# DEPARTMENT OF MANAGEMENT

## AFDELING FOR VIRKSOMHEDSLEDELSE

Working Paper 1998 - 10

Micro- and Macro-Segmentation of the European Market for Cash Management Services

Niels Peter Mols, Per Nikolaj D. Bukh and David F. Birks

## **UNIVERSITY OF AARHUS • DENMARK**

#### MICRO- AND MACRO-SEGMENTATION OF

#### THE EUROPEAN MARKET FOR CASH MANAGEMENT SERVICES

by

#### Niels Peter Mols

#### Per Nikolaj D. Bukh

#### David F. Birks

First version: 25. September 1998

Autobiographical notes:

Niels Peter Mols Associate Professor Department of Management University of Aarhus (350) 8000 Aarhus C, Denmark E-mail: nmols@econ.au.dk

Per Nikolaj D. Bukh **Associate Professor** Department of Management University of Aarhus Denmark E-mail: pbukh@econ.au.dk

David F. Birks Lecturer in Marketing School of Management University of Bath Bath, England, BA2 7AY.

Email: mnsdfb@bath.ac.uk

Send correspondence to:

Niels Peter Mols Department of Management Universitetsparken 350 Aarhus universitet 8000 Aarhus C, Denmark E-mail: nmols@econ.au.dk

Tlf: +45 8942 1554 Fax: +45 8613 5132 Web: www.econ.au.dk MICRO- AND MACRO-SEGMENTATION OF

THE EUROPEAN MARKET FOR CASH MANAGEMENT SERVICES

**ABSTRACT** 

This paper explores the interrelationships between the criteria that European corporate customers

use in choosing to allocate their business between domestic cash management banks and their

geographic location. A questionnaire completed by 1065 corporate customers from 17 European

countries indicates that the most important choice criteria is service quality, followed by pricing,

relationship, commitment of bank and electronic banking system. Using cluster analysis,

relationship-oriented, transaction-oriented, bank rating-oriented and commitment-oriented

segments are identified. These micro-segments are profiled in terms of choice criteria and macro-

segmentation variables. The four segments differ strongly in terms of geographical location and

moderately in terms of company size. No relationship is found between industry type and the

micro-segments. Finally, the segment profiles are developed into bank strategies.

Keywords: cash management, segmentation, banking, Europe, cluster analysis.

2

#### **BACKGROUND**

Like any seller, providers of cash management services want to target customers whose purchase criteria they can meet. For banks that plan to expand across national borders or are already present in several European countries, it is important to know whether the European corporate customers are all alike or differ between countries. It is especially crucial to know which purchasing criteria are important to different types of corporate customers. For banks operating in several European countries, it is just as important to know whether corporate customers in different segments have the same needs and wants and thus whether the chosen marketing strategy is applicable in all countries, to all industries, and to companies of all sizes.

Wind and Cardozo (1974) initially presented variables that could be used for micro-segmentation or benefit segmentation (cf. Haley, 1968). Variables including buyer's identity, source loyalty and personality were deemed as highly appropriate for segmentation because they shed light on the purchasing process and the criteria used for selecting and allocating business amongst potential sellers. However, these criteria were not easily observable or visible for external analysers and therefore they were difficult to use for segmenting a market. Traditional macro-segmentation variables characterising the organisation, e.g. industry type, size of firm and geographical location were highly visible and therefore easy to use for segmentation. However, these variables were difficult to evaluate and often it is difficult to decide how appropriate they are for identifying attractive segments. This poses a dilemma for segmentation in practice.

The two-stage solution suggested by Wind and Cardozo (1974) started with the identification and selection of seemingly attractive macro-segments and then the observation of how each of the chosen segments responds to a firm's marketing offerings. If the response was unsatisfactory, it

was suggested that the firm identified micro-segments within each macro-segment, chose a target micro-segment based on a cost-benefit evaluation and developed a profile of the target segment.

Another segmentation solution could be the identification of a stable relationship between the traditional macro-segmentation variables and the micro/benefit-segmentation variables. If this was possible, the segments could be described by information about either the macro-segmentation or the micro-segmentation variables. This represents an ideal situation which, for firms targeting a limited number of segments, would greatly facilitate the choice of appropriate segments. It has, however, been emphasised by some authors (Bonoma and Shapiro, 1983; Chéron and Kleinschmidt, 1985) that macro-segmentation variables are not easily associated with micro-segmentation variables, thus it is less likely that homogeneous macro segments could be identified.

This article aims to answer the question whether there is a significant relationship between the purchasing criteria and geographical location, and company size and the industry type of large European companies. Conversely, the question of whether segments based upon purchasing criteria cross country borders, industry types and company sizes will be addressed. In other words, the objective is to examine the relationship between traditional macro-segmentation and micro-/benefit-segmentation.

Based upon a survey targeted at the largest European companies, micro-segments are derived from these companies' criteria for allocating domestic cash management business between banks. The micro-segments are profiled, and the implications of the results for segmentation and bank strategies are discussed.

#### **SEGMENTATION STRATEGIES**

As recognised by Wind (1978), real-world segmentation studies can be divided into two types of research patterns, an *a priori* segmentation design and a clustering-based segmentation design. The characteristics of the two approaches, which are well-described in the literature, are summarised in Table I (cf. Bonoma and Shapiro, 1983; Haley, 1968; Rao and Wang, 1995; Wind, 1978).

#### < Take in Table I >

Both the *a priori* and the clustering-based segmentation approach have been criticised and several models combining the two have been suggested. Wind and Cardozo (1974) suggested starting with macro-segmentation and then, if this failed proceeding with micro-segmentation. Bonoma and Shapiro (1983) presented five major groups of variables - demographics, operating variables, purchasing approaches, situational factors and personal characteristics. They noted that in many situations these market segmentation variables interact with one another in important ways and they suggested that two or more of these groups of variables be applied in a nested fashion, with the results presented in two-dimensional matrixes. Chéron and Kleinschmidt (1985) proposed a complex integrated segmentation framework involving four steps and combining *a priori*, *a posteori*, macro- and micro-segmentation.

