Ranking key customers: a comparison of three methods

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This paper contributes to a growing literature on customer value and provides empirical investigation of the models it proposes. Data is drawn from the accounts of an SME operating in a service business market. Taking the ten 'top customer accounts' our aim is to compare the relative attraction of these ten accounts according to three different methods of evaluation.

Firstly, and most simply we rank them by sales value. Secondly, we calculate direct and indirect costs to provide a profitability ranking. Finally, using the Capital Asset Pricing Model (CAPM) we calculate a risk (volatility) factor in order to be able to discount expected cash flows by the risk involved in each relationship. The methods and problems, advantages and disadvantages of each system are discussed.

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Introduction

The work of the IMP group, amongst others, demonstrates the need to be able to value customer relationships. Relationships form a portfolio of company assets (Turnbull 1989) and therefore consume resources in terms of management effort and expenses whilst also being the source of value. As assets, relationships are at the centre of strategic planning so that decisions about the allocation of resources are made in the light of those relationships the company wants to initiate or foster and, sometimes, those relationships that should be terminated. Underlying each of these decisions is the need to be able to calculate the worth of a relationship and compare that across relationships. In the absence of calculations of value, strategic decisions are under-informed. Yet, published empirical work aimed at exploring relationship value currently lags behind theorising relating to customer value. This paper provides one step to redress that situation by comparing three methods of assessing relationship value in one context. The paper is based upon financial information generously provided by an incoming tour operator based in London. Drawing upon figures relating to the ten major customer accounts of this one company we compare three relationship evaluation methods based upon sales volume, profitability and combined risk/return respectively. Explaining and applying each method we discuss the strategic implications of each set of results and conclude with some summary remarks comparing the three methods.

The study in outline

In order to explore relationship value we chose to work with a company we will call London Travel. The company is an incoming tour operator, selling UK ground services such as hotel accommodation, coach services and meals to tour operators based throughout Europe. As is characteristic of companies operating in organisational markets, London Travel has relatively few customers (274) and these vary greatly in terms of turnover. In line with Pareto theorising, a majority of the companies sales come from few customers. London Travel's customers operate in diverse markets always defined geographically, often defined by types of travel (eg incentive travel or tourist coach groups) and also often defined by budget category - the customers do not represent alternative routes to one consumer market. The incoming tour operations industry is also characterised by low fixed cost and asset bases since all services are purchased for resale - the incoming tour operator is a middle man who bundles services for resale.

We chose to work with London Travel for several reasons. Firstly, we see it as an interesting example of a company operating in an industrial market and we were interested in the diversity of its customer relationships. Secondly, it is a context in which the value of customer relationships is particularly apposite since it operates in a highly competitive market in which all sellers have access to very similar services for resale and there are few financial barriers to entry. For this reason the company must effectively build relationships in order to survive or thrive. Thirdly, and by no means

least, the company was willing to work with us and provide full access to financial data - we remain very grateful to them for this generosity.

In order to approach the topic and develop the models within the context of customer relationships we wanted to select a sample of relationships to work with. Arbitrarily we saw ten relationships as providing a parsimonious sample for which we could make full initial calculations, and yet this would provide a broad enough spread to offer some insight into this issue. We considered several methods of selecting ten relationships. Ultimately we decided to work with the ten largest relationships by turnover. These relationships nevertheless offer a vast range in terms of turnover (as will be seen in the next section) and include customers from each of London Travel's key geographic segments. In this way they incorporate some important bases of comparison. However, we recognise that the calculations, once our models have been fully developed, would ideally be applied across all the company relationships since some very low turnover customers could be found to have a disproportionate high value.

We provide three methods of assessing value. The first and most simple looks at turnover. The second deducts direct and indirect costs to assess profitability or return. The third and most complex method incorporates risk by offsetting return according to the riskiness of each relationship. Table 1 indicates how the rankings of the 'top ten' relationships may vary quite considerably according to the method of evaluation that is applied. This therefore draws attention to the necessity to devote fuller attention to issues of evaluation methods. We go on to discuss each method, its advantages and disadvantages, and the implications for resource allocation that each method suggests.

