models tend to be variations of the original study by Booz, Allen and Hamilton[6]. All models identified by Scheuing and Johnson[5], though, did incorporate a specific phase aimed at evaluation of the proposed concept, consisting of testing both the internal viability and the acceptability by the external market. As Easingwood and Percival[7] argue, the internal

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acceptability has usually focused on financial aspects, but this is increasingly being expanded to include non-financial (or what they call “non-direct”) benefits, such as corporate reputation and improved customer loyalty. The traditional tools of the financial analyst are of little use in evaluating these intangible benefits.

Although the marketing of services is often argued to be different from that of normal “product” marketing[8], the basic task of identifying the important attributes of the service remains critical[9,10]. If we cannot understand what the potential customer sees as important, we cannot tailor our offering, be it a service or a product, to the market effectively. Indeed, it can be argued that market testing is even more important in the financial services sector, given the difficulties associated with withdrawing products from the market[8].

A number of authors[11, 12, 13] have noted the distinction between the *importance* of attributes, and the extent to which the same attributes act as *discriminators* in determining the ultimate choice between competing products. To assess this distinction, some form of dual questioning must be used, whereby both constructs are independently measured. For example, Moriarty[14] measured both the importance of attributes and their industrial variability. Using a mail questionnaire, he asked respondents to separately assess the importance of a set of 33 attributes and also to “indicate how much difference there is among suppliers in the industry on each of the selection criteria”[14, VII; 7]. Other simple forms of multi-attribute models have been proposed. Lamberson *et al.*[15], using a simple scoring methodology and a list of attributes, calculate a “Total Score Indicated Ranking” for each vendor. An essentially similar weighted point method is proposed by Coppett and Staples[16] in advocating their “Product Profile Analysis”, and the “Vendor Profile Analysis” of Gregory[17] and Thompson[18].

A number of different approaches exist for the calculation of the attribute and supplier weightings when using a multi-attribute approach. Most of the references above make use of the simplest approach, where the attribute or supplier is scored on a simple ordinal (say 1-5 or 1-10) scale. Working in the area of multi-criteria decision making, Saaty[19] and Islei and Lockett[20] have developed more comprehensive approaches. These methodologies are more rigorous in their construction in that they use pairwise comparisons rather than straight rating methods, and permit some measure of the consistency of the respondent’s judgements to be calculated. Because they use pairwise comparisons rather than direct rating scales, these methods are far more suitable for collecting qualitative data, and as such are particularly suited to the evaluation of services, where the intangibility or judgemental nature of the attributes has been well-documented [21,22,23]. One of the major advantages of the Islei and Lockett approach over that of Saaty is that the latter requires a complete pairwise comparison of all the attributes, whereas the former permits only partial pairwise comparisons, and hence is far less arduous for the respondents. The interested reader is referred to Islei and Lockett[20] for a more comprehensive description of the technique.

In this article we present the results of a survey undertaken to assess the needs for a new service that Globalbank was considering introducing. Because we were concerned with testing a concept rather than evaluating different existing products, only one part of the dual questioning introduced above was done, namely measuring

the importance of the service's attributes. In the next section we discuss the operating environment of Globalbank, and outline the current and proposed services. We then go on to detail the research methodology and, finally, give the results of our survey.

### **The Environment**

EDI is the computer-to-computer exchange of intercompany business and technical data, based upon the use of agreed standards. The impact of EDI on the way corporations are doing business is profound. For a company such as ICI which exports over £3 billion worth of goods from the United Kingdom alone, the change in 1988 to an EDI system is expected to save the company at least £10 million a year in lost revenues and interest earnings[24, p. 26].

As a result of these potential savings, banks are increasingly being lobbied by corporate clients to offer their services electronically, something which represents a significant investment in new systems. In addition, the application of EDI to payment information impinges on the sensitive areas of the bank's relationship with its corporate customers, and on interbank competition. What is being realised by the banks, however, is that the real potential of EDI lies not simply with payment settlement, but with the provision of additional added value services. It is a technology that is becoming "essential to support modern product delivery and gives an institution a competitive edge"[25, p. 44].

Given the impending regulatory changes within the European Community, and the changes made possible by the recent advances in EDI, Globalbank had developed a system for improving international funds transfer. If accepted by the marketplace, this proposed system could have a significant influence on Globalbank's competitive edge, and hence on their potential market share. Globalbank have been at the forefront of developments and have recently been partners with Motorola in setting up a worldwide cash management system[26].