Despite these suggestions to combine different segmentation procedures and variables, few researchers have empirically examined the relationship between macro- and micro-segmentation variables (cf. Rao and Wang, 1995). Thus, important issues for industrial marketing such as the sizes of different benefit segments in different countries, have been totally ignored. Haley (1968)

in his seminal article on benefit segmentation, illustrated with a study of the market for toothpaste, that different benefit segments differ in terms of the macro-segmentation variables such as demographics and volume of consumption. Spekman (1981), in a study of purchasing managers in commercial, government and non-profit organisations, found that the organisational type was significantly related to the perceived importance of purchasing-related benefits. This result lead him to recommend two-stage segmentation models. Malhotra (1989) investigated whether various hospital segments formed on the basis of geographic location, for-profit versus nonprofit status and bed capacity differed in terms of selection criteria for linen service suppliers. Except for location, he found significant differences between the segments in terms of selection criteria. Moriarty and Reibstein (1986) found that traditional bases for segmentation such as type of industry and size of company do not act as surrogate measures for benefits sought. Rao and Wang (1995), in their study of choice criteria used by Indian industrial purchasing managers, found evidence that market segments based on sales volume and type of organisation ownership sought distinct supplier attributes. They did not find any relationship between, on the one hand, market segments derived from supplier attributes and, on the other hand, sales volume, industry type, size of purchase, respondent's job title, age, level of education, years of work experience and level of supervision in the organisation.

#### METHODOLOGY

In this paper the relationship between classification variables and purchasing criteria are explored. Focusing on the ideal area in the segmentation framework shown in Figure 1, we adopt the methodology suggested by Rao and Wang (1995). First, clustering-based segmentation of customers' criteria for allocating business between cash management banks was used to identify distinct micro-segments. Next, these micro-segments were described in terms of macro-

segmentation variables, i.e. geographic location, company size, industry type and market coverage.

#### < Take in Figure 1 >

These variables have been recognised as important in several models of industrial buyer behaviour (e.g. Sheth, 1973; Webster and Wind, 1972), serving as exogenous variables. Besides being visible, permanent and easy to work with, they can also be highly relevant. For example, segmenting by geographic location is important for banks which do not posses resources to become global and therefore want to limit their investments to the most attractive European countries.

In the segmentation framework (cf. Figure 1), micro-segmentation is related to purchasing approaches and includes variables describing which criteria customers use when selecting a seller. As noticed by Bonoma and Shapiro (1983), purchase criteria lend themselves to something akin to the benefit segmentation for the consumer-goods market and as such they are relevant for predicting future buying behaviour (Haley,1968). Customers' criteria for the choice of products and firms can be discussed from different perspectives (cf. Kotler, 1997). The classical starting point is the marketing mix approach, popularised in McCarthy's (1960) four P's: place, price, product and promotion. Also, buying behaviour models give hints to what might influence the choice of specific products or business partners (e.g. Robinson, Faris and Wind, 1967; Webster and Wind, 1972; Sheth, 1973). Whilst both marketing mix theory and the buying behaviour models use stimuli-response or stimuli-organism-response explanations, dyadic theories take a starting point in the relationship and the interaction between two or more parties. Evans (1963) is probably the first researcher who explicitly suggested that the unit of analysis should be the

interactive dyad. Later, Bagozzi (1975) and Hakansson and Ostberg (1975) adopted a dyadic approach and built the first interaction models, amongst which are the IMP-group's interaction model (Hakansson, 1982) and, more specifically for the banking sector, Moriarty *et al.* 's (1983) contribution to relationship banking. Focusing on corporate banking relationships, Moriarty *et al.* (1983) argued that the question of whether customers' are transaction-oriented, i.e. emphasising price and quality, or relationship-oriented, emphasising long-term, trusting win-win relationships has implications for a bank's strategic product decisions.

Earlier empirical studies of evaluation methods of suppliers for industrial buyers (cf. Chéron and Kleinschmidt, 1985) have shown that criteria such as quality, price, delivery and reputation are important for most buyers. These results are twice in accordance with Turnbull (1982a and 1982b), who reported that reliability, prompt decisions and willingness to lend are the three most important criteria used by medium- and large-sized UK firms for evaluating banks (Turnbull, 1982a), and in a study of 30 British firms' use of foreign banks, found that quality of services was the most important selection criterion (Turnbull, 1982b). Specific studies of buying criteria for cash management services in Europe have shown that service quality, price and relationship are the most important buying criteria (cf. Birks, 1998).

#### **Data collection**

As part of a comprehensive questionnaire dealing with different aspects of cash management systems, commercial customers' criteria for allocating business between their existing banks were elicited. The questionnaire was based on similar studies of cash management practices in 1994 and 1996 (cf. Birks, 1998) as well as on information available from a pilot questionnaire and interviews with bankers and corporate treasurers. In the first half of 1998, the questionnaire was sent to 5800 firms in 17 European countries. The 5800 represented the largest firms, measured

by sales for non-financial companies and assets for non-bank financial companies. A total of 1065 partially or fully completed questionnaires, corresponding to an 18.4 percent response rate, were returned.

The survey was undertaken in each country by a local university business school in order to improve access to the firms in their countries. Each firm in the sampling frame received an initial telephone call to identify the correct respondent and to explain the purpose and benefits of taking part in the survey. The questionnaire was sent with a personal letter from the business school addressed to the most appropriate person identified in the firm. Respondents held positions such as finance director, treasurer or cash manager of the company. In some of the countries the questionnaire was translated into the native languages, but the questions remained the same. The mailing of the questionnaires was followed up with a second telephone call for their completion and return.

The question in Figure 2 was asked regarding domestic bank cash management services.

