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The Use of Customer Portfolio Theory

An Empirical Survey

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Introduction

Portfolio theory was first developed to be used in financial investment decision making during the 1950s (Markowitz, 1952). The main inputs for portfolio evaluation in financial investment decisions were postulated as being “expected return” and “degree of risk”. Portfolio theory has, however, since been applied in areas other than finance. The initial area of application was in auditing product programs (Marvin, 1972), where individual products or groups of products were analyzed in terms of their current and future market share, sales, volume, costs and investment requirements. Subsequently, the portfolio approach received increasing attention from corporate strategists (Ansoff and Leontiades, 1976; Hedley, 1977; Hofer and Schendell, 1978; Wind and Douglas, 1981) all of whom have been primarily concerned with the classification of products and/or businesses on certain key dimensions in order to assist in the achievement of corporate strategic objectives. Key dimensions have included market share, market growth, market attractiveness and competitive position depending on which model has been offered. Regardless of the dimensions used, the basic idea is that the positions of the units on the grid should determine the formulation of the most appropriate strategy.

Portfolio theory is essentially concerned, therefore, with facilitating decisions in the allocation of finite resources among different assets, be it financial investments, products or strategic business units. These finite resources may be used in alternative ways to achieve agreed objectives.

There have also, however, been many critics of portfolio theory, who have suggested that a portfolio simply facilitates visualization rather than serving as an analytical and prescriptive tool in itself. In other words, critics say that portfolio analyses do not provide strategic answers for resource allocation and strategy formulation. They do stress, however, that they can aid decision making but would have to be used with caution.

Customer Portfolio Analysis

The application of portfolio theory to customers is a more recent phenomenon. In theory, marketers can check the basic soundness of each customer against its

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position on the portfolio grid. In addition they can assess the mix and balance of these customers and whether they are likely to meet marketing objectives. Portfolio analysis can therefore enhance and promote marketing planning and communication. Two of the most influential attempts were those of Fiocca (1982) and Campbell and Cunningham (1983).

Fiocca proposed a two-step customer portfolio analysis. The first step is at a general level where the complete portfolio of customers of the supplier company is considered. Fiocca noted that nearly all companies have some customers who are more important than others as a result of the high volume or value of goods or services they buy or they could buy. In addition, other factors like the prestige of the account or market leadership in its own market can also enhance the strategic importance of the account. Fiocca also suggested that all companies will have customers who are more difficult to manage than others.

By combining the strategic importance of, and the difficulty in managing, an account on a high/low continuum a simple matrix can be constructed. This matrix can reveal those accounts which may require a more in-depth analysis, e.g. “key/difficult” and “key/easy”. Therefore, in this first step of analysis, managers can decide which accounts need special attention and, as a consequence, deserve a more in-depth analysis.

In the second part of the analysis each “key” account thus identified is further analyzed. At this level, two variables are considered, which form the dimensions of a nine-cell matrix. These variables are:

(1) the customer’s business attractiveness (high, medium, low);

(2) the relative stage of the present buyer/seller relationship (strong, medium, weak).

Business attractiveness is a function of the derived demand for that customer’s offerings and also of the status/position of the customer’s business. The relative stage of the present buyer/seller relationship can be considered as a measure of the competitive position of the selling company. It can be measured in terms both of the length of the relationship and of the personal connections, both commercial and social, between buyers and sellers. Psychic distance can also have an influence, for example where geographical proximity and cultural similarities can have a positive influence on the strength of the relationship, since it is easier to meet and communicate.

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A three-step analysis of customers is proposed

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Customers falling into different cells of the portfolio will, therefore, require different strategies, each absorbing the appropriate amount of resource for accomplishing the objectives set for them.

Campbell and Cunningham (1983) proposed a three-step analysis of customers. Again, the purpose of the analysis is to formulate appropriate marketing strategies for different customers or groups of customers, and thus allocate the necessary resources for implementing them.

Step 1: life-cycle classification of customer relationships: Despite its criticisms, the concept of the product life cycle is applied, in this case, to a supplier’s customers. A number of criteria are used for assessing each account against the stage of the life-cycle it is in. Customers may be classified into four basic segments. Namely: “Yesterday’s customers”, “Today’s regular customers”, “Today’s special customers", and "Tomorrow's customers".