Customer	Origin	Sales Rank	Net Profit Rank	Risk/Return Rank
Amsterdam Travel	Holland	1	10	9
Ljubljana Travel	Slovenia	2	1	1
Venice Travel	Italy	3	2	4
Salzburg Travel	Austria	4	3	10
Dijon Travel	France	5	5	8
Milan Travel	Italy	6	4	7
Zagreb Travel	Croatia	7	6	5
Florence Travel	Italy	8	7	2
Vicenza Travel	Italy	9	8	3
Bonn Travel	Germany	10	9	6

Table 1: Ten customers – origins and rankings

Turnover Values

Various authors highlight the importance of the sales volume of a customer when assessing the value of each customer relationship (Pel, 1992; Spencer, 1999; Blois, 1999; Cunningham & Homse, 1982; Fiocca, 1982, Campbell & Cunningham, 1983; Krapfel et. al., 1991; Turnbull & Zolkiewski, 1997). Therefore, our first model takes a single factor, the volume of sales, as a proxy for customer relationship value.

Customer	Sales (GBP annual)	Grouping	Amsterdam	3,865,454	I	Ljubljana
Ljubljana	495,400	II				
Venice	439,670	II				
Salzburg	155,438	III				
Dijon	153,722	III				
Milan	134,899	III				
Zagreb	121,295	III				
Florence	78,585	IV				
Vicenza	77,848	IV				
Bonn	66,948	IV				

Table 2: Sales value of the top ten customers

The figures provided in Table 2 refer to annual turnover generated by the top ten accounts. The figures are averaged across the two accounting years with which we worked. It can be seen from Table 2 that the sample selected varies quite considerably in turnover. We envisage four groupings of customers. Amsterdam is by far the largest customer – being approximately seven times larger than its closest rival. Ljubljana and Venice Travel form the second grouping. Four companies have a turnover between £120-160,000. The three smaller operators have turnover of around £70,000. Each grouping (except the lone leader) contains some geographic mix of customers. If turnover is taken as the core element of value, then Table 2 demonstrates how resources should be directed according to the groupings that we have identified, with Amsterdam Travel being particularly critical. By comparison, those in group four merit far less, especially in terms of management time and effort, to maintain the relationships.

The great appeal of estimating value by turnover is its simplicity. Sales volume figures for each customer are readily available from management accounting information or the firm's general ledger - indeed, managers are likely to 'know' value in these terms without needing to refer to the figures. Turnover provides the most accessible, and the only indisputable, calculation of value. It is likely also that this figure resonates most clearly for management; it provides a shorthand indication of the importance of a customer.

There are some merits to consideration of turnover. Size does matter - it provides market power to London Travel to negotiate with its suppliers. Turnover is also of critical importance to lenders such as banks. However, sole reliance upon turnover figures can be very misleading and misdirect company resources since it takes no consideration of the costs of doing business with the different customers (Ness et. al., 2001a; Shapiro et. al., 1987). Hence, it can be said that turnover only provides a 'rough' indication when assessing the value of a customer relationship. As a rough indication, however, it may encourage the company to maintain, and continue resourcing, unprofitable relationships; there is a danger that some customers are seen as too valuable to lose regardless of the costs associated with keeping their custom. This danger is addressed by looking at profitability.

Profitability Value

Spencer (1999), Shapiro et. al. (1987), and Turnbull and Zolkiewski (1997) argue that customer profitability is another factor determining value. This section presents a model using profitability as an indicator of the value of a customer relationship. Value is taken as the volume of sales from the customer less the cost of establishing, servicing and maintaining the relationship with the customer.

Many authors have identified various cost dimensions that are associated with establishing and maintaining a customer relationship (e.g. Blois 1999; Ness et. al., 2001b; Shapiro et. al., 1987). We use the cost dimensions proposed by Shapiro et. al. (1987) as a measure of the total cost to establish and maintain a customer relationship.