#### < Take in Figure 2 >

The question forces the respondents to rank their criteria using an ordinal scale. As with all ordinal scales, this can misrepresent the true weight assigned to the criteria. The use of a constant sum scale, requiring respondents to weight the importance of criteria would be the ideal approach. However, given the number of issues covered in the survey, consideration of the response task faced by cash managers meant that the simpler option of an ordinal scale was used. The method used has been successful in understanding the priorities set by cash managers. In the 1994 study, respondents were simply asked to indicate which criteria were 'important'. Nearly all criteria were

deemed 'important' which meant that no discernment of priorities was possible.

#### **ANALYSIS AND RESULTS**

Table II shows that service quality, pricing and relationship were the three most important criteria in allocating business between cash management banks. This was in accordance with earlier empirical results (Birks, 1998) and was an indication of a reasonable reliability of the survey results. In addition to these three variables, 'level of commitment to your business' and 'electronic banking system' were also fairly important buying criteria.

#### < Take in Table II >

A principal component analysis indicated that the nine criteria could be reduced to four factors. However, these factors were only able to explain 54% of the variance and the Kaiser-Meyer-Olikin measure of sampling adequacy was under the recommended threshold of 0.5 (Malhotra, 1996). This indicated that factor analyses was not appropriate (*KMO* = 0.455). As indicated earlier, the question in Figure 2 used a rank order scale, generating ordinal data, different from the interval or ratio data required by factor analysis. Because of this it was decided not to use the results from the principal component analysis.

Thus, in order to identify homogeneous customer segments, a hierarchical cluster analysis was performed on the nine pre-specified choice criteria. To maximise homogeneity within the clusters and the heterogeneity between them, Ward's method of minimum variance was used. In deciding the number of clusters, the data was inspected for local peaks in the cubic clustering criterion (ccc), the pseudo F-statistics and drops in the pseudo t<sup>2</sup>-statistics. The four cluster solution

showed local peaks for the ccc and the pseudo F-statistics, and a drop in the t<sup>2</sup>-statistics followed by a larger pseudo t<sup>2</sup> for the next cluster fusion. Based on this consensus of the three statistics, it was decided to continue the analysis with four segments. Because the segments should be relatively homogeneous, it was acceptable to describe them by mean values of ranking for the nine purchasing criteria (cf. Table III).

#### < Take in Table III >

#### The relationship-oriented segment

This segment consisted of 36% of the respondents and was characterised by a high emphasis on a good relationship with the bank. Although service quality and pricing were important, a good relationship was the central criteria for the companies when they decided how to allocate cash management business between their banks. The high ranking of relationship was an indication of acceptance of the idea of relationship marketing. It seemed important for buyers in this segment to have a close and personal relationship with the bank, and be able to turn to the bank when the company needed specialised knowledge and help for the solution of complex financial questions. The service or product exchanged in the individual transactions was relatively unimportant, while the sum of the individual transactions, i.e. the whole relationship was important. These are customers open to relationship banking, emphasising cross-selling on a recurring basis, interdependence between the bank and its customers and relationships based on mutual trust, openness, and shared objectives (Moriarty et al., 1983).

The advantages of emphasising relationships are that through routinisation, uncertainty is reduced and costs are lowered, and through an open exchange of information joint problem solving is facilitated. 79% of the customers ranked relationship amongst the five most important criteria

(cf. Table II) indicating that to some degree the majority of customers shared these wants. This provided a first indication that a relationship-based strategy could be viable for several cash management banks operating in Europe.

#### The transaction-oriented segment

This segment differed from the other three by emphasising pricing, service quality and a good electronic banking system. Thus, the segment included buyers, who perceived services to be highly comparable and to whom it was important not to become too dependent upon a single bank. In a stylized way, they regarded each transaction as independent and did not value long-term relationships. They were non-loyal, did not trust the banks and regarded a transaction orientation as a minimisation of the risk that a bank would refuse to lend them money in times of financial trouble.

Attempts at cross-selling to this segment should be avoided, or will mostly be unsuccessful, the basic attitude being that the banks are opportunistic and have to be controlled by competitive market forces. The survey showed that on average, price was the second most important criterion used by the European corporate customers in their choice of domestic cash management bank (cf. Table II). It is noteworthy that the transaction-oriented segment comprises as much as 24% of the market. This point is important when one considers the emphasis that has been placed upon relationship banking (e.g. Gronross, 1990) together with earlier studies indicating that price is not as important as reliability, prompt decisions, willingness to lend, simplicity of loan agreements and reputation (Turnbull, 1982a). Moriarty *et al.* (1983) suggested that such a finding may be due to fierce competition between the banks, large and financially strong firms with a low need for credit, a preference for performing functions internally and a high turnover of financial officers. In addition, Turnbull (1982a) indicated that the importance of pricing increases as services become

more expensive. Service quality was the most important criteria for this segment. This indicates that banks who do not offer a high service quality will not be able to compete as low cost producers targeting the transaction-oriented segment.

#### The bank rating-oriented segment

The bank rating-oriented segment was the smallest of the four segments. It was in many ways similar to the relationship-oriented segment except for two aspects: bank's credit ratings were considered very important whereas a good relationship was much less important. Thus, instead of relying on good relationships as a source of information the members of this segment emphasised the bank's credit ratings. Bank credit ratings can be regarded as measures of reputations or as measures of the risk connected with using a bank. The latter is probably only an important criterion if corporate customers fear that their bank will fail. The survey showed that bank ratings are approximately the 6th most important criterion (cf. Table II). This may indicate that most banks used for cash management in Europe are regarded as financially sound, but it also indicates that there is a relatively large segment of customers attracted to financially solid banks.

#### The commitment-oriented segment

The commitment-oriented segment differs by emphasising that the bank has a high level of commitment to the company's business. The survey showed that, on average, the level of commitment to the customers' business was the fourth most important criterion for choice of cash management banks (cf. Table II). A bank's level of commitment to a company's business can be viewed as the customer's security that the bank will try to deliver the best customised products not only now but also in the future (cf. Moir, 1988). This is important when the investments made by the buyers in the cash management system in terms of hardware, software, time etc. are relationship specific, i.e. without value or with significantly lower value when the relationship is

that the chosen bank seeks to provide an ongoing stream of suitable services. As this can be expected to be related to a wish for a stable relationship it is surprising that pricing and service quality seems to be slightly more important than a good relationship with the bank in this segment. For European cash management banks, the results suggest that there exists a substantial segment, comprising 23% of the market, which prefers banks who commit themselves to their business area.