Step 2: customer/competitor analysis by market segment: By drawing up a customer/competitor chart, it is possible to measure each customer's share of its own market together with the growth rate in demand for the customer's own product. In addition, measure can be taken of the total volume of the product purchased by each customer, together with the share each competitor has of these total purchases.

The customer/competitor chart allows management to evaluate its competitive position in each customer segment and assess threats and opportunities. A review of charts prepared in previous years enables a company to observe the impact of competition and of changes in the relative importance of different customers. In addition, such competitive assessments also enable management to identify the buyer/seller power structure and dependences operating in each of their customer segments.

Step 3: portfolio analysis of key customers: The final step involves the analysis of key customers only. In the majority of cases, it is the larger customers who are considered as key customers. Step three is, in fact, broken down into two sub-steps where, first, all the key customers are analyzed together and, second, the most important are analyzed individually. The first sub-step analyzes the key customers by using a variation of the familiar growth/share matrix. The share the supplier holds of the customers' purchases relative to the share held by the largest competitor is a proxy measure for competitive position. The growth rate of the market is a proxy measure for customer attractiveness. The main purpose of carrying out this analysis is to show the position of the largest customers and also indicate the position of tomorrow's future prospects. The second sub-step is used in order to give more detailed information for the largest customers or those on which the company perceives itself to be dependent. Measures determine the stage of the relationship of each of the different customers with the supplier, together with the real growth in purchases. These two sub-analyses of customers in step three can assist suppliers in obtaining a clearer picture of the strategic position with respect to key customers.

Yorke (1986) suggested that customer portfolio theory was more appropriate and useful where the product purchase was of low technology, continuously supplied, the perceived risk was relatively low and where the data available on customers and competitors were more complete. In addition, before construction of the portfolio, consideration should be given to objectives, e.g. a supplier's short-term financial needs and/or long-term mutual technological growth.

Customer Profitability as a Basis for Portfolio Planning

Customer profitability is a key dimension to assist in the achievement of corporate strategic objectives. The allocation of costs and revenues to individual customers, in order to arrive at the contribution of each to profits, should, therefore, be part of the customer portfolio of any supplier. Campbell and Cunningham, in their customer analysis, included customer profitability in their life-cycle classification of customer relationships, but they also highlighted the difficulties involved in acquiring such information. Fiocca, on the other hand, did not use customer profitability as an element in his customer analysis. In fact he used his second matrix (customer business attractiveness vs. relative buyer/seller relationship) simply to infer that different cells of the portfolio matrix could be associated with different levels of profitability.

The process of customer costing involves taking the logic of product costing and applying it to customers. The areas where cost variations can be significant are:

- *Product mix:* Customers have different product profiles. The product mix bought by any customer can be critical to profitability. If, for example, the product mix is mainly confined to low profit lines, this could mean a profit below what is potentially possible or even a loss after all costs are taken into account.
- *Selling costs:* Despite the fact that accurate information is difficult to obtain, the salesperson's call pattern is bound to vary because of custom, practice, customer preference and complexity of operations. Time and expense of calls will vary not only with frequency but also with distance and duration. If one customer is taking half of a salesperson's time or requires the sales manager's personal attention on every occasion, then these direct costs should be reflected in the calculation of that customer's profitability.
- *Special trade terms:* Powerful customers are usually able to obtain prices either by laid down quantity discounts or by specially negotiated terms. In addition, there may be cash discounts and also special offers in order to persuade customers to take certain product lines.
- *Administration costs:* The costs of administering customers will vary in the same way as selling costs, as some customers are more awkward than others. Another key factor in this category is the cost of handling orders, as their size and frequency will again vary.
- *Working capital:* Sometimes specific requirements are laid down by customers, i.e. certain levels of stock must be held centrally for collection on demand and this will have an effect on costs. Another important factor is the cost of giving credit – the longer the average period of credit given to a particular customer, the higher the financing costs will be. This clearly erodes profitability.
- *Indirect costs:* It is arguable whether this final stage of apportionment is necessary. For most practical purposes the gross contribution level is of primary importance. However, an estimate of the net profit per customer is desirable. Two such costs which should be included under this heading are media-based product advertising and marketing research. It is very difficult to allocate these costs as no one element of each can be directly applied to any given customer or group of customers.

