Relationship Portfolios - Past, Present and Future

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Abstract
Since the 1980s the concepts of portfolio management have been adopted within the context of understanding business markets. Academics on both sides of the Atlantic have conceptualized and empirically tested a variety of customer and supplier portfolio models. More recently the concept of an indirect portfolio of relationships and its management has also been introduced. This paper reviews the role of relationship portfolios: customer, supplier and indirect in the context of business-to-business markets. We critically assess the most significant models, map their evolution and consider what the future holds for relationship management. We then discuss the manner in which portfolios and network can be integrated in order to provide a practical guide for marketing management. In conclusion we recognize the importance of conceptualizing the network as a set of portfolios (customer, supplier and indirect) and suggest that, in the context of business-to-business marketing at the very least, portfolio analysis provides the key to successful relationship management and important inputs to strategic management.

Introduction
The origins of portfolio theory lie in financial investment (Markowitz, 1952 and Sharpe, 1963). The concept has also been widely adopted in other spheres of management such as strategic management and marketing, as a mechanism for aiding decisions about resource allocation. No strategic management or marketing text appears to be complete without the inclusion of the Boston Consulting Group (BCG) growth share matrix or the McKinsey model. When used effectively, these models provide guidance for resource allocation and the BCG model, despite its inherent weaknesses, is probably one of the most widely used management decision aids.

The concepts of portfolio management have also been adopted within the context of understanding business markets. Portfolios provide a mechanism for conceptualizing and managing the customer, supplier and indirect sets of relationships which surround a firm. The growth of interest in 'relationship' marketing has also put greater emphasis on the study

of these relationship portfolios. This paper is written very much from a business marketing perspective. Specifically, because in this arena the role of relationship management is acknowledged to be critical to gaining competitive advantage (Håkansson, 1982, Turnbull and Valla, 1986, Ford, 1990, 1997 and Sheth and Sharma,1997). The paper reviews work on both sides of the Atlantic in this area. It critically assesses the significant models, maps their evolution and considers what the future holds for relationship portfolio management.

Relationship Portfolio Models

The bulk of models that have been conceptualized are based in either customer or supplier relationship modelling. However, Zolkiewski and Turnbull (1999) also raised the importance of modelling the set of indirect relationships which surround a firm. (Indirect relationships are those with actors who influence the operation of the organization and can include Government (national and local), institutions such as universities and lobby groups, for example.)

The models which have been developed include both two and three-dimensional axes along with single, two and three-step analysis phases. They are listed in Table 1 below. The most significant of these models are then reviewed in the following sections.

Table 1 Summary of Portfolio Models

Year	Customer Portfolio Models	Supplier Portfolio Models	Indirect Portfolio Models
1982	Cunningham and Homse	Cunningham	
	Fiocca		
1983	Campbell and Cunningham		
	Dickson *(Distributor portfolio analysis)*		
1984	Dubinsky and Ingram		
1987	Shapiro et al.		
1991		Krapfel, Salmond and Spekman	
1992	Rangan et al.		
1994	Yorke and Droussiotis *(modified Fiocca model)*		
1997	Turnbull and Zolkiewski *(composite of Shapiro et al and Krapfel, Salmond and Spekman)*	Olsen and Ellram	
1999	◄───────────────────	Zolkiewski and Turnbull	───────────────────►

Fiocca (1982) Two-Step Customer Portfolio Analysis
Fiocca (1982) proposed a two-step customer portfolio analysis, see Figure 1, and argued that the selling organization should firstly analyze customers at a general level, according to the strategic importance of, and the difficulties in, managing the relationship with each customer (account). The second step of analysis requires another two-dimensional matrix to be constructed for the key accounts identified in step 1, with the customers ' business attractiveness' on one axis and the 'strength of the supplier customer relationship' on the other.

Fiocca (1982) suggests a number of mechanisms for assessing the proposed axes: 'Difficulty in managing the customer' is a function of the level of competition for the customer, customer buying behaviour and the characteristics of the product bought by the customer. 'Strategic

importance' is determined by the value/volume of purchases, the potential and prestige of the customer, customer market leadership, and the overall desirability to the supplier in making strategic improvements and adaptation to customer specifications. This mixture of subjective and actual values makes these calculations difficult especially when the main point of using such analysis should be to produce data which can be used for comparison. 'Business attractiveness' is determined by considering a number of factors that are related to the customer's market (growth rate, competition, maturity, changes in the environment, etc.) and the status/position of the customer's business within the market. Such calculations are particularly difficult to assess and Fiocca (1982) does not take into account factors which can be critical in doing business internationally such as distance and cultural factors. The strength of supplier/customer relationships is again measured by applying a mix of objective, judgmental or subjective factors: length of relationship, importance of the customer, friendship, co-operation in product development, social distance, etc.

A criticism of the Fiocca (1982) model put forward by Yorke and Droussiotis (1994) is that it does not recognize the importance of considering customer profitability and, in fact, simply assumes that different cells can be associated with different levels of profitability. This assumption that customers are profitable simply because management perceive them to be was identified by Turnbull and Zolkiewski (1997) as a general problem in much analysis. In reality, customers were often found to be not as profitable as managers believed them to be (once full account was taken of real selling costs).