#### Micro-segments and macro-segment variables

#### < Take in Table IV >

The results in Table IV indicate that the size of the micro-segments and location are related ( $\chi^2$ =129.446, p<0.001). The relationship-oriented segment is large in Ireland, the Netherlands, Sweden, the UK and especially in Norway, where it comprises 54.6% of the market, whereas the transaction-oriented segment is relatively large in Belgium, Denmark, Finland and Norway. It is most dominant in Finland where it comprises 40% of the market. The segment emphasising bank ratings is large in Austria, Greece and especially in Portugal, where it comprises 46.9% of the market. The commitment-oriented segment is largest in Czech Republic, France, Germany and Italy.

The respondents were also asked to identify among 15 pre-specified categories the industry in which the firm operated. The answers to this question were used to test whether the sizes of the four micro-segments and industry type were related. A chi-square test showed no significant relationship ( $\chi^2$ =54.846, p=0.088) and thus the study indicated that the four micro-segments are

cross-industry segments.

#### < Take in Table V >

The results in Table V indicate that the size of the micro-segments and company size is weakly related ( $\chi^2$ =37.766, p=0.014). It is noteworthy that the bank rating-oriented segment is relatively small (7.1%-7.9%) among companies which belong to a company group with world-wide sales between 501 and 5,000 million US\$. Hence, this result suggests that there is a weak relationship between the micro-segments derived from choice criteria and the macro-segments based on company group sales.

#### < Take in Table VI >

The number of European countries in which the company group operate was used as an additional indication of company size. The results in Table VI indicate that the size of the micro-segments and market coverage by the company group is weakly related ( $\chi^2$ =21.982, p=0.038). The relationship-oriented segment was dominating among companies that only operated in one country. The transaction-oriented segment and the bank rating-oriented segment were larger (30.8% and 19.2%) in the group of companies, which operated in more than 15 countries than in any of the groups with firms operating in 15 or less countries. The commitment-oriented segment was largest among the firms operating in 6 to 10 countries (28.6%). Thus, the results of this study provide only weak empirical support to the proposition that micro-segments are related to macro segments derived from the companies market coverage.

#### Macro-segments and micro-segment variables

In order to investigate whether segments based on geographical location, company size/market coverage, and industry type were significantly related to the choice criteria several  $\chi^2$ -tests were performed. These tests showed a similar pattern as the relationships between the micro-segments and the macro-segment variables. Thus, segments formed on the basis of geographical location were significantly (p<0.001) related to all the choice criteria. None of the segments formed on the basis of differences in company size, market coverage and industry type were significantly (p<0.01) related to any of the choice criteria.

#### **DISCUSSION AND CONCLUSIONS**

The analysis revealed four large segments, which European cash management banks can choose between and tailor their offerings to.

- The relationship-oriented segment was the largest with 36% of the customers. This segment is best targeted with a relationship-based marketing strategy, suggesting that a relationship-based strategy could be successful for most banks as this emphasises a good relationship, moderately-priced, high-quality bank services.
- The transaction-oriented segment with its emphasis on price, service quality and electronic banking system was second largest. This segment is best won by use of a transaction-based marketing strategy combined with a good electronic banking system.
- The commitment-oriented segment, which is almost similar in size to the transaction-oriented segment is best addressed by a relationship-based marketing strategy, moderately priced services and most importantly a high and visible level of commitment to the particular demands of the relevant industry.
- The bank rating-oriented segment was the smallest segment with 17% of the customers. This

segment emphasised bank's credit ratings, but criteria such as high service quality, pricing and a good relationship were also considered relatively important. Thus, this segment might be appropriate for the large, well known and solid banks, which are able to signal that there is a very low risk connected with them. Thereby they should be able to attract this segment comprised of customers who might fear that their bank will fail.

The only clearly significant result was that the micro-segments differed in terms of their relative size in different European countries and that macro-segments derived from country variables were significantly related to the choice criteria. Thus, the size of benefit segments in the European corporate market for financial services is dependent on location. In countries like Belgium, Denmark, Finland and Norway, a relatively large proportion of the corporate customers belonged to the transaction-oriented segment. In Ireland, the Netherlands, Norway, Sweden and the UK, the relationship-oriented segments were largest, whereas countries like Czech Republic, France, Germany and Italy had a large percentage of customers belonging to the commitment-oriented segment. The bank rating-oriented segment was large in Austria, Greece and Portugal. However, despite the significant difference between these countries, the first impression is that the two largest segments are substantial in all European countries with sizes for the relationship-oriented segment ranging from 24% in Italy to 55% in Norway and for the transaction-oriented segment ranging from 8% in Greece to 40% in Finland. Regarding these two segments, the results in Table IV are remarkable because of the high degree of similarity. Hence, the results are also a manifestation of similarity and homogeneity. The benefit segmentation approach yields groups of customers who have the same buying criteria; the relatively even spread of the two largest segments in each country suggests that they could be named the European relationship-oriented segment and the European transaction-oriented segment, because they are European segments that cross the borders. In this respect, the findings are in accordance with Kotler's (1997)

observation that the geographical and cultural distances have shrunk significantly in the last two decades.

The general conclusion is that only weak relationships between the macro-variables and the micro-variables are found. There was no significant relationship between the micro-segments and industry type and only weak relationships between the micro-segments and company group sales and company group market coverage. This indicates that the macro-segmentation bases such as company size, company market coverage and industry type are not usable as surrogate measures for benefit segments derived from criteria for choice of cash management banks. Thus, neither the *a priori* segmentation based on macro-variables nor clustering-based segmentation alone are suitable as a segmentation approach in the European market for financial services. The two segmentation approaches are not exclusive approaches but are complementary and should be combined. Thus, this study supports the segmentation schemes combining macro- and micro-segmentation, such as Rao and Wang's (1995) and Wind and Cardozo's (1974) two stage approaches, the nested approach to segmentation (Bonoma and Shapiro, 1983) or the integrated segmentation framework suggested by Chéron and Kleinschmidt (1985).