Research Objectives

Using a Cypriot textile agency, which sells fabric to a range of clothing/garment manufacturers, the overall objective of the research was to explore, and hopefully suggest solutions to, the problems encountered in the application of customer portfolio theory.

More specifically, the objectives were to:

- calculate the net contribution each customer is currently making to the agency's profits;
- develop a customer portfolio using the two variables of the strategic importance of, and the difficulty in, managing each account;
- suggest implications for marketing strategies and future resource allocation for certain key customers.

Methodology

Internal secondary data over a period of two months were used to provide:

Summary of variables used	
Account potential [a]	Based on the current number of operatives and trends in sales turnover of previous years (equally weighted)
Future capacity [a]	Based on percentage capacity expansion plans in volume terms and planned investment expansion in buildings and machinery by value (equally weighted)
Links with export markets [a]	Based on percentage of exports of total turnover for the previous year and percentage of total exports for the previous year accounted for by "Cut, make and trim" [b] (weighting 0.8:0.2)
Account prestige	Based on internal marketing intelligence information – reputation and age (equally weighted)
Degree of competitor entrenchment	Based on the percentage of fabric supplies bought from the main supplier in the previous year and the number of suppliers used in the past three years (equally weighted)
Payment problems	Based on internal marketing intelligence information – bad debts and delayed payments over the past two years (equally weighted)
Claims put forward	Based on internal marketing intelligence information – numbers and severity of claims over the past two years (equally weighted)
Buying behaviour	Based on internal marketing intelligence information – cancellations and modifications to orders over the past two years (equally weighted)

[a] Information obtained from customers

[b] CMT is where garments are made from material supplied direct from a foreign country

Table I.
Summary of Costs Analyzed

- gross sales revenue by customer;
- costs in supplying and servicing each customer.

Table I summarizes the costs analyzed. Data on some of these variables were obtained from company records, data on others from interviews with customers themselves. The authors were not aware of any previous work of this precise nature. Some practical difficulties, however, are acknowledged, e.g:

- the data were taken over a relatively short time-period and may, therefore, not have been totally representative;
- some of the data were sensitive, e.g. competitor rating;
- some of the data were subjective, e.g. account prestige, severity of claims and patterns of buying behaviour;
- rating scales were used where appropriate and combined/weighted to give an overall rating for each variable. The combination of ratings and weights was subjective but based on experience. Clearly, however, results would differ with changed combinations and weights.

The sample of customers interviewed was 49 (out of a total customer population of 169), stratified proportionately by the type of garment produced and drawn randomly from each stratum. The research instrument was a questionnaire administered personally to a senior member of each customer company. No major difficulties were experienced either in contacting the interviewees or in conducting the interviews.

Analysis

The analysis of data was undertaken in two stages. The first involved the construction of a customer portfolio based on the strategic

Variables used for constructing the portfolio	Weighting
Strategic importance of the account	
Account potential	0.40
Future capacity expansion	0.25
Links with export markets	0.25
Account prestige	0.10
Total	1.00
Difficulty in managing the account	
Degree of competitor entrenchment	0.40
Payment problems	0.20
Claims put forward	0.20
Buying behavior	0.20
Total	1.00

Table II.
Weighting Applied to Variables

importance of each account and the difficulty in managing each account. The eight variables outlined in Table I were employed, using weights subjectively applied, as shown in Table II.

The second step was concerned with an analysis of two specific customers. First, the net revenue from each customer was compared with the maximum revenue possible if the customer had purchased all fabric supplies from the agency. Second, the percentage competitor entrenchment was checked against the perceived strength of the relationship with each customer.

The above analyses should allow managers to set realistic and attainable objectives for customers, highlight appropriate strategies for each and enable the preparation of a financial plan for the cost-effective use of resources.

The Construction of the Portfolio

The construction of the portfolio is shown in Tables III and IV, with the strategic importance of the account shown in Table III and the difficulty in managing the account shown in Table IV.

Taking the eight factors shown in Tables III and IV into account and applying the appropriate weightings give the co-ordinates for plotting each customer in the portfolio. Figure 1 shows their dispersion in terms of Fiocca's four quadrants.