These reservations have been confirmed by Turnbull and Topcu (1994) who tested the Fiocca (1982) matrix using detailed case study data from a Turkish industrial minerals manufacturer. They identified a number of problems with data calculation. Firstly, the axes scales (high and low; high, medium and low; and, strong, medium and weak) tend to be subjective. Secondly, they used different interpretations of 'Difficulty in Managing the Account' (one based upon the amount of problem solving needed and the other based upon relative service requirement) and 'Relative Buyer Seller Relationship' (where they used Ford's (1982) life-cycle stages as a proxy measure). Finally, they used a proportion of sales revenue to indicate the strategic importance of the customer. This is questionable because there are many other factors which can contribute to strategic importance, such as technical leadership, which need consideration.

Figure 1, Two-Step Customer Based Portfolio Analysis (Fiocca, 1982, page 56)

Step 1:

	High	Low
High	Key Difficult	Non-Key Difficult
Low	Key easy	Non-Key Easy

Difficulty in Managing the Account (vertical axis, High to Low)

Strategic Importance of the Account (horizontal axis, High to Low)

Step 2:

	Strong	Medium	Weak
High	3	2	1
Medium	6	5	4
Low	9	8	7

Customer's Business Attractiveness (vertical axis: High, Medium, Low)

Relative Buyer/Seller Relationship (horizontal axis: Strong, Medium, Weak)

Not surprisingly, Turnbull and Topcu (1994) found that the use of different measures for each of the two dimensions, suggested by Fiocca (1982), resulted in significant disparities in 'categorization' of customers. This was particularly marked in relation to the definition of non-key customers. However, they demonstrated that a number of non-key customers required disproportionately high levels of service from the supplier. It could also be postulated that some of the key customers were not receiving enough service. They also demonstrated that the matrix provides a great deal of valuable information which managers should consider when forming strategy.

Yorke and Droussiotis (1994) also undertook an empirical study to test and develop the Fiocca (1982) matrix using a Cypriot textile agency. They used the following variables to construct the first step of the portfolio: account potential, future capacity expansion, links

with export markets and account prestige were used to calculate *Strategic importance of the account*; and degree of competitor entrenchment, payment problems, claims put forward and buying behaviour were used to calculate *Difficulty in managing the account*. They also developed Fiocca's (1982) model by introducing 'weighting' of the variables. While these variables are all important, they again exhibit the inherent problem of having a subjective element, which could cause problems when actually undertaking the analysis. Yorke and Droussiotis (1994) found a reasonable scatter of accounts on the Fiocca (1982) matrix and then proceeded to a second stage of analysis of two key customers as suggested by the Fiocca (1982) model. However, they undertook their analysis using two dimensions which were different from those suggested by Fiocca (1982): *customer profitability* and *perceived strength of the relationship*.

Customer profitability was calculated by taking the revenue from that customer (gross value of sales minus the commission paid) and subtracting from it direct costs, pseudo-direct costs (those costs which could be attributed to groups of similar customers and therefore apportioned accordingly) and indirect costs. When the profitability of each customer was calculated they found that about 20 per cent of customers accounted for 80 per cent of profits.

Perceived strength of the relationship was calculated using the variables: technical ability, experience, pricing requirements, speed of response, frequency of contact, degree of cooperation, trust, length of relationship, friendship and management distance (frequency of contact). Their analysis of two key customers showed that while both were profitable, the company were currently not supplying even half of the customers' requirements and could potentially significantly increase their own net revenues. Yorke and Droussiotis (1994) suggest that such an analysis can be especially useful if strength of relationship is assessed vis-à-vis that of competitors.

This empirical test of customer analysis is interesting, but it is also problematic in a number of respects; it was conducted over a very short timescale (two months) and the authors recognize that it may not be representative of the usual situation in the industry and the company. This issue of timescale of analysis is very important; what is the most appropriate analysis period? In reality it will vary from industry to industry and market to market, with high technology companies perhaps needing to assess customer profitability quarterly while other industries probably need to consider it as part of their yearly planning cycle. Secondly, the way indirect and direct costs are allocated raises important questions; very often it is not easy to simply apportion management time and costs or even sales time and costs to a particular customer or contract.

Campbell and Cunningham (1983) Three-Step Portfolio Analysis
Based upon Cunningham and Homse 's pioneering work (1982), Campbell and Cunningham (1983) proposed a three step portfolio analysis strategy for marketing management. They see their emphasis on developing effective relationship management of customers as a challenge to the ideas of Porter (1980) who they suggest emphasizes the need to counteract customers' buying power. Using a case study of a major packaging supplier, they suggest a three step analysis using two variables at each stage.

The first step focuses on the nature and attractiveness of the customer relationship using customer life cycle stage on one axis and various customer data on the other. The customer life cycle stage is divided into tomorrow's customers, today's special customers, today's

regular customers and yesterday's customers. The other dimension of analysis is multivariate, involving sales volume, use of strategic resources, age of relationship, supplier's share of customer's purchasers and profitability of customer to supplier. They believe that this type of categorization will facilitate the understanding of how
"*strategic resources, which will ensure the future health of the business, are allocated among customers*" (Campbell and Cunningham, 1983, page 374).