Hence, the results suggest that banks which are targeting one of the four micro-segments can not use the easily identifiable variables such as company size, market coverage, and industry type for segmenting the European market for cash management services. Location, i.e. country, was significantly related to the four micro-segments and thus, country can be used as a rough approximation for banks wanting to know how large the relationship-oriented, the transaction-oriented, the bank rating-oriented and the commitment-oriented segments are in different parts of Europe. Thus, the survey results suggest, for example, that there is plenty of business for banks implementing a relationship-oriented strategy, especially in countries like Ireland, the Netherlands,

Norway, Sweden and the UK. However, the results might also be interpreted that in these countries corporate customers at present rank relationships relatively highly. Therefore it might be too late for banks presently using a transaction-oriented strategy to convert to a relationship-oriented strategy, simply because the corporate customers valuing relationships have already established such ties with their main domestic cash management banks. Thus, results might also be seen as depicting present bank strategies. Hence, the results could indicate that regarding cash management services, relationship strategies have been successfully implemented by the banks in most of the European countries. The implication of this might be that many cash management banks are pursuing relationship-based strategies and that the competition for the relationship-oriented segment is relatively fierce in countries like Norway and the UK.

One of the conclusions of this study is that geographic location seems to be a better basis for forming near or quasi-benefit segments than macro-variables such as industry type and company size. It is therefore surprising that the relationship between location and benefit segmentation is a totally neglected area in industrial marketing. Hence, further empirical research in this area is desirable in order to investigate the generalisability of the conclusions.

#### REFERENCES

Bagozzi, R.P. (1975) Marketing as Exchange. Journal of Marketing, 39(4), 32-39.

Birks, D.F., ed. (1998) Global Cash Management in Europe. MacMillan Press, London.

Bonoma, T.V. and Shapiro, B.P. (1983) *Segmenting the Industrial Market*. D.C. Heath and Company Lexington, Massachusetts, Toronto.

- Chéron, E.J. and Kleinschmidt, E.J. (1985) A review of industrial market segmentation research and a proposal for an integrated segmentation framework. *International Journal of Research in Marketing*, **2**(2), 101-115.
- Evans, F.B. (1963) Selling as a Dyadic Relationship A New Approach. *The American Behavioural Scientist*, **6**, 76-79.
- Gronroos, C. (1990) Service Management and Marketing. Lexington Books, Massachusetts.
- Hakansson, H., ed. (1982) *International Marketing and Puchasing of Industrial Goods*. John Wiley & Sons, Chichester.
- Hakansson, H. and Ostberg, C. (1975) Industrial Marketing: An Organisation Problem. *Industrial Marketing Management*, **4**, 113-123.
- Haley, R.I. (1968) Benefit segmentation: a decision-oriented research tool. *Journal of Marketing*, **32** (July), 30-35.
- Kotler, P. (1997) *Marketing Management. Analysis, Planning, Implementation, and Control.* 9th edition, Prentice-Hall International, London.
- Lewis, R.C. and Booms, B.H. (1983) The Marketing Aspects of Service Quality. In *Emerging Perspectives on Services Marketing*, eds L. Berry, G. Shostack and G. Upah, pp. 99-107, American Marketing Association, Chicago.
- Malhotra, N.K. (1989) Segmenting hospitals for improved management strategy. *Journal of Health Care Marketing*, **9** (September), 45-52.
- Malhotra, N.K. (1996) *Marketing Research An Applied Orientation*. Prentice-Hall, Upper Saddle River, New Jersey.
- McCarthy, E.J. (1960) Basic Marketing. Irwin, Homewood.
- Moir, L. (1988) Relationship Banking What it Means to the Treasurer. The Treasurer, p. 37
- Moriarty, R.T., Kimball, R.C. and Gay, J.H. (1983) The Management of Corporate Banking Relationships. *Sloan Management Review*, **24**(3), 3-15.

- Moriarty, R.T. and Reibstein, D.J. (1986) Benefit segmentation in industrial markets. *Journal of Business Research*, **14**, 463-486.
- Rao, C.P. and Wang, Z. (1995) Evaluating alternative segmentation strategies in standard industrial markets. *European Journal of Marketing*, **29**(2), 58-75.
- Robinson, P.J.; Faris, C.W. and Wind, Y. (1967) *Industrial Buying and Creative Marketing*.

  Allyn & Bacon, Inc., Boston.
- Sheth, J. (1973) A model of industrial buyer behaviour, *Journal of Marketing*, **37** (October), 50-56.
- Spekman, R.E. (1981) Segmenting buyers in different types of organisations. *Industrial Marketing Management*, **10**, 43-48.
- Turnbull, P.W. (1982a) The Purchasing of International Financial Services by Medium- and Large-Sized UK Companies with European Subsidiaries. *European Journal of Marketing*, **16**(3), 111-121.
- Turnbull, P.W. (1982b) The Use of Foreign Banks by British Companies. *European Journal of Marketing*, **16**(3), 133-145.
- Webster, F.E. and Wind, Y. (1972) A General Model for Understanding Organisational Buying Behaviour. *Journal of Marketing*, **32** (april), 12-19.
- Wind, Y. and Cardozo, R.N. (1974) Industrial Marketing Segmentation. *Industrial Marketing Management*, **3** (March), 153-165.
- Wind, Y. (1978) Issues and Advances in Segmentation Research. *Journal of Marketing Research*, **XV** (August), 317-337.
- Zeithaml, V. A., Berry, L.L. and Parasuraman, A. (1988) Communication and Concept Processes in the Delivery of Service Quality. *Journal of Marketing*, **52**(2), 35-48.