### **The Current System**

Transferring funds across national borders can involve up to seven separate organizations, depending both on the systems within the banks used and the size and degree of sophistication of the companies involved. An illustration of this process is shown in Figure 1, which indicates the number of instructions and delays that can take place from the company making the payment ("originator") to the supplier ("vendor") via the banking network. A definition of a cross-border payment for the purpose of this article is a payment to or from a non-resident account (i.e. an account in a different currency than that of the residence of the operator) using a telegraphic transfer. A currency can only be held in its own country (i.e. sterling never leave the United Kingdom) and so, to make a cross-border payment, a corporate's bank will normally hold its foreign currency with a "correspondent" bank. The correspondent will be a bank that is linked to the appropriate local clearing system and is able to transfer the funds to the vendor's bank.

The main factor that differentiates a cross-border payment from a local payment is that at least three bank entities are involved. These are the:

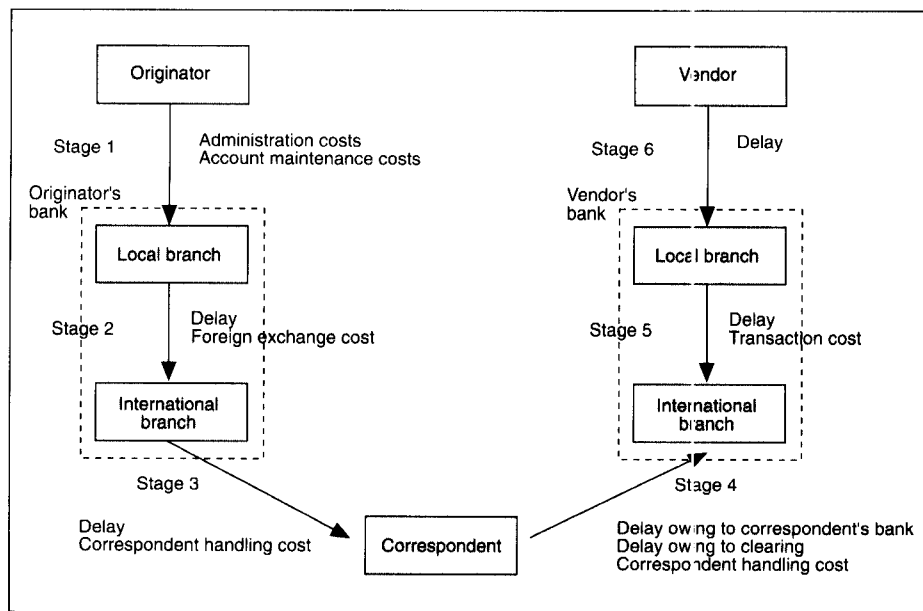


Figure 1.

- originator's bank;
- correspondent bank to the originator's bank;
- vendor's own bank.

As shown in Figure 1, a corporate's payables department (usually part of the Finance department) will instruct its own bank to make a payment from a foreign currency account on a stated "value date". In addition to the transaction charge for making the payment, there will be the administrative costs associated with instructing the bank.

The corporate originating the payment can ensure that the funds are moved from their own account to their bank's correspondent on the stated value date. The originator's bank will instruct their correspondent (with a "corporate" SWIFT message) to make a payment to the beneficiary over the local clearing system. (The SWIFT is a co-operative owned by the banks to provide secure transmission of formatted financial instructions. Usage of SWIFT is restricted to its members and specific participants.) On the value date, the UK corporate's foreign currency account will be debited and the correspondent's account credited. The originator's bank will know the date their account with the correspondent bank will be debited but they will not be able to confirm the date the payment is made in the local clearing system.

In a number of countries the correspondent can take deductions from the payment (i.e. in Germany 0.15 per cent of the value of the payment). In most cases neither the originator of the payment or their vendor will have a direct relationship with the correspondent bank used, and are unable to directly influence the payment terms.

The correspondent bank passes funds to the vendor's bank over the local clearing system. The vendor's own bank may delay crediting their account once they have received the funds and will often notify the vendor of the availability of the funds after they have credited the account, which may result in the under utilization of the funds.

The flow of information will vary according to the number and nature of the banks involved. However, as Figure 1 shows, there is an opportunity for the correspondent and the vendor's bank to hold the funds, identified as potential "float". The number of banking organizations can be increased if the vendor or originator hold their accounts with a bank branch that receives payment information from a central processing area. This in turn can increase the potential delays and holding of float. With the number of institutions involved in the transfer of the funds, the difference in the originator's debit date and the vendor's credit date can vary between 0-20 days, with an average for large corporates of 2-4 days.

