

ENHANCING THE BUSINESS VALUE CHAIN VIA CUSTOMER PROFITABILITY ANALYSIS FRAMEWORK

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ABSTRACT

The increasing competition in the business environment requires that organizations concentrate on adding value in the sequence of activities in their value chain. In this way, customer satisfaction becomes the central objective of the organization. Accordingly, organizations must concentrate on those key success factors that directly affect them, complemented by continuous improvement, employee empowerment and total value chain analysis. Undoubtedly, cost efficiency gives competitive advantage. Therefore, organizations must continuously analyse the profitability of their customers so as to deploy resources to maintaining only profitable ones. The question however is: how does a firm know its profitable customers to serve, bearing in mind that it has to be cost efficient? To address this, a framework for customer profitability analysis was articulated. Data were collected from a sample firm and then used to illuminate the analytical framework. It is hoped that this will help management of organizations in making decisions that enhances their profitability.

Key words: Value chain, Customer profitability, Customer revenue, Profitability profile, Customer cost.

INTRODUCTION

Marketing efforts of organizations are aimed at attracting and retaining profitable customers. This means that the marketing functions is designed to meet customers' needs and wants effectively and economically. Marketing as a managerial activity is very strategic as it is the activity that generates revenue for the organization. Because revenue is the lifeblood of any organization, only those who make revenue planning and analysis center stage in how they allocate their energies can prosper (Horngreen, Foster and Datar, 1999) The import of this is that the customer determines the fortunes of the organization.

Kotler (2001) avers that customers form an expectation of value and act on it: these certainly affects satisfaction and repurchase probability. To this end, it is important that organizations do customer satisfaction measurement. Such an exercise is a tool for technical and strategic planning, staff motivation and for determining what sort of operational strengths a company needs. It will also be a strategic planning tool for linking the outside world into the products and services of the organization. Consumer education has equipped customers with vast knowledge to make informed choices. This has made today's customers harder to please. They are smarter, more price conscious, more demanding, less forgiving and approached by more competitors with equal or better offers. This has made the challenge to shift from merely producing satisfied customers to producing loyal customers (Gitomer, 1988 in Kotler, 2001). To produce satisfied customers, organizations must concentrate on those key success factors that directly affect them, such as cost efficiency, quality, time and innovation (Drury, 2004). As noted by Michael (2001), if variations in customer's satisfaction do not connect with variations in profitability, attempts to manipulate satisfaction will have no impact on profitability. Several methodological issues can obscure the relationship, leading companies to erroneously assume that customer satisfaction measurement is not essential to their growth (Jones and Sasser, 1995). All things being equal, customers will buy product with the lowest price. This means that being cost-efficient can provide an organization with a strong competitive advantage. This idea underscores the need for efficient cost system. Distorted product cost leading to overcosting will lead to higher bid prices and eventual loss of customers to competitors who quote lower prices because of accurate information from their costing system. Similarly, under-costed product will lead to acceptance of unprofitable business.

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Clearly therefore, customer satisfaction imposes cost on organization. Since organizations are economic entities with the objective of profit or wealth maximization, they must have to make decision relating to profitability of customers. Kotler in Wikipedia (2009) sees a profitable customer as a person, household or a company that overtime yields a revenue stream that exceeds by an acceptable amount, the company's cost stream of attracting, selling and serving the customer. Sad to say that not many firms do this analysis, even in the developed economies, like UK, not more than approximately 50% does it (Innes and Mitchell, 1995). The question therefore is: how can a firm determine its profitable customers so that it can decide on whether or not to drop unprofitable ones and add new ones? What are the factors affecting such decisions? Which framework can we use in the pursuit of such exercise? Addressing these issues is the thrust of this paper. The paper is organized as follows: section 1 has been the introduction, section 2 is the theoretical and conceptual framework and empirical evidence, section 3 is data presentation and computation of customer profitability and section 4 is the conclusion.

Theoretical and Conceptual Framework

Since we are practically concerned with making decisions, the theoretical framework draws from the Decision Theory.