	A priori segmentation	Clustering-based segmentation
Characteristics:	Variables and categories are chosen before the survey are conducted.	A larger number of relevant variables are surveyed and based on the responses homogeneous clusters are developed.
Typical variables	Macro-variables: industry, location, company size, market coverage etc.	Micro-variables: benefits/choice criteria, attitudes, decision-making style
Logic:	Dis-aggregation of the market based on dissimilarity	Aggregation of customers based on similarities
Advantages:	Highly visible and easy to work with	Highly relevant for predicting future buying behaviour
Disadvantages:	Often less relevant for predicting future buying behaviour	Low visibility and require intimate vendor intelligence

Table I - Comparison of a priori and post hoc segmentation

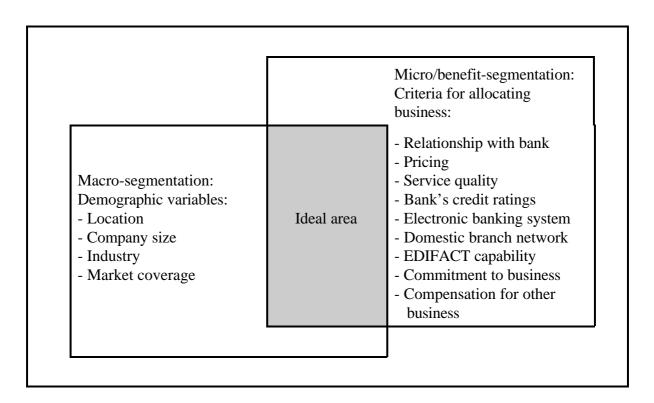


Figure 1: The segmentation framework

From the following list, please rank the TOP 5 criteria that you use in ALLOCATING cash					
management business between y	management business between your existing banks. (1=most important criteria down to 5=5th most				
important)					
( ) Good relationship with bank ( ) Domestic branch network					
( ) Pricing	( ) EDIFACT capability				
( ) Service quality	( ) Level of commitment to your business				
( ) Bank's credit ratings	( ) To compensate for other services (e.g. provision of credit)				
( ) Electronic banking system	( ) Other (please state)				

Figure 2 - Question posed on allocated cash management business

Rank: Criteria:	1st %	2nd %	3rd %	4th %	5th %	No rank %
Good relationship with bank	24.3	14.9	15.5	13.6	11.1	20.7
Pricing	29.9	25.5	17.3	8.2	6.2	12.9
Service quality	37.3	24.5	16.9	9.1	4.1	8.2
Bank's credit ratings	8.2	6.2	4.4	6.0	10.8	64.5
Electronic banking system	12.1	13.0	12.0	16.0	13.9	33.1
Domestic branch network	8.0	6.0	5.3	7.3	8.3	65.2
EDIFACT capability	2.5	2.0	2.5	2.1	3.5	87.4
Level of commitment	13.3	6.7	6.6	11.4	11.3	50.7
To compensate for other services	4.6	4.5	3.9	2.8	5.0	79.2

**Notes:** 1 = most important criteria down to 5 = 5th most important. Number of observations = 1002.

Table II - Criteria used in the allocation of business between domestic cash management banks

	The relationship-oriented segment; n=362	The transaction-oriented segment; n=242	The bank rating-oriented segment; n=165	The commitment-oriented segment; n=231
Good relationship with bank	2.23	5.04	3.46	3.22
Pricing	2.74	2.21	3.01	3.10
Service quality	2.52	2.03	2.53	2.63
Bank's credit ratings	5.55	5.52	1.82	5.83
Electronic banking system	4.32	2.99	4.41	4.52
Domestic branch network	5.06	4.48	5.58	4.94
EDIFACT capability	5.89	5.13	5.87	5.64
Level of commitment	5.31	4.98	4.81	2.63
As compensation for other services	5.82	5.59	5.70	4.19

**Note:** n=number of observations. Frequency missing = . Non-ranking was coded 6.0, and therefore the scale goes from 1.0 = most important criteria down to 6.0 = least important.

Table III - Profile of micro-segments: average ranking of choice criteria within segments

Company location:	The relationship-oriented segment %	The transaction-oriented segment %	The bank rating-oriented segment	The commitment-oriented segment %	N
Austria	27.6	27.6	31.0	13.8	29
Belgium incl. BCC	33.3	33.3	16.7	16.7	36
Czech Republic	26.9	11.5	23.1	38.5	52
Denmark	35.3	33.3	15.7	15.7	51
Finland	32.5	40.0	0.0	27.5	40
France	27.7	12.8	19.2	40.4	47
Germany	34.9	24.1	9.6	31.3	83
Greece	38.5	7.7	30.8	23.1	26
Ireland incl. IFSCs	43.5	14.5	26.1	15.9	69
Italy	24.4	27.7	14.3	33.6	119
Netherlands	40.7	26.4	16.5	16.5	91
Norway	54.6	34.6	5.5	5.5	55
Portugal	25.0	15.6	46.9	12.5	32
Spain	35.2	27.6	11.4	25.7	105
Sweden	42.9	14.3	28.6	14.3	21
Switcherland	39.4	27.3	12.1	21.2	33
UK	46.9	20.7	13.5	18.9	111

Note: frequency missing = 65

Table IV - The size of micro-segments by country  $% \left( \mathbf{r}^{\prime }\right) =\mathbf{r}^{\prime }$ 

World-wide sales:	The relationship-oriented segment %	The transaction-oriented segment %	The bank rating-oriented segment	The commitment-oriented segment %	N
Less than 100	38.8	14.6	15.5	31.1	103
101 to 250	32.8	23.4	20.3	23.4	64
251 to 500	35.1	23.0	20.3	21.6	74
501 to 1,000	44.7	28.2	7.1	20.0	85
1,001 to 2,000	40.6	31.7	7.9	19.8	101
2,001 to 5,000	39.3	25.2	7.5	28.0	107
5,001 to 10,000	34.3	29.9	22.4	13.4	67
Over 10,000	30.5	32.0	16.4	21.1	128

Note: frequency missing = 336

Table V - The micro-segments by size of companies: Annual world-wide sales of the company group in million US\$