Apart from the costs involved, the current system has two additional disadvantages in allowing only a limited amount of remittance information to accompany the transfers, and the potential to introduce errors with the rekeying of the information by the institutions processing the payment.

The total cost to the originator and the vendor for moving funds across borders using the system shown in Figure 1 can be broken down into the six levels outlined in Table I. These are described briefly below, and areas for possible lowering of the costs identified.

*Transaction Charges*

The originator's bank will normally charge for the payment service by levelling transaction and account charges, or else holding the funds if a specific value date has not been stated.

*Cost of Foreign Exchange*

In the example in Figure 1, the UK company is passing Deutschmarks to a German company. They will be required to exchange Sterling to purchase Deutschmarks to make the payment. The margin charged by a bank (foreign exchange spread) will depend on the size of the transaction, relationship with the company and the currencies being exchanged. The lowest spread will normally be achieved by large corporates that can obtain competitive quotes direct from a

Originator	Bank charge	Vendor
Debit charge	Transaction	Credit charge
Currency	Cost of foreign exchange	Currency
Debit date	Bank float	Credit date
Notification debit	Opportunity cost	Notification credit
Amount debited	Deductions for commissions	Amount credited
Administration	Administration costs	Administration – reconciliation

**Table I.**  
Bank-related Cost of  
Payment

number of bank dealing rooms (approx 0.03 per cent). If the company allows its own bank to make the exchange the charge can range between 0.25 and 1.5 per cent. The exchange of the currency should be completed by the trading partner that can complete the transaction at the lowest spread.

*Bank Float*

Bank float is the time the funds are out of both trading partners' accounts. A float period of between one and five days is common within Europe for large companies. Naturally, it is in both vendor and originator's interest that the payment should be routed to ensure that the funds are out of their accounts for the minimum time possible.

*Notification of Debit and Credit: An Opportunity Cost*

Unless both parties know exactly when their account will be debited and credited, overdrafts or balances will need to be maintained by the trading partners. If the trading partners can be advised of the movement of funds in advance, they can both minimize the funds held with their banks and maximize the cash available for investing within their own companies ("just-in-time cash"). The opportunity to the corporates is the difference between their overall cost of capital and the interest rate charged for the balances.

*Deductions for Commission*

The deductions taken by the correspondent depend on the currency and organization involved. If the trading partners are able to identify the deductions that are taken, they can negotiate to share the benefits of moving to a more efficient system.

*Administration Costs*

Any automation of the transfer of information between the trading partners and their banks would minimize the direct administration costs. The delivery of computer-readable remittance information to the vendor, for example, allows the automation of the reconciliation of the payment.

Given these charges, an example of the total banking cost to a UK company and its trading partners is given in Table II. We assume that the company disburses 100 cross-border payments to third party vendors per month, and that the average value of these payments is £25,000 (all figures are in pounds sterling).

**The Proposed System**

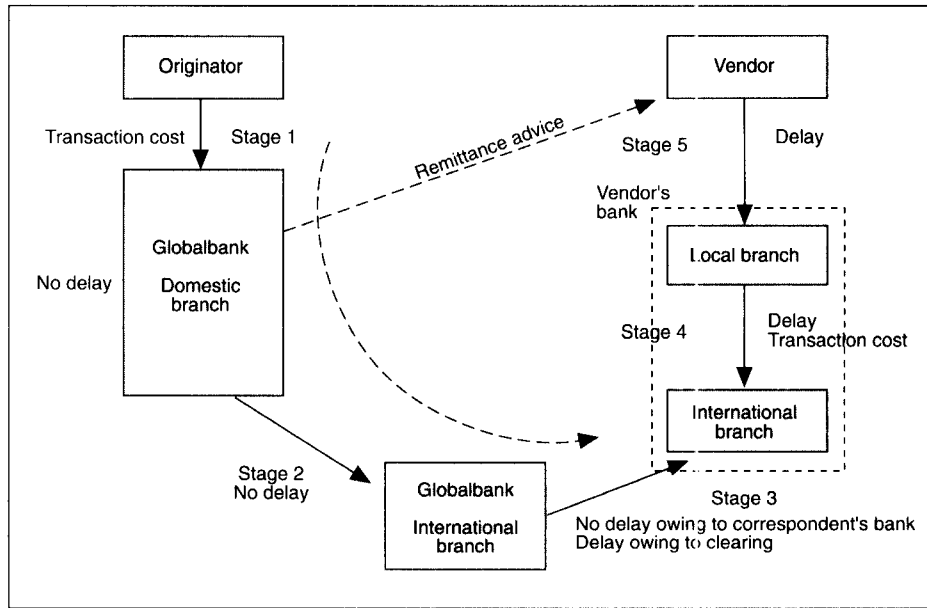
Globalbank branches are connected to the major clearing systems, giving it the advantage of acting as its own correspondent. The branches are connected by its own global telecommunication network, and exchange the payment instructions in a standard format providing the facility to process automatically an originator's formatted payment orders to the point where they are received by the vendor's bank. This unique correspondent network allows Globalbank's customers to negotiate the payment terms, up to the point where the funds are delivered to the vendor's own bank. The network minimizes the banking costs incurred with the origination of the payment message by reducing the float and deduction charges taken by the correspondent.