Decision Theory

Perhaps, it is useful to state what decision is. A decision is a commitment to action or a commitment of resources, direction or reputation (Koontz and O'Donnell, 1978). It is important to management as it affects the long-run success as well as day to day effectiveness of business operations. Decision theory is a complex body of knowledge that tries to prescribe how decisions should be made and to describe systematically which variables affect choice (Malomo, 1999). Essentially, decision making is concerned with what cost and revenues will be and it stands on the assumption that managers will take decisions which maximizes profit. It involves some steps or stages and Drury (2004) identifies the following seven steps: (i) identify objectives, (ii) search for alternative courses of action (iii) gather data about alternatives, (iv) select alternative courses of action, (v) implement the decision, (vi) compare actual and planned outcomes and (vii) respond to divergences from plan. The first five steps are technically a planning process and the last two a control process.

There are various ways of categorizing decisions. One of such classifications by Malomo (1999) is: (i) Routine planning decisions, typically budgeting, (ii) short-run problem decisions, typically unforeseen one-off special decisions of a non-recurring nature, (iii) investment or disinvestment decisions, typically of whether an item of equipment be purchased or a department shut-down, (iv) longer-range decisions, often made once and reviewed infrequently but which are intended to provide a continuing solution to a recurring problem and (v) control decisions, to investigate unsatisfactory performances.

Decision-making involves cost and such costs are often referred to as relevant costs. A relevant cost is one which arises as direct consequences of a decision. Thus, they are costs which will differ under some or all of the available opportunities being considered; hence they are also called incremental or differential costs (Erhirhie, 2004). Management is often confronted with both quantitative and qualitative factors in decision making (Adeniyi, 2004). Quantitative factors are capable of numerical measurement. They could be financial or non-financial. In general, a quantitative decision problem, according to Adeniyi (2004) has four parts, namely: (i) an objective that can be quantified, (ii) constraints or limiting factors (iii) a range of alternative courses of action and (iv) methods of measuring the effects or outcome of the alternative actions and of comparing those outcomes with the objective function. Qualitative factors on the other hand are outcomes that cannot be measured in numerical terms. For example, decision about new products or product closures, the quality of output or after sales services which will undoubtedly affect customer loyalty and customer demand. Also decision involving one product could have aftermath effect on customers' attitudes toward a range of company's products.

Empirical Results on Customer Profitability Analysis

Customer profitability analysis requires the analysis of profits by customers using an activity based costing (ABC) approach. This provides important information that can be used to determine which classes of customers to emphasize or not and the price to charge for customer services (Zaman, 2008). ABC in this context seeks to explain the resources consumed by different customers and in general focuses on activities as the fundamental cost objects (Cooper and Kaplan, 1991). An activity is an event, task or unit of work with a specified purpose. ABC uses the cost of these activities as the basis for assigning costs to other cost objects such as products, services or customers (Horngreen, Foster and Datar, 1999). A plethora of studies acknowledged customers

profitability analysis as an important decision making approach. Such include those of Guenther (1996), Christopher et al (1991), Johnson (1992), Taylor (1999) and Hansen and Mowen (1997).

To gain insight into the study, the paper presents some empirical findings on the subject. A study by Kaplan and Cooper (1998) in Drury (2004) using ABC on Kanthal, a Swedish company that sells electric heating elements, identified two cost drivers as it relates to the resources used to service different types of customers. (i) Number of orders placed – which did not vary with the quantity of items purchased but with the number of orders generated (ii) Non-standard production items which were more costly to produce than standard items. A customer profitability analysis was prepared based on the sales for the previous year. This analysis revealed that only 40% of its customers were profitable and a further 10% incurred losses equal to 120% of the company's total profits. Two of the most unprofitable customers turned out to be among the top three in total sales volume. These two companies made many small orders of non standard items.

Drury and Tayles (2000) surveyed 187 UK firms and found that 74% analysed profits either by customers or customer categories. Innes and Mitchell (1995) also in a study of UK firms report that 50% of their respondents had used customer profitability analysis and a further 12% planned to do so in the future. Of those respondents that ranked customer profitability, 60% indicated that the pareto 80/20 rule broadly applied; that is, 20% of the customers were generating 80% of the profits. Wikipedia (2009) confirmed this result. Foster and Young (1997), in a survey of 300 American and Australian general managers and accounting/finance managers, found customer profitability/satisfaction to be the single most important current management priority. Other empirical studies here are those of Kaplan and Narayanan (2001), Pfeifer, Haskins and Conroy (2005) and Helgesen (1999).