Two major problems arise in respect of this approach. Firstly, the conceptual validity and practicality of using a life cycle approach to customer analysis can be challenged. Secondly, the choice of appropriate variables for analysis can be difficult; obtaining the required data on the variables can also present major problems, as often companies do not have such data available.

The second step of analysis focuses on the customer's own performance as an important aspect of customer portfolio planning. Thus, the customer's share of its own market is combined with the customer's demand for the supplier's product and is used to produce a second two-by-two matrix classification as shown in Figure 2. The various customers are represented by a circle which is indicative of volume of purchase, this circle can then be sliced to show the volume purchased from the supplier and the supplier's competitors.

Figure 2 Power balance in Buyer/Seller Relationships (Campbell and Cunningham, 1983, page 376)

	Few	
Number of Buyers	Dependent (Buyer dominated)	Inter-dependent
	Independent	Dependent (Supplier dominated)
	Many	

<div align="center">Many   Few
Number of Suppliers</div>

Campbell and Cunningham (1983) believe that this type of analysis will allow management to better assess opportunities and threats. However, they note some of the inherent weaknesses in this type of analysis: should a whole product range or individual products be used and where do you draw the boundaries of the segment - domestically or internationally? Additionally, we would suggest that this type of analysis is complicated by another problem: how often in business-to-business marketing situations are there accurate figures for market share available; companies often do not have accurate figures for their own market share let alone the ability to collect this data from all but their closest customers (and this assumes that these customers have the data). Another potential difficulty arises from how the product is used by the customer; if it is utilized in the customer's final product, then this type of estimation is inherently useful though difficult. However, if capital goods or service are being supplied then the estimations are unlikely to be as meaningful.

The third, and final, step involves the selection of the key customers for analysis. Another two-dimensional grid is proposed for this stage with growth rate of customer's market (high, medium, low and decline) on the vertical axis and competitive position (relative share of

customer's purchases) on the horizontal axis. Companies are placed on the matrix and represented by a circle that represents their sales volume. Campbell and Cunningham (1983) acknowledge that such a matrix provides useful information on key customers but that it can be easily misunderstood if one customer consumes a major part of the suppliers output (that customer could easily appear to be the only key customer). Again, we would suggest that this type of analysis will be problematic due to lack of accurate data about customer's true market positions.

However, such a framework provides a useful conceptual starting point for undertaking strategic analysis of an organization's customer portfolio. It was also one of the first approaches to recognize the need for organizations to attempt detailed analysis on a customer-by-customer basis.

Shapiro et al. (1987) Customer Classification Matrix
Shapiro et al. (1987) in developing a customer classification matrix (Figure 3) focus on customers as profit centres. Three variables - costs to suppliers, customer behaviour and management of customers - were used to investigate the profit dispersion of the customer portfolio. Four types of costs - presale, production, distribution and postsale service costs - were used to define the cost to serve axis. Combining this calculation with the net price charged they found that such analysis identified a wide range of profit margins both by customer and type of product sold. Figure 3 shows the 'labels' which Shapiro et al (1987) ascribe to customers in each quadrant of the matrix, each type representing different profit contribution profiles.

Figure 3 Customer Classification Matrix (Shapiro et al., 1987, page104)

		Low	High
Net Price	High	Passive	Carriage Trade
	Low	Bargain Basement	Aggressive

Cost to Serve

Shapiro et al (1987) suggest that many suppliers believe that if they analyze the breakdown of their accounts most accounts will fall into the 'carriage trade' and 'bargain basement' quadrants. Yet, when analysis is actually performed, it will usually show that over half a suppliers' accounts fall into the 'passive' and 'aggressive' quadrants.

They also observe that the position of any one account is likely to change over time, often starting in the 'carriage trade' segment and migrating towards another segment. They argue that this dispersion of customer profitability can be managed by following an action plan, which involves: repeated analysis, pinpointing costs, preparing profitability dispersions, focusing strategy and providing support systems. However, they leave the interpretation of low and high values to the discretion of the analyst, which could cause difficulty when comparable data sets are required, especially if management make subjective judgements as to these values.

Despite these reservations, this classification matrix can be useful, as shown by Rangan, Moriarty and Swartz (1992). They further developed the approach and demonstrated that the grid can be successfully used to segment customers in mature industrial markets. Turnbull and Zolkiewski (1997) also tested this matrix using a case study of a UK-based Computer Systems house and identified a scatter of customer projects across the matrix. They also found that management in the company studied did not make any efforts to calculate the presale and postsale costs for individual projects or customers. This finding supports Shapiro et als' (1987) postulation that managers do not know the real cost to serve individual customers and that presale and postsale costs can form a significant percentage of costs.

This matrix provides a more refined mechanism for calculating customer profitability than other models, such as Yorke and Droussiotis (1994) and Dubinsky and Ingram (1984). For instance, Dubinsky and Ingram (1984) calculate *present profit contribution* as follows:
contribution margin = (net sales to a particular customer - cost of goods sold)/(gross margin - direct selling expenses of salesperson)
And contrast it with *potential profit contribution*. Their calculations do not take into account ongoing maintenance/support costs nor do they seem to cater for R&D.