		Charge	Percentage total charge
<i>Visible charges</i>			
	Unit charge		
Administration charge per payment	10	1,000	9
Transaction charge	10	1,000	9
Float charge (days)	0	0	
Total		2,000	18
<i>Hidden correspondent and beneficiary bank charge</i>			
Cost capital (15%)	Percentage charge		
Foreign exchange	0.10	2,500	22
Bank float (3 days)	0.18	4,375	38
Balance/overdraft (1)	0.06	1,458	13
Deductions	0.05	1,125	10
Total hidden transaction charge		9,458	83
<i>Total bank charge</i>		11,458	100
Total bank charge per year		137,500	
Total bank charge per payment		£115	
Bank charge/funds moved		0.46%	

**Table II.**  
Estimated Bank  
Charges to Trading  
Partners

Globalbank does not have any control on the float or deductions taken by the vendor's own bank. A multi-currency EDI/EFT product has been developed to allow the charges taken by the vendor's own bank to be clearly identified and ensure the vendor is able to automatically reconcile the payment. This proposed system is shown in Figure 2. In offering the product Globalbank aims to identify clearly to potential customers the efficiency of the proposed system and encourage large corporate customers to switch their cross-border payment flows from the local banks.

The multi-currency EDI/EFT product would allow the originator to forward payment orders direct from its accounts payables system to Globalbank, in an industry standard format, over the value added network (VAN) of their choice. With the exception of the security server, the originator's initial implementation of the service is therefore not specific to Globalbank and can be used to pass payment orders to other banks offering a similar service. (The security server applies a message authentication code to the payment message, to ensure that the payment orders cannot be altered once they have left the accounts payables system.) The EDI payment order would include the remittance relating to the payment. The Globalbank payment system inserts the confirmed value date for the payment (after the format of the payment and credit conditions have been checked) in the remittance instruction. The remittance instruction with the confirmed value date is passed to the vendor as an EDI message a set number of days before the value date.



**Figure 2.**  
Proposed System

The originator would have full details of the Globalbank charges at the correspondent in terms of deductions and float. The vendor would have sufficient information to determine the day its own bank will receive the funds and can determine the charges taken by its own bank in terms of float and deductions. As the information is supplied by Globalbank as an EDI message, the vendor will be able automatically to reconcile its payments and monitor the conditions supplied by its own bank.

Holland *et al.*[27] have identified a number of generic business strategies that companies implementing EDI can adopt. In this case, Globalbank is pursuing a combination of a “new products and services” and a “time-based” competitive approach by offering both additional information and doing so faster than could have been accomplished using the more traditional services available.

It has been argued before that the distinction between products and services is not as clear as some authors would like to claim[28, 29]. However, where the distinction is made, it is usually done on four criteria: intangibility, inseparability, heterogeneity and perishability. Examining the proposed service along these four dimensions indicates the difficulty in making the distinction.

*Intangibility*

There are clear similarities between the current service and the proposed one in that both are highly intangible. However, the new service proposed by Globalbank does have the added attraction of a very definite tangible benefit – decreased costs, and hence increased profit.



### *Inseparability of Production and Consumption*

While a typical service is produced and consumed simultaneously, this is not true in Globalbank's case. The production of the service is more concerned, in terms of the managerial time and cost, with designing the software and installing the working system before it can be offered to clients. Consumption of the service, i.e. using it to transfer funds across borders, then requires little additional "production" effort.

### *Heterogeneity*

The argument of heterogeneity is based on the fact that the high personal input required by many services results in a greater potential variety in the quality of the delivered service. In this case, however, with the extremely high reliance on the technology underlying the service, one of its strong potential selling points is its very high homogeneity.

### *Perishability*

Perishability concerns the fact that services cannot be held as inventory. If the capacity of the service is not sold at a particular point in time, the lost potential sale can never be compensated for. While this is true of the service that Globalbank is considering offering, the fact that users of the service will typically be dedicated to the system does lessen the potential implication of lost sales.