The matrix in Figure 1 shows 12 key/easy customers in cell B who are making a major contribution to the organization's profits. These customers have contributed a far higher return than any other group in the matrix. The main reason is the gross revenue, as these customers are normally able to place larger orders. The average order size of this group of customers was about £400 for the two-month period (see Table V).

Clearly there is scope for maintaining relationships with these customers and even making them stronger, as they can be described as the "cash cows" of the business. Perhaps a more important finding, however, is with regard to those customers in quadrant D.

		Value of rating				
		Low				High
	Weighting	0 to 1.5	1.6 to 2.5	2.6 to 3.5	3.6 to 4.5	4.6 to 5.0
Account potential	0.40	28	7	7	5	2
Future capacity expansion	0.25	13	7	13	11	5
Links with export markets	0.25	16	13	4	5	11
Accounts prestige	0.10	31	12	3	0	3
Total	1.00					

Note: The determinants of each of the variables can be seen in Table I

Table III.
Strategic Importance of the Account: Number of Customers Rating Each Variable

		Value of rating				
	Weighting	High 1.0	2.0	3.0	4.0	Low 5.0
Degree of competitor entrenchment	0.40	23	6	2	2	16
Payment problems	0.20	4	5	5	5	30
Claims put forward	0.20	2	3	3	7	34
Buying behaviour	0.20	8	7	6	6	22
Total	1.00					

Note: The determinants of each of the variables can be seen in Table I

Table IV.
Difficulty in Managing the Account: Number of Customers Rating Each Variable

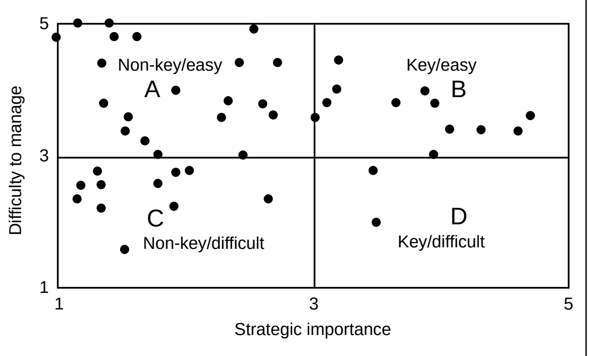

Figure 1.
Customer Portfolio

	Customer group	Average order size £
A	(Non-key/easy)	242
B	(Key/easy)	400
C	(Non-key/difficult)	100
D	(Key/difficult)	436

Table V.
Average Order Size of Customer Groups

These customers can also place large orders. What may be needed is more effort to obtain these orders, as it is evident that many of them are being lost to competitors. Finally, by looking at the portfolio it may be worth considering terminating some of the relationships with the non-key/difficult customers in quadrant C. Even though there were some customers in this quadrant who have actually made a profit, this was offset when the profit figures of all the customers in this group were added together and the net result was actually a loss of £400. The relationships with some of those customers might be terminated in order to liberate resources which could be more profitably allocated to other relationships which have better prospects.

Customer Profitability/Perceived Strength of the Relationship

Before analyzing the two specific customers in depth and making suggestions as to the objectives to be set and the strategies to be applied to each of them, it would be appropriate to detail the method by which customer profitability and the perceived strength of the relationship were calculated.

Customer Profitability

Revenue calculation was simple, being the gross value of sales over two months less the commission paid. Costs were divided into three categories:

(1) direct costs;

(2) pseudo-direct costs;

(3) indirect costs.

Direct costs were those which could be directly attributed to individual customers, e.g. the time spent by a salesperson visiting a customer. Pseudo-direct costs were those which could not be directly attributed to individual customers. However, they could still be attributed to groups of similar customers on a direct basis. Finally, indirect costs were those where no basis existed for attributing them to individual customers or a group of customers. Consequently, they had to be spread equally among all the customers of the organization.

Nine cost entries were identified:

(1) *Managing director's salary*: About 70 percent of the total managing director's salary was a direct cost, as it was possible to attribute it to individual customers. This 70 percent consisted of the time actually spent by the managing director visiting customers and/or talking to them on the telephone. The basis of the calculation of the cost of each visit and each telephone call was their duration. Customer visits and phone calls occupied about 40 percent and 22 percent of the MD's total time respectively.