However, the manner in which pre and postsale costs are recorded can prove to be extremely difficult to implement in a technically complex product context. The amount of time spent by R&D staff, sales engineers, managers etc., can be difficult to determine exactly or even approximately, especially if the relationships are long term. Also, the manner in which costs such as R&D and the preparation of detailed bids are apportioned is complex, as these costs are often directed towards the needs of both existing and potential customers. Regardless of the difficulties associated with calculating cost to serve, Turnbull and Zolkiewski (1997) believe it is essential that the cost to serve values are given due consideration by management, as they can give very important indications as to the true profitability of either individual projects or the overall profitability of different customers.

Turnbull and Zolkiewski (1997) also found, as had Shapiro et al (1987), that the contribution of some of the customer projects were not where the management in the company concerned predicted and discuss the wider implications of using such a matrix. For instance: what is the optimum spread of customers on the matrix? Additionally, if an interactive perspective is taken, it is also interesting to contemplate if different buying departments in a customer organization (e.g. new projects and service and maintenance) can be placed in different grid positions at any one point in time. Such a view may be particularly pertinent when considering industrial relationships, where the links between buyer and seller are many and complex and set-up costs are high. In such circumstances it can only be expected that, when different operational groups are responsible for buying services, if the buyers change, or if the relationship has time to develop (perhaps even to a new stage), different behaviour is quite likely to be exhibited.

Krapfel, Salmond and Spekman (1991) Supplier Classification Matrix
Krapfel, Salmond and Spekman (1991) also use a portfolio approach to analyse customer-supplier relationships and propose a relationship classification matrix based upon the concepts of 'relationship value' and 'interest commonality'. This matrix is illustrated in Figure 4. They suggest that relationship management style should be varied according to the perception of power and interest commonality.

Figure 4 Supplier Classification Matrix (Krapfel, Salmond and Spekman, 1991, page 27)

	High → Relationship Value → Low	
Interest Commonality High	Partner	Friend
Interest Commonality Low	Rival	Acquaintance

High

Interest Commonality

Low

| Partner | Friend |
| Rival | Acquaintance |

High   Low

Relationship Value

Krapfel, Salmond and Spekman (1991) define relationship value as *"a function of four factors: criticality, quantity, replaceability and slack.....*

$$RV_i = f(C_j, Q_j, R_j, S_j)$$

RV_i is the value of the relationship to the seller

Cj is the criticality of the goods purchased by the buyer

Qj is the quantity of the seller's output consumed by this buyer

Rj is the replaceability of this buyer (i.e. the switching cost of accessing other buyers)

Sj is the cost savings resulting from the buyer's practices and procedures" (page 26).

Turnbull and Zolkiewski (1997) also tested the Krapfel, Salmond and Spekman (1991) matrix. They used a customer-supplier perspective and utilized data from the same UK-based Computer Systems house as used in the test of the Shapiro et al (1987) matrix. They note that relationship value is 'softer' or more judgmental than the more specific cost data proposed by Shapiro et al (1987) and requires certain assumptions to be made as described in detail by Zolkiewski (1994), e.g. what value ca be described as high. Also, because the customer relationships being studied were long-term they were all classified as having a high interest commonality (they were all either repeat or follow-on purchases).

Consequently, Turnbull and Zolkiewski (1997) found that the customers were only positioned in two of the quadrants of the matrix (partner and friend). They suggest that because, in this situation, long term relationships are the norm they may have interpreted interest commonality in an inappropriate manner. However, they re-examine Krapfel, Salmond and Spekman's (1991) definition:

"Interest commonality reflects an actor's economic goals and their perception of the trading partner's economic goals. When buyer and seller economic goals are compatible, interest commonality is high, and vice versa" (page 26)

and conclude that when a holistic analysis of a total business environment is needed, interest commonality may well make a valuable contribution to the analysis. They also suggest that it is perhaps more pertinent when used in supplier analysis than in customer portfolio analysis.

Olsen and Ellram (1997) Supplier Portfolio Analysis

In synergy with the ideas proposed by the early advocates of relationship portfolio management, Olsen and Ellram (1997) proposed a three-step analysis of supplier relationships. The first step they propose involves a portfolio analysis of the company's purchases which is based upon a two-by-two matrix. Their proposed axes are: difficulty of managing the purchase situation (includes product, supply market and environmental

characteristics) and strategic importance of the purchase (includes competence, economic and image factors). They then make suggestions about how to manage the relationships in each of the four quadrants. For instance, they suggest that relationships which are classified as 'non-critical' (easily managed purchase situation and low strategic importance) need to be consolidated and standardized, in order to reduce the number of suppliers and duplicate products. However, surely this strategy is an overall aim regardless of the position of the purchase on this model. It could be argued that this is the area which needs the least attention when first beginning to rationalize or manage the purchasing situation.