Marketing a service such as this is somewhat atypical in that it has to be sold to two very different types of corporate client: the originator and the vendor. Earlier research undertaken by the bank had identified a number of attributes, both tangible and intangible, that this proposed system offers to both parties. These were developed during a series of interviews with leading practitioners in the area, and are shown in Figure 3, and described in Tables III and IV. The objective of the study was to test the importance of these attributes to both originators and vendors. This would provide insights into whether a market existed for the service and, if it did, what the important attributes were that Globalbank should stress in its marketing task of attempting to poach business from its competitors.

Given the complex nature of the service and the previously unquantified nature of these attributes, it was decided to use a combination of in-depth interviews and judgemental modelling packages to test the reaction of the firms to the proposed system. The package developed by Lockett and Isle[30] was used. This is based on earlier work[20] and has been extensively applied in industry[31, 32].

### **Methodology**

The methodology adopted was two-phased. First, some 200 companies within the EC were contacted by telephone to determine their willingness to participate, and the appropriate personnel to whom a questionnaire should be addressed. Of these companies, 135 individuals expressed an interest, and were sent an initial questionnaire. The objectives of this questionnaire were quite broad: to develop an understanding of the marketplace by determining the number of cross-border transactions made monthly, how this varied by industry, the type of system currently used to effect such payments, the average length of time taken to make

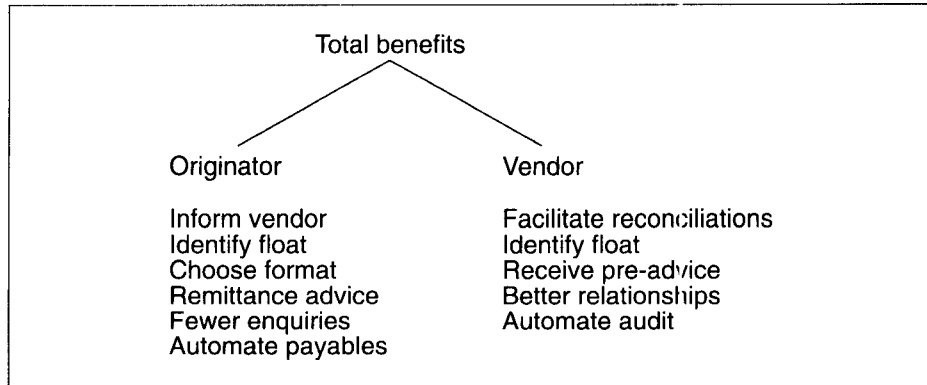


Figure 3.

Inform vendor	The vendor can be reliably informed as to when his bank will receive the funds
Identify float	By being able to identify the float loss, the originators should be in a position to increase their credit period with the vendor
Choose format	The originator can choose the format of the payment orders
Remittance advice	The originator can send additional information, such as a remittance advice, along with the payment information
Fewer enquiries	The system's greater accuracy, implying that the originator should have to deal with fewer queries from the vendor about the state of the payment
Automate payables	The system is automated, resulting in staff savings in the originator's payables department

Table III.  
The Benefits to the Originator

Facilitate reconciliation	The system will act to facilitate the reconciliation process
Identify float	The float retained by the vendor's bank can be identified, and pressure put on them to reduce this time period
Receive pre-advice	The remittance information acts as pre-advice as to when the funds are to be received by the vendor's bank. Apart from being able to use the funds on receipt, this also allows the potential to automatically compare specific deliveries with specific payments
Better relationships	The opportunity to build better relationships with the originator. Moving towards an EDI method of payment will encourage further items to be communicated via this method
Automate audit	The facility to automate their audit trail for accounting purposes

Table IV.  
The Benefits to the Vendor

the payments, and the costs incurred. A total of 27 (20 per cent) questionnaires were returned by the cut-off date.

The second phase involved in-depth interviews with individuals from companies who had responded to the questionnaire, who were amenable to further participation, and who fulfilled the criteria set by a previous study that had aimed at identifying the “ideal” Globalbank customer profile for this type of service. Their criteria were:

- turnover in excess of \$1 billion pa;
- 200 or more regular cross-border payments per month;
- payments average of more than \$30,000;
- a stable vendor base;
- currently used EDI for invoicing and ordering;
- used a local bank in Europe.