Hence, the total cost to serve comprising of production costs, pre-sale costs, distribution costs and postsale costs is used.

In this case the production costs are easily established. They are the cost of sales, therefore the direct costs, associated with the customer, and are readily available per customer in the purchase ledger. These costs represent the largest proportion of costs in this business since, as discussed, the company operates in essence as a middle-man with a relatively low indirect cost base.

The cost of sales and the gross profitability for the ten customers is presented in Table 3.

Customer	Sales (GBP)	Cost of sales (direct costs)	Gross profit (GBP)	Gross profit ranking	Gross margin (%)	Gross margin ranking
Amsterdam	3,865,454	3,622,144	243,310	1	6.3	10
Ljubljana	495,400	430,169	65,231	2	13.2	6
Venice	439,670	394,506	45,164	3	10.3	9
Salzburg	155,438	135,582	19,855	5	12.8	7
Dijon	153,722	137,512	16,210	7	10.5	8
Milan	134,899	114,118	20,781	4	15.4	1
Zagreb	121,295	104,726	16,569	6	13.7	3
Florence	78,585	68,168	10,417	8	13.3	5
Vicenza	77,848	67,433	10,415	9	13.4	4
Bonn	66,948	57,585	9,362	10	14.0	2

Table 3: Gross profitability

Distribution costs can be ignored since, in this case, consumers travel to the services.

The key elements of pre- and post-sale costs were identified in consultation with the management of London Travel and comprise three elements each of which is discussed in turn:
1/ finance costs incurred by the credit periods offered to, or taken by, customers
2/ costs of management time to organise services
3/ marketing costs

Finance costs are calculated as the opportunity cost of investment at standard bank interest rates through the period of credit. The company indicated that 30 days credit is taken by most operators whilst this is halved in the case of the largest customer – Amsterdam Travel.

Management time and marketing costs are indirect costs and therefore notoriously difficult to apportion to specific customers (Turnbull and Zolkiewski 1997). In such circumstances, Dubinsky and Ingram (1984) suggest Activity Based Costing (ABC) whereby costs are allocated to cost objects (in this case customers) using 'cause and effect' allocations (Drury 2000). Hence key cost drivers should be established.

With respect to management time, detailed information regarding the actual time spent on each customer relationship was not available. Hence apportionment of the cost of management time to individual customers had to be 'guestimated' using the

company's financial and management accounting information. The two main cost driving variables were identified as i/ the number of transactions made by each customer and ii/ the type of each transaction. By 'type' we refer to 'individual' and group bookings. The staff of London Travel estimated that a group booking takes 3 times as much time and effort to complete compared to an individual booking. This ratio was therefore applied to allocate the total costs of management time to the total trade of the company so that the specific costs of each customer could then be extracted. This was calculated in six time periods of four months each (ie six periods spanning two years). In this way, given that management costs fluctuate with staffing levels through the year, we divided the costs of each period according to the volume and type of transactions made in each period. (For industries that are less seasonal this sub-division may not be necessary, we return in the next section to consider this seasonality.)

The cost of marketing activities include activities such as promotions, entertainment expenses and trade body subscription fees. Unfortunately, the company did not have any detailed records on the cost of entertainment expenses incurred by each customer. Thus, information regarding the cost drivers of the marketing activities was unavailable. It was felt that the cost of promotional activities and subscription fees were not significantly affected by the sales volume of customers or the number of transactions made by each customer. Hence, total marketing costs were allocated evenly over all the customer relationships that the firm has established (London Travel had a total of 274 customer relationships).

Table Four, building on the previous table, incorporates indirect costs to present calculated net profits and profitability. Table five provides an overview of gross and net profitability.