The remaining 30 percent was an indirect cost, as it was not possible to attribute it to any customer or groups of customers.

(2) *Salesforce salaries*: The salaries of the salesforce were calculated in much the same way as the salary of the managing director. Two salespersons were asked to keep their own diaries and record the duration of visits to various customers and the duration of telephone conversations. In case a visit was actually related to two or more customers, then the cost would be equally shared among the customers concerned.

It was estimated that, for salesperson 1, 47 percent of total time and, for salesperson 2, 49 percent of total time were actually spent visiting customers. The cost of each visit was thus again attributed to each customer according to its duration. Telephone conversations occupied 12 percent and 9 percent of the total time of salespersons 1 and 2 respectively. Therefore customer visits and telephones together occupied 59 percent and 58 percent respectively of the total time of salespersons 1 and 2. The remaining 41 percent and 42 percent of their time is a pseudo-direct cost, because it is possible to attribute it to a group of customers on a direct basis. As each salesperson is responsible for a number of accounts, then clearly the 41 percent of unattributed time of salesperson 1 could be equally shared among the accounts for which he is responsible; likewise with the 42 percent of salesperson 2.

(3) *Salesforce commission*: Salesforce commission is clearly a direct cost. Each salesperson was simply credited with the commission to which he/she was entitled after getting an order from an account which he/she manages.

(4) *Claims and bad debts*: These two expenses are direct costs and their allocation to individual customers was relatively simple. One difficulty arose, however, with respect to bad debts. Bad debts are usually written off at the end of the year when the final accounts for the financial year are prepared. However, for the requirements of this research a decision had to be taken for some bad debts to be written off during the two-month period.

(5) *Telephones and faxes*: The telephone and fax are two very significant costs of the organization. They represent about 5 percent and 12 percent respectively of the organization's total costs. As they are so significant, the quality of the results would be greatly enhanced if a way could be found to ascribe some of these costs to individual customers.

The information necessary for breaking down this cost to individual customers was acquired from the same diaries which the MD and the two salespersons kept. Therefore, by recording both the duration of every outgoing telephone conversation and the name of the customer(s), it was possible to allocate a substantial part of the telephone bill to individual customers. About 50 percent was allocated in this way. The remaining 50 percent, however, representing telephone calls made by the nonsalesforce staff, remained unattributed and consequently was an indirect cost.

As far as faxes were concerned, the number of the receiver/customer was shown together with the duration of the fax transmission, and costs, therefore, could be directly attributed.

(6) *Postage and courier expenses*: This cost represents only 2 percent of the organization's total costs. It was possible to attribute 80 percent of this cost to individual customers. The balance was an indirect cost as no receipts were available.

(7) *Restaurants and entertainment*: This cost accounts for only a very small proportion of the total. It is a pseudo-direct cost, as it is perfectly possible to attribute it to groups of customers on a direct basis.

(8) *Car expenses*: Expenses such as insurance, servicing and repairs, petrol and washing all come under this heading. In order to be able to attribute the car expenses to various customers it was necessary to know two pieces of information, namely the expenses each salesperson's car had cost the agency in the two-month period, and a count of the visits each salesperson had made to individual customers in the two-month period.

The car expenses of the MD were more complicated as he uses his car for purposes other than visiting customers. An arbitrary proportion of 25 percent was therefore subtracted from the car expenses of the MD to cover this. This percentage remained unattributed and was therefore an indirect cost. The balance, however, was again attributed on the basis of the number of visits to various individual customers.

(9) *Indirect costs*: Nonsalesforce salaries, rent and rates, electricity, stationery, bank charges and marketing research are all indirect costs, and it is very difficult to find a basis for allocating them to individual customers. Consequently, the only way in which they could be allocated was by spreading them equally over all the customers of the agency.

The completion of revenue and cost breakdowns then allowed for the calculation of the profit or loss figures for each of the customers of the agency. This is shown in Figure 2, where the shape of the curve is very similar to an 80/20 curve, which means that about 20 percent of the customers have generated 80 percent of the profits. What can also be depicted from the chart is the dip of the curve below zero at the right. This shows that there were also some loss-making customers during the two-month period.