After excluding companies that did not meet the above criteria, 21 interviews were held with the finance directors of major car component manufacturers and electronics manufacturers in France, Germany and the United Kingdom. There were 16 originators and five vendors among these “corporate” respondents. Each respondent was interviewed and asked to use a PC-based judgemental modelling package<sup>[30]</sup> to evaluate the relevant attribute set, dependent upon whether they were an originator or a vendor. In addition, interviews were held with six large banks within Europe in order to develop a better understanding of the operation of the market place. All the interviews were designed to build on the information gathered in the questionnaire: to understand the corporates’ methods of making cross-border payments in greater detail, and to assess the importance of the attributes identified in Figure 3 above.

### Results

The in-depth interviews provided an insight into how the different corporations, both originators and vendors, perceive the importance of the attributes that the system offers. These results appear in Table V (the originators) and Table VI (the vendors).

The results indicate that, for the originators, automation of the payables department and having to deal with fewer enquiries from vendors (both labour-saving issues) and being able to identify the float were the most important issues. For the vendors, the timely receipt of the pre-advice was the most desirable attribute, followed by automation of the audit trail and identifying the float.

Although the sample sizes for both groups are small, an immediate conclusion must relate to the wide range of the importance scores. Although the overall rankings of the average scores for both sets of attributes are given, the high standard deviations must make any global conclusions tenuous. Since the respondents were all users of EDI and were large, often multinational firms, it is believed that the results are indicative of the degree of uncertainty in a rapidly developing marketplace. It is a market where three different parties, the originators, the

vendors and the banks, all have to agree on the best way to proceed, and the importance of the attributes will vary according to the perspective and knowledge base of the respondents[33].

The in-depth interviews with the corporate clients and the banks served to confirm this conclusion that the market is rapidly developing but knowledge of the actions of the other parties is often a scarce commodity. It was apparent that

	1 Inform vendor	2 Identify float	3 Choose format	4 Remittance advice	5 Fewer enquiries	6 Automate payable
1	17.1	8.6	6.2	6.2	8.6	53.4
2	12.7	25.3	9.1	5.8	21.9	25.3
3	19.5	6.3	19.5	13.8	13.8	26.9
4	21.4	11.3	5.5	28.7	21.4	11.7
5	33.7	9.2	11.8	22.4	13.7	9.2
6	11.5	22.9	39.5	6.4	14.4	5.3
7	39.3	8.0	8.0	11.2	17.7	15.8
8	15.0	38.2	5.1	15.0	5.1	21.6
9	4.0	37.8	5.8	14.8	18.8	18.8
10	13.4	4.5	6.7	30.0	15.5	30.0
11	10.4	5.3	16.2	17.8	25.2	25.2
12	16.0	16.0	11.4	17.6	17.4	21.5
13	14.8	9.4	14.8	20.9	13.2	26.9
14	3.0	25.9	18.7	13.3	25.9	13.2
15	17.4	17.4	7.4	10.0	28.5	19.3
16	13.3	18.7	11.8	13.3	18.7	24.2
Average	16.4	16.6	12.3	15.4	17.5	21.8
SD	9.0	10.5	8.4	7.1	6.0	10.6
Rank	4	3	6	5	2	1

**Table V.**  
Attribute Importance to  
the Originators

	1 Facilitate reconciliation	2 Identify float	3 Receive pre-advice	4 Better relations	5 Automate audit
1	12.6	50.3	6.0	6.0	25.1
2	21.2	10.8	28.4	18.4	21.2
3	14.5	10.6	35.5	28.7	10.6
4	18.9	18.9	22.5	19.9	19.9
5	15.5	7.8	26.7	15.5	34.5
Average	16.5	19.7	23.8	17.7	22.3
SD	3.1	15.8	9.8	7.3	7.8
Rank	5	3	1	4	2

**Table VI.**  
Attribute Importance to  
the Vendors

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many different strategies were being used by both originators and vendors to deal with their cross-border payments. These different approaches were dependent on two factors: the level of EDI expertise within the banks, and the level of EDI knowledge within the organizations themselves.

Mail is still the most common method of submitting a payment instruction to the banks, and there is a long education process towards adopting full EDI systems. The typical first step is for corporations to use PC programmes to monitor their domestic accounts. They continually increase the number of monitored accounts and eventually add the foreign accounts. When satisfactory levels of security have been reached, the companies aim to expand the use of the systems from a monitoring function to one capable of making payments as well. Eventually this extends from domestic to cross-border payments. Many organizations have graduated to the extent that they now enter instructions on magnetic tape or floppy disk which can be input directly into the bank's computer system. This progression was typified by the statement that:

Companies in Germany already have a highly automated process for their Deutschemark payments. However, the majority by far, even the most sophisticated, have not yet automated the process for their international payments[34, p. 5].