The second stage of Olsen's and Elrram's strategy comprises an analysis of the actual supplier relationships. Another portfolio model is proposed for this purpose. This is a three-by-three matrix with high, medium and low as the categories on each axis. This time the axes represent relative supplier attractiveness (includes financial and economic, performance, technological, organizational, cultural and strategic and other factors) and strength of relationship (includes economic factors, character of the exchange relationship, cooperation between buyer and seller and distance between buyer and seller). They also suggest that the portfolio representation could be enhanced by representing each relationship with a circle, the size of which indicates the current allocation of resources to that relationship. However, they do not indicate what they mean by resources. Are they only considering financial allocation? Or are they including the more subjective notion of management time etc.? These portfolios also do not allow for factors such as technical synergy and access to otherwise closed markets, etc.

The final stage involves a comparison of the two matrices and based upon this comparison, the development of appropriate action plans.

Unfortunately they do not test this approach empirically. If they had done so, they may have been able to confirm whether the weaknesses they suspect (such as the difficulty in preparing the data for the complex dimensions they propose) occur in reality.

Turnbull and Zolkiewski (1997) Three-Dimensional Customer Classification Matrix
Following their analysis based upon the Shapiro et al (1987) and Krapfel, Salmond and Spekman (1991) matrices, Turnbull and Zolkiewski (1997) proposed a **three-dimensional** basis for customer portfolio analysis, as illustrated in Figure 5. This proposal resulted from a consideration of the differences in the nature of the matrix axes (i.e. the variables being used), with the Shapiro et al (1987) axes being relatively easy to measure while the Krapfel, Salmond and Spekman (1991) axes are much more subjective. They argue that three-dimensional analysis based upon cost to serve, net price and relationship value is appropriate when segmenting the customers of any firm. Simply because such an analysis provides a more comprehensive overview than can be gained from using two variables. They use these variables to analyze the case study data (from the Computer Systems House which was used to test the Shapiro et al (1987) and Krapfel, Salmond and Spekman (1991) matrices) and suggest that this three-dimensional approach is much more beneficial as a strategic planning aid because it provides a more refined set of analysis criteria.

Using three-dimensional analysis allows a more refined customer classification in terms of dimensions of analysis and number of classifications. For example, in this case eight classifications are possible - compared to the four groups in the two-by-two matrices - see Table 2 below.

Table 2 Segments of the Turnbull and Zolkiewski Matrix

Relationship Value	Net Price	Cost to Serve
Low	Low	Low
Low	Low	High
Low	High	Low
Low	High	High
High	Low	Low
High	Low	High
High	High	Low
High	High	High

These eight segments provide a mechanism for combining hard data (profitability of customers) with more judgemental data (relationship value). Managers can then assess customers in light of these findings and determine which relationships need developing and/or maintaining and which, if any, need to be broken. Initial analysis would suggest that customers/relationships which have a high value and net price combined with a low cost to serve are the most attractive and, those with low relationship values and net prices combined with a high cost to serve are least attractive. It is imperative, however, that such analyses of relationships are not a unique process. The most informative data will be that which monitors the positions of customers/relationships over time, for instance can high net price be maintained over time (Shapiro et al (1987) and Turnbull and Zolkiewski (1997) both observe such migrations). The manager will then need to consider the investments in relationships which are needed to maintain the status quo.

It is unfortunate that the case study used by Turnbull and Zolkiewski (1997) was not extended to cover all the proposed customer matrices. Such an analysis would probably have provided much stronger evidence for their choice of axes. However, it is clear from Turnbull and Topcu's (1994) and Yorke and Droussiotis's (1994) analysis of the Fiocca (1982) model, that his axes are much more difficult to use in terms of provision of replicable and comprehensive data (they are almost too subjective). This lends support to the choice of axes made by Turnbull and Zolkiewski (1997), where net price is obviously an extremely important factor; cost to serve calculations - presale, production, distribution and postsale costs - ensure that due consideration is given to **all** aspects of the product development and selling process; and, relationship value allows judgemental data (management intuition) to be included in the analysis.

Figure 5 Three-Dimensional Customer Classification Matrix (Turnbull and Zolkiewski, 1997, page 320)
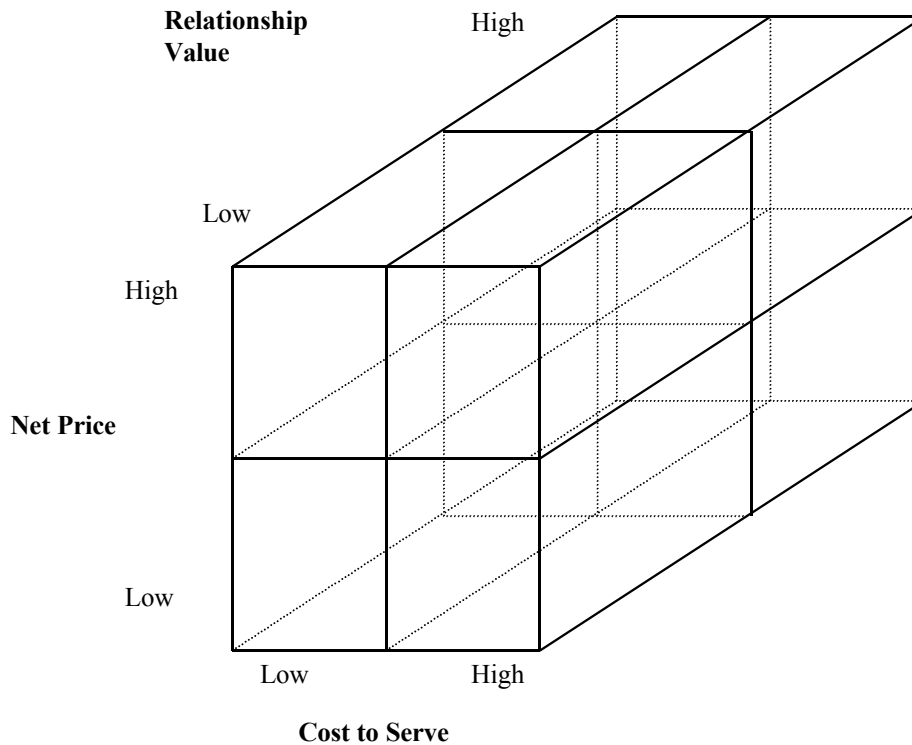
Zolkiewski and Turnbull (1999) Portfolios and Network Model
Zolkiewski and Turnbull (1999) develop their earlier work by considering the relationship between networks[297] and portfolios. They suggest that networks can also be visualized by viewing them in terms of their constituent portfolios. This would usually be:
- customer portfolio
- supplier portfolio
- indirect portfolio.