Possible Uses by Management of the Information Content of Customer Profitability Analysis

Customer profitability analysis identifies the characteristics of high cost and low cost to serve customers and shows how customer profitability can be increased. The information therefrom can be used in the following areas as identified by Drury (2004). First, to persuade high cost to serve customers to modify their buying behaviour.; they could be entreated to place small number of larger quantity orders, by giving them trade discount for instance, avoid special deliveries and reduce the credit period. If unprofitable customers cannot be persuaded to change their buying behaviour, selling prices should be increased (or discount reduced) to cover the extra resources consumed (Maelein and Kaplan, 2009).

Second, it is used to rank customers by order of profitability on Pareto analysis. Pareto analysis states that a very small proportion of items usually account for the majority of the value. Special attention can then be given to the most profitable customer to enhance the relationship and ensure that they do not switch to other competitors. Additionally, greater emphasis can be given to attracting new customers that have the same attributes as the most profitable customer (Haskett; Sasser and Schlesinger; 1997).

It is worth noting that organizations such as banks, often with very large customer base cannot apply customer profitability analysis at the individual customer level. They should concentrate on customer segment profitability analysis by combining groups of customers into meaningful segments (Storbacka, 1997). In this way, profitable segments can be highlighted where customer retention is particularly important and provides an input for determining the appropriate marketing strategies for attracting the new customers that have the most profit potentials. Segment grouping that are used by banks include income classes, age, socio-economic status and family units (Arthur, 2006; Guenther, 1996).

Management Use of Customer Profitability Analysis: Dropping A Customer And Adding A Customer

These are typical decisions made by organizations. The approaches to these decisions lie on analysis of relevant revenues and relevant costs. Relevant revenues are those expected future revenues that differ among alternative courses of action. Relevant costs are those expected future cost that differs among alternative courses of action (Maher and Deakin, 1994). The relevant cost in dropping a customer according to Horngreen, Foster and Datar (1999) and Singh (1999) include: (i) Dropping a customer will save cost of goods sold, materials handling labour, marketing support, purchase order and delivery – processing costs. (ii) Dropping a customer implies that warehouse space currently occupied by products meant for that customer and the material handling equipment used to move them will become idle. Thus idle capacity is created. (iii) Dropping a customer will have no effect on fixed general administration cost.

In terms of revenue, the relevant revenue in dropping a customer is a drop in sales revenue. In adding a new customer, the relevant costs are (i) Cost of acquiring additional material handling equipment to support the new order. (ii) Fixed general administration cost (including warehouse rent) will not be affected. (iii) Cost of sales, marketing support, purchase order and delivery processing, material handling, labour costs.

The relevant revenues in adding a new customer is the sales revenue.

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Techniques of Customer Profitability Analysis

The first and fundamental step towards the analysis is the analysis of customer revenues and costs (Shapiro et al 1987)

Analysis of Customer Revenues

Customer revenues are inflows of assets received in exchange for products or services provided to customers. The analysis involves revenue tracing where revenues can be identified with an individual customer in an economically feasible way and revenue allocation where revenues relating to, but not traceable to individual customers are assigned to those individual customers. This will certainly be the case with bundled customer (also applicable to bundled product) where a group of customers are served jointly and a total single revenue received (Reichheld, 1993)

In general, two revenue allocation methods are normally discussed in the literature namely: Stand Alone Method and Incremental Method (Horngreen, Foster and Datar, 1999). The stand-alone method uses customer specific information pertaining to customers in the bundle to determine the “weights” used to allocate the bundled revenue to those individual customers. The weights could be unit selling price, unit cost or unit based. The incremental method on the other hand, ranks the individual customers in a bundle and then uses this ranking to allocate the bundled revenues to these individual customers. The first ranked customer is called the “primary customer” and the second, the incremental customer. Unlike the stand-alone method, the incremental method is likely to bring discord among managers as each would claim to be responsible for the primary customer.

Analysis of Customer Costs

According to Wikipedia (2009), ABC has been found to be very useful in this regard. Customer costing can be done using two approaches. One approach is to allocate all costs to individual customers in which case the sum of customer profits will be the same as the total profitability of the company. The other approach is to allocate only some costs to individual customer. This is facilitated by using customer cost-hierarchy which categorizes costs related to customers into different cost pools on the basis of either different classes of cost drivers or different degree of difficulty in determining the cause-and-effect (or benefits received) relationships. (Marher and Deakin, 1994).