Given the diverse findings of Tables V and VI, coupled with the qualitative interpretation of the development of the market, a matrix was developed to identify different groupings of corporations depending on the "systems" they used for making cross-border payments. This matrix is shown in Figure 4.

Two measures were used to categorize the originators and vendors based on the data collected in the interviews. The first was the extent to which the respondent's current system of making cross-border payments already had all the attributes included in the proposed system as shown in Figure 3. If, for example, a particular originator's system had all six attributes identified above, or a vendor's system all five, they would score 100 per cent.

The second measure related to the extent of centralization of the organizations' treasury activities. Two meaningful categories were identified. The first of these was a high level of local bank involvement, where the subsidiaries are typically given a large degree of freedom to decide with whom they wish to do their banking, covering all aspects from cross-border payments to project financing. The second category were those respondent organizations having what were termed their own "corporate bank" operation, performing the central treasury functions for the group as a whole, including the subsidiaries. For this second group, two common issues were identified. First, corporations in this group all had some form of internal clearing system for increasing central control of overall funds within the organization, and for minimizing costs incurred in remitting and receiving money. Subsidiaries, instead of making and receiving cross-border payments individually, gave instructions to the central treasury for the settlement of payments, and this was in practice done via the central netting system (whereby a multinational company effectively acts as its own clearing house between its subsidiaries, and makes single monthly payments to each in order to settle their outstanding financial position).

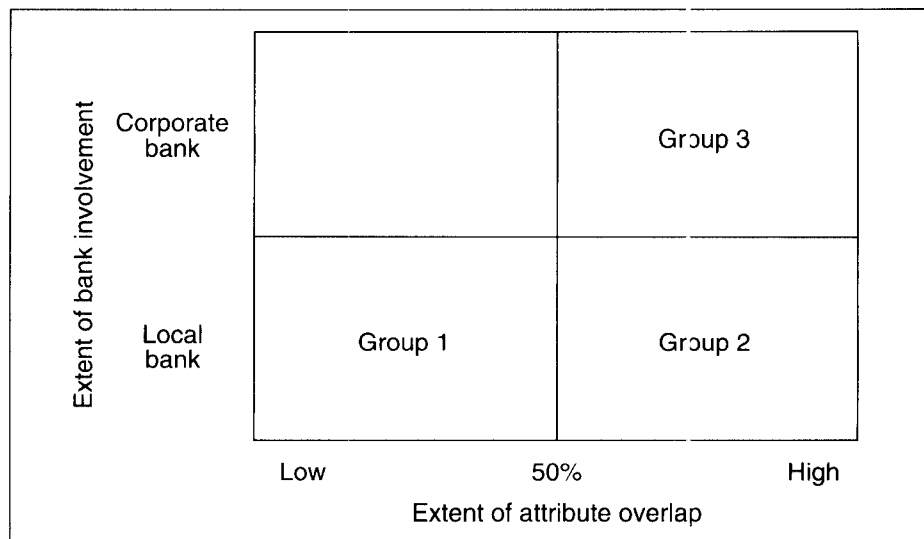


Figure 4.

Second, these “corporate banks” often have foreign accounts that are used in order to minimize costs in remitting and receiving money. They use their foreign accounts to settle cross-border payments with vendors, and in this way avoid the foreign exchange risk, float loss (as the local bank and correspondent bank are bypassed), value date differences, and high bank charges, as payments are settled nationally instead of internationally.

From the interviews it was possible to assess the positions of the respondents on this matrix. Only three of the four possible segments were occupied, these being:

*Group 1:* Corporates that had developed systems which involved high levels of involvement by the local banks in the payment process. In addition, the systems used by these groups had the lowest scores on the extent to which their current operations offered the advantages that were the hallmark of the proposed system.

*Group 2:* This group consisted of corporates whose local banks played the most active role in making cross-border payments, and whose systems did offer the majority of the features of the proposed Globalbank system.

*Group 3:* Corporations having “corporate bank” operations which perform the central treasury function for the company, covering the operations of the subsidiaries. In addition, their systems already embraced most of the features proposed by Globalbank.

To those companies in Group 1, the attribute of automating the payables department is appealing as their systems are currently manually-based. Similarly, the proposed system of sending the remittance advice via the bank is an added advantage which would further reduce their in-house manual operations, since their current local

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banks tend not to offer such services. In addition, having fewer banks involved in the funds-transfer process than is currently the case is appealing, given the possible reductions in both float and transaction costs. The major complication in attracting these corporates to Globalbank would be the difficulty of breaking the existing banking relationships, given the time and effort that both the corporation and local bank have typically spent in developing their existing ties[35].