(Various alternatives to this can be proposed, according to the situation of the focal firm. For instance, public sector organizations may view their network in terms of supplier, funder, influencer and user portfolios.)

The notion of the correlation between portfolios and networks is also discussed in Zolkiewski and Turnbull (forthcoming) and Ritter (1999). Both these articles discuss the need to look at the connections between the organizations mapped on the portfolio. Ritter (1999) gives a two-dimensional perspective, while Zolkiewski and Turnbull (forthcoming) provide a three-

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[297] The concept of business or industrial networks has evolved from the study of dyadic relationships. It recognizes that organizations and relationships do not exist in a vacuum, rather that they are affected by a range of relationships in which they are involved to a lesser or greater extent. The network concept is discussed in detail in Håkansson and Snehota (1995). They provide a description of the network perspective. In which **actors** perform **activities** and/or control **resources**. They view networks as a combination of all the elements which they comprise (activity links, resource ties and actor bonds) and their functionality (dyad, single actor and network). They also acknowledge the effects upon the network of changes which develop over time.

dimensional perspective. Figure 6 shows an example of this, based upon Shapiro et als' (1987) matrix

Figure 6 Adding A Network Perspective To Shapiro et als' (1987) Matrix
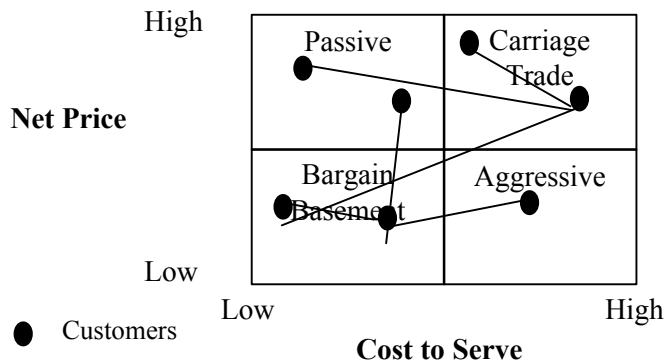
Obviously, this enhances the strategic analysis process. Ensuring that the manager considers the wider implications of any actions he/she may instigate. It is clearly an area which demands further empirical testing and managerial application.

Zolkiewski and Turnbull (1999) do not suggest which of the portfolio models are best suited to this purpose. However, the strengths and weaknesses of the various models have been discussed at some length in this paper. It is the role of management to determine which model and which mode of analysis is most pertinent to the situation. The models described here are best seen as a range of tools and methods which are best developed using managerial judgement rather than academic suggestion.

The Future

The discussion above illustrates that the concept of relationship portfolios is interesting and varied. It provides both scope for academic investigation and managerial prescription, especially as an aid to strategic decision making. The empirical evidence derived from tests of the models also demonstrates that the concept of portfolio management is of relevance to management. Not withstanding the usual criticisms of portfolio modelling, this area should provide an exciting area for strategic management support.

The concept of the indirect portfolio needs further development. Within its context it is possible to propose the development of competitor portfolios. These, when incorporated into the overall set of portfolios, should allow a strategist to map the links from competitors to an organization's customers and suppliers. This should facilitate wider thinking by, for example, introducing a consideration of possible competitor actions. In a similar vein potential supplier or potential customer portfolios could be introduced and they could be used in decisions about targeting new customers or selecting new suppliers.

Advances in technology mean that modelling such data should be easily accomplished. Computer databases should mean that financial data can be easily assimilated and managers should be able to record qualitative data alongside this to allow their decision making processes to be audited and available for future comparison.

There is great potential for further empirical testing and for conceptualization. In particular, rigorous comparisons of the various axes proposed in the different models needs undertaking along with the provision of definitive descriptions of the component, especially when qualitative issues are at hand. The standardization of such definitions is essential if the models are to be effectively and efficiently used as a strategic decision making tool.

Whether or not this type of modelling can be successfully transferred into the wider arena of relationship marketing is a more unpredictable situation. Despite advances in technology, the ability to precisely record the necessary data and then to model it may prove to be a far too onerous task. It may be that relationship marketing moves more to a scenario where segments rather than individual customers are subjected to portfolio analysis.