However, costs do not rise proportionately with revenue. The underlying reason for this is possibly the absence of manufacturing costs and other direct expenses. Consequently, the difference in costs between a small order and a large order is very small, as both orders, irrespective of their size, involve almost the same amount of administrative work. This, therefore, leads to a logical conclusion that the accounts which can place large orders are disproportionately more profitable than those that can place smaller orders.

Perceived Strength of the Relationship

Ten determinants were used (seven obtained from research with the customers and three from internal company sources). There is no evidence to suggest that any one of the seven customer-based variables is more important than the others, but it was considered that, collectively, they should carry a weighting of

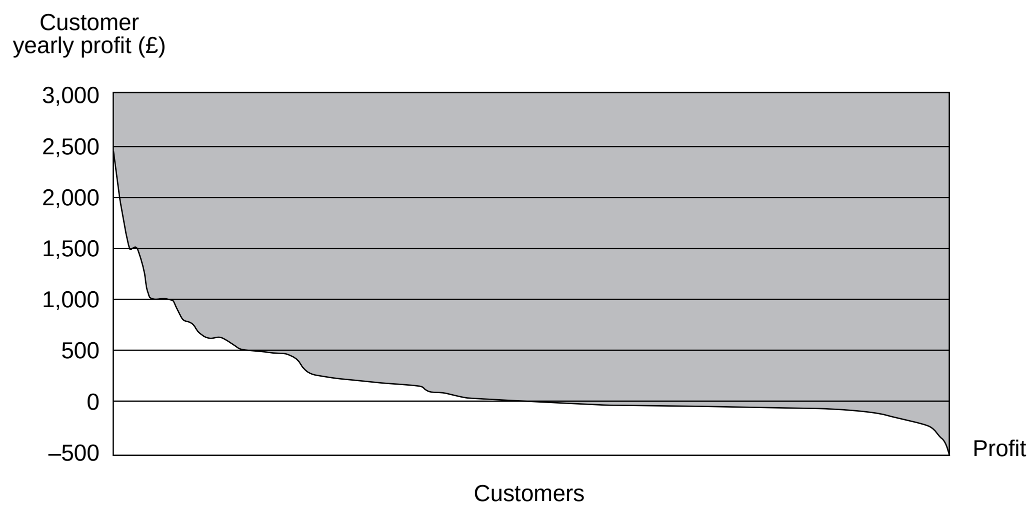

Figure 2.
Customer Profitability

50 percent with the other 50 percent coming from the three internal sources.

The seven externally-based variables were:

(1) technical ability;

(2) experience;

(3) pricing requirements;

(4) speed of response;

(5) frequency of contact;

(6) degree of cooperation;

(7) trust.

Those internally-based were:

- length of the relationship;
- friendship;
- management distance (frequency of contact).

All variables were rated using a five-point scale.

Theoretically, a customer who perceives his relationship with the agency as strong would be easier to manage than one who perceives it to be weak, the latter requiring more effort, time and attention.

In summary, the strength of the relationships with customers was as shown in Table VI.

Two customers were selected (from quadrant B – Figure 1) for further detailed analysis. They are both of relatively high strategic importance and both have potential for profit improvement because they are able to place large orders. Both are relatively easy to manage, i.e. near to the middle line. The variables, net revenue and strength of the relationship were as shown in Table VII.
It was further calculated that the actual net revenue figures accounted for 12 percent and

Number of customers	Final rating	
8	2.0 or less	Low
5	2.1 to 2.5	
9	2.6 to 3.0	
9	3.1 to 3.5	
5	3.6 to 4.0	
10	4.1 to 4.5	
3	4.6 to 5.0	High

Table VI.
Strength of Customer Relationship

	Net revenue £	Strength of the relationship
Customer A	683	3.5
Customer B	2,083	2.7

Table VII.
Two Selected Customers

40 percent of their potential. In other words, if the agency managed to supply 95-100 percent of the total requirements of these customers, the net revenues would have been £5,500 and £4,500 respectively for the two-month period.

Discussion

Assessing the current percentage share of the customer's business held by the agency against the strength of relationship can highlight the magnitude of the effort (resources) which will be required for increasing the share in each relationship. For example, in the case of customer B, the share of the available business is quite high despite the fact that the relationship is relatively not strong. This suggests that any effort intended to make the relationship stronger is likely to pay off. This relationship has, therefore, very good prospects of becoming very profitable in the future. It is fairly new but has a lot of scope for building and developing it into a long-term relationship.