The Group 2 companies would also see the issues of automation and float reduction offered by the proposed system as advantages. However, these companies have already achieved varying degrees of sophistication in designing their own systems, and typically operate some "netting" between the subsidiaries and the head office (see[26] for a detailed example of such a service in operation). Companies in this group were very keen for the banks to provide them with a package that would tie together all the various needs for cash management within the group of subsidiaries, and so allow for an overall cash management system.

For corporates in Group 3, the idea of reducing float loss by having a local account was seen as a cheap means of doing cross-border payments. These corporations, with sophisticated systems and centralized operations, were really more interested in an information system that would allow them full control of their cash-management activities than in the pure banking services that could be offered by an individual bank. The general impression gained from this group of corporations was that their cross-border payment systems are more macro in nature, while Globalbank's proposed concept was regarded as being more micro in scope. Since the proposed system is not an inter-bank network, this implies that these organizations would have to have their accounts with the particular bank in each country where they have a subsidiary, and this was seen as too restrictive.

This method of segmentation has proved useful to Globalbank in identifying its potential clients. Those corporations in Group 3 form the least attractive segment, while those in Group 1 constitute the most attractive. It is these companies that have close ties to their local banks, using them to execute their cross-border payments, and who currently suffer most from the drawbacks of float loss, high transaction cost and high manual costs. However, it is also these corporates that are probably the least "educated" in cross-border payment systems, and who are probably neither highly automated in their accounting and treasury activities, nor highly EDI literate. In targeting these companies, a long selling process would be required, as they would need more education before adopting the product.

Companies in Group 2 fall between the other two in terms of potential purchase and selling effort required. They have the advantage of being more used to the nature and technology of the system under offer, but this has the natural disadvantage of the fact that they already have systems in place. The sales effort required here would not be to educate the customer, but to entice the organization away from the existing bank(s) and current system(s) used.

## Conclusions

Although drawn from a small sample, the results have proved to be very useful to Globalbank, which has decided to proceed with the development of a marketing

strategy based on the outcome of the study. The results have shown that the theory behind the product concept is applicable in practice, and that the major problem will be one of gradual learning and education. This is a conservative industry; Globalbank will need focused marketing to achieve success. Its marketing effort will have to focus both on changing its marketing strategy as the customers' awareness evolves, and on monitoring developments within the EDI industry to ensure that customers have access to the appropriate level of cost-effective technology.

From a methodological point of view, we believe that the use of judgemental modelling, coupled with the insights provided through the in-depth interviews, has been able to highlight the pertinent issues in the marketplace. Although the sample size was small, it was possible to identify how the attributes varied in importance, and also to use this information to construct a simple but effective method of segmenting the market for the potential service.

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# Service Quality Components and Group Criteria in Local Government

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Quality has traditionally been defined in terms of the observed rate of defects and nonconformance with specification. It has thus been a production-oriented concept and measures for assessing the costs of quality defects have included the costs of prevention, inspection, rework and warranties rather than opportunity costs such as brand loyalty and customer retention (for example, see[1,2]). A number of writers have adopted a rather more customer-oriented view in defining quality[3-7].

Service quality, however, is regarded as a more elusive construct than product quality due to its intangibility. There is strong consensus in the literature that service quality is a customer judgement where expectations and performance are compared[8-11]. Thus it is suggested that customers compare the perceived performance of the service provider across a number of underlying dimensions with their expectations of what organizations delivering excellent service (of the kind under consideration) would deliver[12].

The customer-oriented view of service quality has gained wide acceptance. However, there has been a continuing debate in the literature regarding the dimensionality of the service quality construct[13-16]. The underlying dimensions of service quality proposed by Parasuraman *et al.*[12] include five dimensions: tangibles, reliability, responsiveness, assurance and empathy. These dimensions encapsulate the notion of technical quality – what is delivered, and functional quality – how service is delivered, as suggested by Grönroos[17]. This latter conceptualization is useful in that it distinguishes between what is done (in effect, the core service or outcome) and the style and manner of service delivery (which captures all aspects of interactions with customers).

In their paper, Parasuraman *et al.*[12] have suggested that the use of a difference or “gap” score would be appropriate when measuring service quality. Nevertheless, the appropriateness of operationalizing service quality as a difference or gap score has been questioned by several scholars[9,18].