This area is also very interesting because it is one in which there seems to be a great deal of synergy in conceptualization between Americans and Europeans alike. It should, therefore, provide a basis for joint research and development rather than acting as a wedge to drive debate and argument further apart. What should also be recognized is that significant developments can be made when cross-fertilization of ideas is allowed to take place.

Managerial Implications
The discussion above illustrates how relationship portfolios can provide a mechanism for developing a coherent relationship management strategy. However, choice of models or dimensions is not simple, it will partly depend on the nature of the firm itself and partly how it perceives its micro-environment - which factors are most important: relationship management; competitors' share; emergence of new markets etc. However, we believe that two-dimensional matrices do not provide enough depth of analysis. The answer may be in step-wise analysis (Fiocca, 1982; Campbell and Cunningham, 1983) or in multidimensional analysis (Turnbull and Zolkiewski, 1997). Indeed, by taking a network perspective and considering all the constituent portfolios that surround an organization (both direct and indirect) a manager can begin to analyze the micro-environment of the firm.

Choice of model must also be made with a full consideration of the limitations of using portfolio modelling. Each model has its own limitations, many of which have been highlighted in the earlier discussion. However, there are some which are common to most:
- The difficulty of and time taken to collect the appropriate data.
- How to achiever year-on-year consistency of data.
- How to deal with subjectivity.
- What do the axes really mean. This is best demonstrated by the variability in the suggested means for calculating customer profitability. Of the suggested calculations, cost-to-serve (Shapiro et al., 1987) appears to be most useful, because it is naturally adapted according to an organization's circumstances.
- In business-to-business markets there is often a lack of accurate market data such as percentage of market share taken by various firms. Hence, some of the axes can not be readily calculated.

It is also apparent from the various practical attempts to use the portfolio models that although these models are inherently appealing as a means for analysis, in practical terms they are extremely difficult to define. The real problem lies in the fact that the definitions simply do not involve easily collected 'hard' data; for example, many organizations do not have mechanisms which allow them to calculate the real 'cost to serve' individual customers or even market segments.

The question of customer profitability and relationship value again has an inherent appeal. All firms want profitable customers and valuable relationships. The difficulty comes with the associated calculations. However, it is imperative that Shapiro et als' (1987) suggestion that the real costs of supporting various customers should not be considered in isolation by managers and that they should be aware that high variations in these costs do often exist. It is also crucial that the data used to calculate customer profitability takes into account adaptation/development costs for new products/services as well as the more 'tangible' indirect costs such as sales expenses. Yorke (1984) notes how infrequently management attention is paid to the effects in terms of net profit of applying resources to a particular segment or even a particular customer.

Finally, a manager needs to be able to respond to the data collected. This should be done following the age old management practice:

- undertake repeated analysis of the data
- prepare appropriate action plans
- implement the plans
- monitor and evaluate the outcomes of the plans
- feed the results back into the planning process.

On a tactical level managers need to consider what is the optimum spread of customers on a matrix. This needs careful attention and the application of managerial judgement and experience. It cannot be prescribed by a text. They should also be prepared to vary their management style in response to the analysis they prepare. For example a different style may well be needed to deal with customers who do not yield much profit and present high costs to serve.

Conclusion

Relationship portfolio modelling clearly can play an important role in strategic marketing management. On a simple level, analysis of either customer or supplier relationships can provide important inputs into the management process. However, by moving to a view of the network as a set, or series, of portfolios, a much wider strategic perspective can be gained.

All the models which have been discussed can clearly provide input to management decision making. However, consideration needs to be given as to which are the most pertinent variables and how subjective data can be included in a way which will allow consistency of comparison in future years. Additionally, other quantitative measures of customer/portfolio management need to be determined.

The notion of the network as a set of portfolios (customer, supplier, indirect, competitor, potential customer and/or supplier) provides an exciting opportunity for academic research and managerial practice. It offers a mechanism which allows managers to map the complexity of the network concept in a relatively simple manner, without needing to understand and critically evaluate the multitude of associated theory. By taking the perspective of a firm as being embedded in three types of relationship portfolio we can infer that that portfolio analysis provides the key to successful relationship management. And important inputs to strategic management.

Clearly, this work needs further development and testing. For example, the dimensions which are optimal in various scenarios could be determined, ways in which subjective data can be incorporated into calculations need to be developed. Further comparisons of the different models would also be useful. Ford, McDowell and Turnbull (1996) point to the inherent complexity of the network which surrounds an organization result in a reliance on managerial experience and intuition rather than on inherent planning. As early as 1982, Haspeslagh pointed out that the most important decision for managers was the selection of the models which are appropriate to their situation rather than an arbitrary judgement over the relative merits of various models and axes.

Acknowledgements

References

Campbell, Nigel C.G. and Malcolm T. Cunningham (1983) "Customer Analysis for Strategy Development in Industrial Markets", *Strategic Management Journal*, 4, 369-380.

Cunningham, Malcolm T. (1982) 'An Interaction Approach to Purchasing Strategy' in *International Marketing and Purchasing of Industrial Goods.* Håkansson, Håkan, ed. New York: John Wiley & Sons.