Customer	Sales (GBP)	Cost of sales (direct costs)	Indirect costs	Total cost to serve	Net Profit	Net profit ranking	Net margin %	Net margin ranking
Amsterdam	3,865,454	3,622,144	239,391	3,861,536	3,919	10	0.1	10
Ljubljana	495,400	430,169	8,217	438,386	57,014	1	11.5	6
Venice	439,670	394,506	11,591	406,096	33,574	2	7.6	9
Salzburg	155,438	135,582	903	136,486	18,952	3	12.2	3
Dijon	153,722	137,512	917	138,429	15,293	5	9.9	8
Milan	134,899	114,118	3,674	117,793	17,106	4	12.7	1
Zagreb	121,295	104,726	4,205	108,931	12,365	6	10.2	7
Florence	78,585	68,168	687	68,855	9,730	7	12.4	2
Vicenza	77,848	67,433	1,409	68,842	9,006	8	11.6	5
Bonn	66,948	57,585	1,562	59,147	7,801	9	11.7	4

Table Four : Net profit calculations

Customer	Gross profit (GBP)	Ranking	Gross margin	Ranking	Net profit	Ranking	Net margin	Ranking
Amsterdam	243,310	1	6.3	10	3,919	10	0.1	10
Ljubljana	65,231	2	13.2	6	57,014	1	11.5	6
Venice	45,164	3	10.3	9	33,574	2	7.6	9
Salzburg	19,855	5	12.8	7	18,952	3	12.2	3
Dijon	16,210	7	10.5	8	15,293	5	9.9	8

Milan	20,781	4	15.4	1	17,106	4	12.7	1
Zagreb	16,569	6	13.7	3	12,365	6	10.2	7
Florence	10,417	8	13.3	5	9,730	7	12.4	2
Vicenza	10,415	9	13.4	4	9,006	8	11.6	5
Bonn	9,362	10	14	2	7,801	9	11.7	4

Table Five – Summary information - profitability

The most striking aspect of the profitability calculations is that the lead company in turnover terms has a low gross margin (6.3%) and is also relatively expensive to manage so that the net profitability is very low, making this the least lucrative account in terms of profit. Nevertheless, its gross profit (or contribution) remains the largest in absolute terms. Ljubljana becomes the star in net profit - establishing quite some distance between itself and Venice Travel, a close rival in turnover terms. Despite some differences in the percentage gross or net profitability, the remaining customers are roughly appropriately aligned to turnover in terms of net absolute profit.

The total net return for London Travel (what we will later refer to as their market return) is 13.98%. One possible approach to investment and pricing decisions would be to seek to drive up the profit margin, possibly at the cost of loss of business, on all accounts operated below this level. However, it is noted that none of the largest ten customers exceed the average return and indeed several of these, predominantly the very large, fall well below (Amsterdam, Venice and Dijon Travel). Therefore it is clear that London Travel's largest accounts have an overall depressing effect upon the net profitability of the organisation. However, as we argued in the previous paragraph, to reduce resourcing to these large customers may well not be seen as an attractive option and we would see some justification in gaining lower profit from those who provide the bulk of the organisation's business.

The calculation of profitability has demonstrated that an assessment of value based solely upon turnover can be misleading. Not only does profitability throw some doubt upon the status of the lead customer but it also provides some means of selecting amongst customers that ostensibly appeared rather similar. At the least, then, this method offers better, if tentative, suggestions for the allocation of resources in the development of particular relationships. Nevertheless, even if these calculations are accepted, the importance of turnover should not be entirely overlooked, since, as we have already pointed out, turnover may bring market power; a point to which we return in our conclusions.

Clearly many assumptions have been made and guestimates have been incorporated in our calculations. We see this as a pitfall with respect to profitability calculation. Specifically, we have used a rough calculation for apportioning management time albeit that our calculation was informed by management. The 1:3 individual/group booking ratio is unlikely to hold good in all circumstances and for all customers. With some more lengthy research conducted within the company (using, for example, a time sampling system) this lack of precision could be reduced but probably not eliminated. More accurate financing costs could also be derived from the sales ledger and transfer payments. Perhaps, in reality, a key achievement of the calculations that we have made is to demonstrate dramatically the effects that such calculations may have upon key customers (Amsterdam Travel) and to thereby stimulate interest within

the company the accurate calculation of profit. The dramatic potential is then, perhaps, a key advantage to calculations, however flawed, of profitability.