European countries covered	The relationship-oriented segment %	The transaction-oriented segment %	The bank rating-oriented segment %	The commitment-oriented segment %	N
1 country	42.4	18.8	18.1	20.8	144
2 to 5 countries	37.9	22.2	13.3	26.6	203
6 to 10 countries	32.6	23.6	15.2	28.7	178
11 to 15 countries	40.2	21.9	15.3	22.6	137
Over 15 countries	33.1	30.8	19.2	16.9	266

Note: Frequency missing = 137

Table VI - The micro-segments by European market coverage

### AFDELING FOR VIRKSOMHEDSLEDELSE DEPARTMENT OF MANAGEMENT UNIVERSITY OF AARHUS

Tel. (+45) 89 42 15 53

#### AFV-SKRIFTER

#### Working Papers - Research Notes

#### (1989-1 – 1995-4: **I**fv-Skrifter ISSN 0905-2836)

- 1989-1 Peder Smed Christensen: »Strategy, Opportunity Identification, and Entrepreneurship A Study of the Entrepreneurial Opportunity Identification Process«. (Doctoral Dissertation).
- 1989-2 Jørn Flohr Nielsen: »Informationsteknologi og borgerkontakt i danske kommunalforvaltninger«, Bidrag til 4. Nordiske Konference i Serviceledelse, Oslo, April.
- 1989-3 Bendt Rørsted: »Decentralisering og målstyring resultatcentre i et pengeinstitut ?«, Bidrag til Festskrift til Laurits Ringgård. (Reprint)
- Bendt Rørsted: »Kvalitet i de handelsmæssige/økonomiske uddannelser«, Bidrag til Undervisningsministeriets handelsudvalg.
- 1989-5 Peder Smed Christensen, Ole Øhlenschlæger Madsen & Rein Peterson: »Opportunity Identification: The Contribution of Entrepreneurship to Strategic Management«. Paper presented at the 9th Annual Strategic Management Society Conference »Strategies for Innovation«, San Francisco, October.
- 1989-6 Johannes Raaballe: »Realinvestering, finansiel skattearbitrage samt dividende«, I.
- 1989-7 Johannes Raaballe: »Realinvestering og leasing«, II.
- 1989-8 Johannes Raaballe: Egen- og fremmedkapital samt ligevægt«, III.
- 1990-1 Hans Peter Myrup: ȯkonomisk styring af fjernvarmeproduktionens omfang ved forenet produktion af varme og affaldsforbrænding«.
- 1990-2 Johannes Raaballe: »Beskatningsformer, realinvesteringer og rente«, IV.
- 1990-3 Peder Smed Christensen og Rein Peterson: »Opportunity Identification: Mapping the Sources of New Venture Ideas«.
- 1990-4 Bendt Rørsted: »Balance Lost? An Appraisal of Activity Based Costing«.
- Johannes Raaballe and Klaus Bjerre Toft: »Taxation in Bond Markets Characterized by No Arbitrage Equilibrium«, V.
- 1990-6 Hans Peter Myrup: »Nogle enkle matematiske modeller til brug ved driftsøkonomisk analyse«.
- Johannes Raaballe: »Gældseftergivelse burde være skattepligtig, salg af skattemæssige underskud bør ske uhindret«.
- **1991-1** Jørn Flohr Nielsen: »Administrative job under ændring, ny teknologi hos kommunalt ansatte«.

- Bendt Rørsted: »Activity-Based Confusion? ABC-status primo 1991. English version: Activity-Based Costing 1987-1991 Activity-Based Confusion?
- 1991-3 Kent T. Nielsen: »Industrielle netværk«. Licentiatafhandling.
- 1991-4 Peder Smed Christensen, Ole Øhlenschlæger Madsen og Rein Peterson: »Identification of Business Opportunities«.
- 1991-5 Peder Smed Christensen: »Strategic Group and Country Culture Influences on Strategic Issue Interpretation«.
- Ole Øhlenschlæger Madsen og Peder Smed Christensen: »Virksomhedens fornyelsesproces«. Genoptryk fra Ledelse- & Erhvervsøkonomi, 4/91 55. årgang, oktober 1991.
- 1992-1 Jørn Flohr Nielsen: »En trængt leders tidsanvendelse tidsregistreringer og udskiftninger af socialchefer«.
- 1992-2 Bendt Rørsted: »The Liberation of Management Accounting«.
- 1992-3 Mogens Dilling-Hansen, Kristian Rask Petersen og Valdemar Smith: »Mobilitetsanalyse for fyringstruede ansatte på en større lokaltdominerende arbejdsplads«.
- Johs. Raaballe: »On Black, Blue and Orange Bonds« A Tax Arbitrage Model with Asymmetric Taxation.
- Johs. Raaballe: »Kursgevinstbeskatning af obligationer efter realisationsprincippet«.
- 1992-6 Per Nikolaj D. Bukh: »Technical Efficiency and Returns to Scale in the Danish Banking Sector: An Application of a Nonparametric Estimation Method«.
- 1993-1 Jens Holmgren: »Teknologiske forandringer belyst i organisationskulturens skær«. Licentiatafhandling.
- 1993-2 Jørn Flohr Nielsen and Niels Jørgen Relsted: »The New Agenda for User Participation Reconsidering the Old Scandinavian Prescription«.
- 1993-3 Bendt Rørsted: »Strategies in a Euro-Brand Market«.
- 1993-4 Bendt Rørsted: »Management Accounting on its own«. (se 1995-5)
- 1993-5 Jens Hørlück: »The Pragmatics of EDI«.
- 1993-6 Martin Lippert-Rasmussen: »Core Capabilities and Boundaries of the Firm«.
- 1993-7 Mogens Dilling-Hansen, Kristian Rask Petersen og Valdemar Smith: »Testing the Catch-Up Hypothesis on Danish Regional Data«.
- Johs. Raaballe: »Om sorte og blå fordringer (II). Private investorers arbitragemuligheder, hvem køber og udsteder fordringerne«.
- 1993-9 Johs. Raaballe: »Multi-period Asset Pricing and Tax Arbitrage when Capital Gains are Taxed on an Accrual Basis«.
- 1994-1 Martin Lippert-Rasmussen: »On reputation effects and transaction costs«.
- 1994-2 Per Nikolaj D. Bukh: »Efficiency Loss in the Danish Banking Sector: A Data Envelopment Approach«.
- 1994-3 Lars Bonderup Bjørn: »Koordinationstiltag: Erfaringer fra 6 østjyske logistikafdelinger«.
- 1994-4 J.V. Lundberg-Petersen: »Erfaringerne med zero-base systemet i private virk-somheder«.
- 1994-5 J.V. Lundberg-Petersen: »Budgetudarbejdelse og budgetkontrollering hos PLS Consult A/S.«