Cunningham, Malcolm T. and Elling Homse (1982) 'An Interaction Approach to Marketing Strategy' in *International Marketing and Purchasing of Industrial Goods.* Håkansson, Håkan, ed. New York: John Wiley & Sons.

Dickson, Peter R. (1983) 'Distributor Portfolio Analysis And The Channel Dependence Matrix: New Techniques For Understanding And Managing The Channel', *Journal of Marketing*, 47 (Summer), pp. 35-44.

Dubinsky, Alan J. and Thomas N. Ingram (1984) 'A Portfolio Approach To Account Profitability', *Industrial Marketing Management*, 13, pp. 33 - 41.

Fiocca, Renato (1982) "Account Portfolio Analysis for Strategy Development", *Industrial Marketing Management*, 11, pp. 53-62.

Ford, David (1982) 'The Development of Buyer-Seller Relationships in Industrial Markets' in *International Marketing and Purchasing of Industrial Goods.* Håkansson, Håkan, ed. New York: John Wiley & Sons.

Ford, David, ed. (1990), *Understanding Business Markets.* San Diego, California*: Academic Press.

Ford, David, ed. (1997), *Understanding Business Markets, 2nd Edition.* London*: The Dryden Press

Ford, David; Raymond McDowell and Peter Turnbull (1996) "Business-To-Business Marketing: Strategic Decisions About Portfolios of Relationships", in 1996 Research Conference Proceedings *Contemporary Knowledge of Relationship Marketing*, Parvatiyar, Atul and Jagdish N. Sheth, eds. Emory University Atlanta: Center for Relationship Marketing, Roberto C. Guizueta Business School.

Håkansson, Håkan, ed. (1982) *International Marketing and Purchasing of Industrial Goods*. New York: John Wiley & Sons.

Håkansson, Håkan and Ivan Snehota, eds. (1995) *Developing Relationships in Business Networks*. London: Routledge.

Haspeslagh, Phillipe (1982) 'Portfolio Planning: Uses and Limits' *Harvard Business Review*, January-February 1982, pp. 58-73.

Krapfel, Robert E. Jr., Deborah Salmond and Robert Spekman (1991) "A Strategic Approach to Managing Buyer-Seller Relationships", *European Journal of Marketing*, 25,9, pp. 22-37.

Markowitz H. M. (1952) "Portfolio Selection", *Journal of Finance*, March, pp. 77-91.

Olsen, Rasmus Friss and Lisa M. Ellram (1997) 'A Portfolio Approach to Supplier Relationships', *Industrial Marketing Management*, Vol. 26, pp. 101-113.

Rangan, Kasturi V., Rowland T. Moriarty and Gordon S. Swartz (1992), "Segmenting Customers in Mature Industrial Markets" *Journal of Marketing*, 56 (October), pp.72-82.

Ritter, Thomas (1999) 'Interconnected Relationships: The Effects of Relationships on Relationships', in McLoughlin, Damien and Conor Horan (eds.) *Interaction, Relationships and Networks: Towards The New Millennium. Proceedings of the 15th Annual IMP Conference*. Dublin: University College.

Shapiro, Benson P., V. Kasturi Rangan, Rowland T. Moriarty and Elliot B. Ross (1987) "Manage Customers for Profits (not Just Sales)", *Harvard Business Review*, September-October 1987, pp.101-108.

Sharpe, W. F. (1963) 'A Simplified Model For Portfolio Analysis', *Management Science,* Jannuary 1963, pp. 277 - 293.

Sheth, Jagdish N. and Arun Sharma (1997) 'Supplier Relationships, Emerging Issues and Challenges', *Industrial Marketing Management*, 26, pp. 91 - 100.

Turnbull, Peter W. and Jean-Paul Valla, eds. (1986), *Strategies for International Industrial Marketing*. London: Croom Helm.

Turnbull, Peter W. and Sule Topcu (1994) "Customer' Profitability in Relationship Life Cycles", Proceedings of the 10th IMP Conference, Groningen, Netherlands

Turnbull, Peter W. and Judy M. Zolkiewski (1997) "Profitability in Customer Portfolio Planning" in Ford, David (ed.) *Understanding Business Markets, 2nd Edition*. London: The Dryden Press.

Yorke, David (1984) "Market Profit Centres: Fiction Or An Emerging Reality?", *Management Accounting*, February 1984, pp. 21-27.

Yorke, David A. and George Droussiotis, (1994) "The Use of Customer Portfolio Theory: An Empirical Survey", *Journal of Business and Industrial Marketing*, 9,3, pp.6-18.

Zolkiewski, Judith M. (1994) "Marketing of Large Contracts: Selling Costs and Profitability" MSc Dissertation, UMIST, UK.

Zolkiewski, Judy and Peter Turnbull (1999) *A Review of Customer Relationships Planning: Does Customer Profitability and Portfolio Analysis Provide the Key to Successful Relationship Management?* Manchester, UK: MSM Working Paper Series.

Zolkiewski, Judy and Peter Turnbull (forthcoming) *'Power in Numbers? The Managerial Advantages of Nets?'*.....