Risk/Return calculations

This model is the most sophisticated among the three proposed in this paper and its rationale is described in more detail by Hopkinson and Lum (2002). Above all, this model proposes that the return from a relationship (profitability) should be offset by the riskiness, or the variability of return, to calculate the absolute value of a relationship. The model draws upon, and adapts, the Capital Asset Pricing Model (CAPM) that is widely used in financial markets to calculate stock value (for fuller explanations see e.g. Mullins 1982, Brearley and Myers 2000).

Using risk in asset valuation

Stocks are valued by discounting all future returns by a rate that reflects not only the time value of money (a net present value or NPV approach) but also the riskiness, or variability of return for the particular investment. Hence, if the expected return on two investments is identical then one with a lower risk (for example in food retailing) will be valued more highly than one with greater risk (for example in the airline industry). In equity markets, the riskiness is represented by the stock's beta value 'ß'. Formally, ß measures the expected change in the rate of return on an equity that is associated with a one per cent change in the market return, hence the calculation relates the fluctuation of an individual security to that of the market. A stock that moves precisely with the market has a beta value of 1. Standard statistical measures of standard deviation (σ) and variance (σ^2) capture the features of interest as shown in equation 1.

Equation One : $\qquad \beta_i = \dfrac{\sigma_{im}}{\sigma_m{}^2}$

where β_i = beta of asset 1
$\qquad \sigma_{im}$ = covariance of asset i with the market
$\qquad \sigma_m{}^2$ = the variance of the market

The beta value of the asset is then derived through a historic comparison of the total market return and the return on the particular asset. Equation 1 can be used to calculate the beta value of any asset using the return on the individual asset and a market return over a period of time – in the next section we discuss this is application to the firm's customer relationships.

The beta value is incorporated in asset valuation by adjusting the rate at which anticipated streams of earnings are discounted (through the NPV approach) to reflect the riskiness of the particular investment as follows.

Equation Two: $\qquad V_i = \dfrac{R_i\,(1+g)}{Rf + (RM\text{-}Rf)\,\beta_i}$

Where: V_i = value of investment i
R_i = return on investment i (annual)
g = expected growth (annual)
Rf = risk free rate of return (eg on government bond)
RM = market return

β_i = beta value of investment i

Applying CAPM to customer valuation

The appeal of the CAPM model in customer markets is that it allows us to take into account the variability of profitability across different customer relationships (Ryals 2001). Therefore, a relationship that is relatively constant or less volatile will be more highly valued that one of equal expected return but greater risk. We now look briefly at how we defined 'the market', and at how we treated historic data in order to calculate relative riskiness.

In applying this model to customer relationships we chose to define 'the market' as the total trade of London Travel. Therefore, measures of riskiness (customer β) refer to the association between the volatility of the customer relationship and the volatility of London Travel's total trade. This definition of the market has both practical and managerial benefits. Practically, all the data required for calculation are already possessed by the company. Managerially, this measure realistically reflects the investment opportunities assumed to be available to the company. Alternative measures of the market (for example, as the total economic activity of the country or as the total travel market within Britain) would assume London Travel could readily migrate its resources to an alternative sector or attract an alternative style of business. Instead, we treat any decision regarding the desirability of this sector as a separate decision and focus instead upon how London Travel may allocate resources given its current sphere of activity – this is in line with shareholder value concerns in investment decisions.

Therefore, we calculated the covariance of each relationship with 'the market', that is, the total trade of London Travel. We calculated this across six time periods comprising two years (that is, six periods of four months). These time periods reflect the standard trading patterns of European tourism (spring short break travel, summer vacations and autumn/winter travel). Therefore, the time periods we select, and consequent beta values, reflect widespread trade patterns in the industry. The advantage of using time periods relevant to the industry is that this produces the most pertinent indication of risk. To illustrate this, the travel trade expects stronger 'in-season' periods and expects some turbulence across years (because of currency and security issues etc). Therefore, our calculations will identify customers whose trading patterns are more or less marked than the total market, bearing in mind that this is nevertheless an industry with complex within and across year volatility.