On the other hand, in the case of customer A, even though the relationship appears to be stronger than that of B, the share of the available business is much lower. This relationship is much older than that with customer B. This, however, is not translated into a higher share figure, mainly owing to the fact that this customer has another stronger relationship with a competitor of the agency. Clearly it would be much more difficult in terms of resources to move this relationship on the matrix into a higher position. Therefore the prospects of this relationship are not so good as for customer B and consequently the objectives which would be set for the following years for customer A should be much more modest than those for customer B (see Figure 3).

Clearly, different objectives would have to be set for each relationship and consequently different marketing strategies would have to

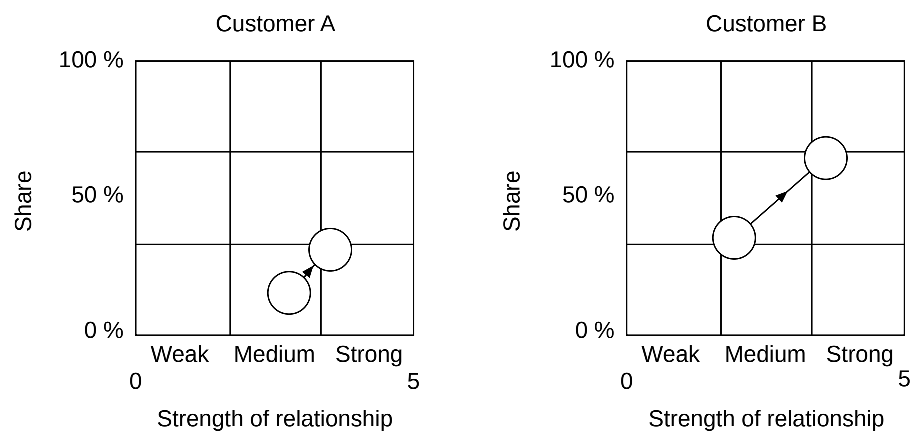

Figure 3.
Share versus Strength of Relationship

be formulated for each. In the case of customer B the objective which might be set for the next two years would be to increase the total net revenue from £2,083 to £4,000 by taking a 65 percent share of total purchases (this takes into account the future capacity expansion). The relationship should be strengthened by at least 1 point (from 2.7 to 3.7). In the case of customer A the target net revenue is for £1,500 from £683. The intention is to increase the percentage share of the customer's business from 12 to 30 percent. This customer has no plans for expansion in the next two years. The relationship should be strengthened by 0.4 points (from 3.5 to 3.9). When setting objectives, one must always be aware of the availability of resources. Here a decision has been taken to allocate a substantial part of the organization's available resources to these two relationships which are both of high strategic importance. Therefore the accomplishment of the above objectives can make the customer portfolio look "healthier".

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Fabric testing, information on fashion and color trends are important parts of the service

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The objectives set would require "build strategies" to be accomplished. In the case of customer B a strategy might begin with the deployment of the salesforce so that this customer is visited more frequently. The more frequent visits, within certain limits, can:

- help to develop the relationship at the organization and individual level even further; and
- increase the chances of obtaining important information about the customer, the decision-making unit and its buying behavior.

In the case of customer A, however, more emphasis would have to be put on those aspects of the service offering where the agency is already strong. For example, fabric analysis and testing, information on fashion and color trends are important parts of the service offering and these are among the organization's strengths. The provision of this type of information should be given to this customer even where it may not be strictly necessary. This can be a very effective strategy for overcoming the inertia of the possible institutionalized relationship which exists between this customer and a competitor of the agency.

Conclusions

The research has attempted to show how the technique of a customer portfolio can be developed by a company using various criteria for analysis. Clearly, the ratings given to each criterion are subjective, but the perceptions of customers may also be taken into account in generating sensible figures.

Customers can then be positioned with respect to the criteria used and, together with data, both on their current profitability and on the perceived strength of the relationship *vis-à-vis* that of a competitor, decisions can be taken on the strategic reallocation of resources to enhance specific relationships in order to achieve future growth.

Finally, an effective and detailed information system, using the range of variables described above, would need to be established in order to monitor and evaluate such resource reallocation strategies.

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