- 1994-6 Arne Geel Andersen: »Værdiansættelse af anlægsaktiver i årsregnskabet en teoretisk analyse«.
- 1994-7 Jørn Flohr Nielsen & Jens Genefke: »Tracing the Barriers and Possibilities of Co-operation«.
- 1994-8 Niels Warrer: »Budgetary Doubts«.
- 1994-9 Niels Peter Mols: »Transaktionsomkostningsteori og andelsorganisering«.
- 1994-10 Lars Bonderup Bjørn: »Organisatorisk grænsedragning ved danske virksomheders etablering i Japan«.
- 1994-11 Jørn Flohr Nielsen: »Servicevirksomhedens grænse«.
- 1994-12 Bendt Rørsted: »Budgettets rolle i en serieproducerende sæsonvirksomhed«.
- 1994-13 Jens Holmgren: »Bidrager transaktionsomkostningsteorien til større forståelse af intraorganisatoriske forhold?«
- 1994-14 Johannes Raaballe and Jesper Helmuth Larsen: »Bond Pricing with Differential and Asymmetric Taxation».
- 1995-1 Per Nikolaj D. Bukh og Boel E. L. Christensen: »Subteknologier i pengeinstitutsektoren: En dataindhyldningsanalyse«.
- Jens Genefke og Jens Holmgren: »Service-Management i Contingency-Belysning: En ledelsesorienteret klassifikation af produktionssitu-ationer«.
- 1995-3 Hans-Joachim Zilcken: »The Privatised Enterprise in Russia: From Centralised Allocation of Supplies to Search for Market Development«.
- 1995-4 Jens Hørlück: »Efter EDI: Elektroniske hierarkier, elektroniske markeder, eller?«
- 1995-5 Bendt Rørsted: »Det interne regnskabsvæsens driftsøkonomiske grundlag«.
- 1995-6 Niels Peter Mols: »The Exercise of Power and Satisfaction in a Buyer-Seller Relationship«.
- 1995-7 Anders Grosen and Peter Løchte Jørgensen: »The Valuation of Inte-rest Rate Guarantees: An Application of American Option Pricing Theory«.
- 1995-8 Per Nikolaj D. Bukh: »Produktivitet og efficiens i pengeinstitutsektoren Overvejelser ved valg af input og output i forbindelse med DEA-analyser«.
- 1995-9 Johannes Raaballe og Peter Lyhne Hansen: »Manglende Baissemuligheder på Københavns Fondsbørs«.
- 1995-10 Niels Warrer: »Budget Format«.
- 1996-1 Niels Peter Mols: »Plural Forms of Governance«.
- 1996-2 Lars Bjørn and Jørn Flohr Nielsen: »Organizational or Cultural Interfaces of Foreign Subsidiaries?«.
- 1996-3 Niels Peter Mols: »A Note on the Institutional Environment in Williamson's Transaction Cost Theory«.
- 1996-4 Peter Løchte Jørgensen and Johannes Raaballe: »Numeraire Invariance, Change of Measure, and Pricing by Arbitrage in Continuous Time Financial Models«.
- 1996-5 Mogens Dilling-Hansen and Valdemar Smith: »Estimating Inter-Regional Migration Using a Hiring Function Approach«.
- 1996-6 Brian Almann Hansen: »Price Search in the Retail Grocery Market«.
- 1997-1 Niels Peter Mols: »Danish Farmers' Vertical and Horizontal Interfirm Relationships«.

- 1997-2 Per Nikolaj D. Bukh: »Activity Based Costing«.
- 1997-3 Per Nikolaj D. Bukh: »Kunderentabilitetsanalyser«.
- Jens Genefke og Per Nikolaj D. Bukh: »On hikers, tigers, trust and opportunism«.
- 1997-5 Per Nikolaj D. Bukh og Jens Genefke: »Om at hælde gammel teori ud«.
- 1997-6 Niels Peter Mols: »Teoretiske tilgange til duale distributionskanaler«.
- 1997-7 Bendt Rørsted: »From Product to Core Competence Marketing Theory 1933-1993«.
- 1997-8 Per Nikolaj D. Bukh: »Den balancerede rapportering«.
- Niels Peter Mols, Per Nikolaj D. Bukh og Per Blenker: »European Customers' Choice of Domestic Cash Management Banks«
- 1997-10 Per Nikolaj D. Bukh, Niels Peter Mols og Per Blenker: »Choosing a Cash Management Bank: customer criteria and bank strategies«
- 1997-11 Niels Peter Mols: »Dual Channels of Distribution«
- 1997-12 Per Blenker: »Strategibegrebet: belyst ved industrielle underleverandør-aftager relationer«
- 1997-13 Asbjørn T. Hansen og Peter Løchte Jørgensen: »Analytical Valuation of American-style Asian Options«
- 1997-14 Johannes Raaballe: »Egenkapitalproblemer ved generationsskifte i landbruget«
- 1997-15 J.V. Lundberg-Petersen: »Resultatbudgettets skematiske form«
- 1997-16 Jørn Flohr Nielsen og Viggo Høst: »The Path to Service Quality at & Bureaucratic Encounters: The Impact of Private and Public Initiatives«

ISSN 1395-8143