The incorporation of this measure of risk values more highly those customers that 'even out' the peaks and troughs in a volatile industry. It more heavily discounts the value of those customers who produce trade when London Travel is in any case busy and produce little in slack periods. The resulting calculations of value are managerially pertinent as we discuss later on.

Calculating Relationship Value

In order to apply CAPM to this context we adapted equation two as follows.

Equation Three: Value of a customer = $\dfrac{V - (\text{cost to serve}) * (1+ g)}{Rf + (Rm - Rf)\,\beta}$
                   relationship

where   V= volume of purchases (annual)
        Cost to serve = presale + production + distribution + postsale costs (annual)
        g= anticipated rate of growth (% annual)
        Rf= the risk free rate of return
        Rm = the mean return of the market.
        ß = the beta value of the customer.

Customer	V-cts	Growth (%)	Earning stream	Beta	Discount rate	Value (GBP)	Rank
Amsterdam	3,919	11	4,350	0.25	0.084	51,509	8
Ljubljana	57,014	-5	54,163	0.04	0.07	785,517	1
Venice	33,574	-21	26,524	0.23	0.08	319,666	4
Salzburg	18,952	-18	15,541	8.11	0.66	23,387	9
Dijon	15,293	-8	14,070	-4.23	-0.25	-57,155	10
Milan	17,106	-21	13,514	0.62	0.11	120,924	7
Zagreb	12,365	-5	11,746	0.28	0.09	135,535	5
Florence	9,730	-21	7,687	-0.67	0.02	464,359	2
Vicenza	9,006	-21	7,115	-0.68	0.02	449,861	3
Bonn	7,801	-11	6,943	-0.13	0.06	123,090	6

Table Six: Estimates of value incorporating risk

The values given in Table 6 are derived through the model used to value company stocks and refer therefore to the absolute value of each relationship - were it possible to trade that relationship. This is an important caveat to which we return, although it would be interesting and theoretically possible to take these as goodwill values were London Travel itself to be divided or sold. The rankings of the relationships differ quite considerably from previous rankings. Ljubljana Travel rises to the fore (this has ranked high in profitability) and is followed by two relationships that previously looked less significant (Florence and Vicenza Travel).

Growth accounts for some of the change (trade from Holland is unique in anticipation of growth). Growth forecasts could, of course, be added to profitability calculations without drawing upon risk. However, growth does not adequately account for value, as indicated by differences amongst Italian operators. Contrary to other Italian operators, Milan Travel are seen to be less valuable by these calculations.

Riskiness is therefore critical in explaining these profiles of value. Since the total market has a beta value of one, values greater than one indicate exaggerated but similar movement to the market. Thus Salzburg Travel (beta = 8.11) performs very well in busy periods and weakly in more difficult trading conditions. Other relationships with a positive beta (Amsterdam, Ljubljana, Venice, Milan, Zagreb) share a general market movement but in a muted fashion. These latter relationships are therefore more highly valued than Salzburg. Several of the relationships have negative beta values which means that they are counter-cyclical producing most highly in slack periods. Such beta values can be found in quoted stock, for example insolvency specialists and food discounters may perform well in recession, however, negatively beta valued companies are rare. The negatively beta valued customers in our sample are generally well ranked with the exception of Dijon Travel where the

very high negative value (-4.23) leads to low valuation. We are suspicious of this valuation. Logically, such counter-cyclical customers should extremely highly valued if the company wants to limit its exposure to dominant market trends (an assumption on which this approach rests), so that Dijon travel would have a rather high value given its turnover. However, this is denied by the financial model on which we draw where a high beta value will be incorporated in the discount rate. Some exploration of this contradiction throws light upon the nature of industrial markets and so we will briefly explore this since it informs our reflection upon this valuation method.

High negative beta values can not be found in stock markets. Counter cyclical stocks would be highly valued since they 'insulate' investor's exposure. Hence the costs of such stocks rise, meaning that the return they offer drops - the beta value thus returns closer to zero (but remains negative). This adjustment will happen in efficient financial markets (according to the efficient markets hypothesis). The hypothesis rests upon several assumptions; i/ investors access all relevant information ii/ they are rational and iii/ they can move investments with zero (or low) transaction costs. These assumptions are denied in industrial markets in several ways. Firstly, players do not have equal access to perfect information - London Travel's competitors will have limited knowledge about their trade with Dijon Travel, and Dijon Travel may not be aware of the prices they could achieve elsewhere. Secondly, there are transaction costs for Dijon Travel to change suppliers such as search costs and relationship building costs. Thirdly, rationality (in the strict economic sense) may be questioned where relationships have developed. If these latter conditions did not apply then we can imagine that London Travel and its competitors would 'bid' with lower prices to gain this counter-cyclical trade. Thus it is the imperfection of industrial markets that sustains the very high negative beta value that illogically leads to what we suspect to be the undervaluing of this customer.

In general we feel that the risk adjusted valuation of customer relationships offers several advantages. It places a premium upon trade that reduces cyclicality in this notoriously cyclical industry. This would also be the case in less fickle industries. To value more highly customers who perform well when markets are weak offers benefits in terms of operations, financing and market structure. Operationally, the company can plan better and retain trained staff and so on where trade differences are evened out. Financially, cash flow is maintained in low periods giving a better profile for lenders and creditors. If the pattern of cycles is not unique to London Travel, but broadly shared in the industry, then, low period trade enhances the seller's reputation and power with their own suppliers giving London Travel structural advantages in the industry. This would likely result in some payoff for peak period trade. For these reasons we see the risk adjustment as adding an important dimension to relationship valuation since it takes account of issues of great importance in the management of the company. By factoring risk in the valuation we have shown how the profile of preferred customers differs from other valuation methods therefore this is an important addition to simpler assessment systems.

The disadvantages of this method include a probable lack of precision in calculation such as we have already highlighted with reference to profitability calculations. Also, the calculations are rather more lengthy, especially initially. Once a spreadsheet has been established this reduces.

Discussion and Conclusions

Taking three approaches to assess the value of the top ten customers in one company, we have demonstrated that each method may produce different rankings. Two of the methods we advocate have been frequently used (turnover and profitability), the third is more unusual (risk/return). Since each method captures issues of importance to management then we would not want to abandon any of these methods of appraising relationships. However, turnover and profit are of such obvious and immediate importance to management that we believe that they may be overemphasised when managers question their own activities. Within this we consider that gross rather than net profitability may be emphasised. We would recommend that fuller calculations of value across methods be made. Ultimately, it may be acceptable that, for example, a low profit but high turnover customer is retained (such as Amsterdam Travel) but we recommend that managers should be fully informed of all advantages and disadvantages in order to assess their relationship investments. At the least, alternative calculations such as we have made here may produce dramatic results and increase management interest and thought in this area.

The methods that we have followed overlook any intangible aspects of value (for example, development of competencies, reference customers, Wilson and Jantrania 1996, Pels 1992, Cunningham and Homse 1982). However, we believe that in many markets the risk return calculation may start to capture some contribution to network position (Campbell and Cunningham 1983, Pels 1992, Spencer 1999, Fiocca 1982) because it favours custom that is likely to be favoured by one's suppliers and therefore links to market power.

The risk return calculation has exposed some theoretic difficulties, because, we have argued, industrial markets are not the efficient markets of economic theory. For this reason, and whilst considering resolution to this issue we would be reluctant to develop other equity models that may nevertheless have some promise to relationship valuation (eg single index model and stock selection technique that indicates ideal apportionment of resources between alternatives).

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