Method of Data Presentation and Computation of Customer Profitability

To practically illustrate the concept of customer profitability analysis, there is need to gather and analyse data. To this end, the survey research method is adopted as this is quite appropriate to the topic under consideration. Amarose Pure Water Factory is randomly selected as a case study. It produces and supply sachet water to customers in Abraka and other surrounding towns and villages. Data were gathered from the operations unit of the firm. From the bulk records, and after due classification, summarizing and arrangement, the study came out with the information below. Five customers have been randomly selected for the analysis and the period covered 12 months. The real names of the customers is not revealed but have simply be assigned letters A-E. Activity-based-costing framework has been applied for data analysis. The usual style of presentation of results in Accounting which is tabular presentation is employed.

TABLE 1: Information Generated From Field Work.

Customers	A	B	C	D	E
No of orders	40	49	43	52	45
Km per delivery	2	4	3.5	7	3.65
No. of sales visit (marketing support)	6	4	5	9	3
No. of special/urgent deliveries	1	3	0	0	2
No of deliveries	50	52	46	58	48
Qty sold (No of bags)	2,000	2,080	1,560	1,600	1,800
Selling price (per bag)	N80	N80	N80	N80	N80
Discount offer (per bag)	N3	N5	N2	N4	-
Average collection period (in days)	14	12	15	10	20

Company's Cost Information

Activity Area	Cost Driver Rate
Sales order processing	N150 per order
Sales visits	N180 per visit
Normal delivery	N70 per delivery Km traveled
Special delivery	N600 per special delivery
Credit collection cost	8% per annum of average payment time
Cost of sales	N55 per bag
product handling labour	N0.2 per bag sold

Table 2: Computation of Customer profitability

Customers	A	B	C	D	E
	N	N	N	N	N
Revenue (gross)	160,000	166,400	124,800	128,000	144,000
Less discount	6,000	10,400	3,120	6,400	-
Net Revenue	154,000	156,000	121,680	121,600	144,000
Less cost of sales	<u>110,000</u>	<u>114,400</u>	<u>85,800</u>	<u>88,000</u>	<u>99,000</u>
Gross margin	44,000	41,600	35,880	32,600	45,000
Operating costs:					
Order processing	6,000	7,350	6,450	7,800	6,750
Sales visits (marketing support)	1,080	720	900	1,620	540
Delivery cost	7,000	14,560	11,270	28,420	12,264
Special deliveries	600	1,800	-	-	1,200
Product handling labour	400	416	312	320	360
Credit collection cost	473	410	400	267	631
	<u>15,553</u>	<u>25,265</u>	<u>19,332</u>	<u>38,427</u>	<u>21,745</u>
Operating income	<u>28,447</u>	<u>16,344</u>	<u>16,548</u>	<u>(4,827)</u>	<u>23,255</u>

Note:

Delivery cost = cost/delivery km x no of km x no of deliveries

Credit collection cost = (Annual (Net) sales revenue x 8%) x $\left(\frac{\text{Average Collection Period}}{365}\right)$

Interpretation of Results

From the above computation, customers A B C and E are profitable while D is not profitable. Differences across customers' revenues and costs account for profitability differences. If we compare C and D, D purchased more quantity than C, got higher discount and so one would expect such discount offer to induce D and make him more profitable. However, D incurs more cost; has higher purchase orders, kilometers per delivery, sales visit and number of deliveries. So in the final analysis, he is unprofitable. This piece of information will enable management to take decision on D. First, to encourage him to consolidate his orders so as to cut cost, failing which, he should be dropped.

Customer Profitability Profiles

We can gain more insight into customer profitability analysis by doing customer profitability profile. This will highlight vividly the differences across customers in their profitability. There are two approach to this, namely: Operating Income Approach and Revenue (before any price discount) Approach. We illustrate the two using the previous data:

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Table 3: Customer Profitability Profile- Operating Income Approach.

Customer (in ranked order)	Customer operating income (N)	Cumulative operating income (N)	Percentage of cumulative operating income to total operating income (%)
A	28,447	28,447	35.67
E	23,255	51,702	64.82
C	16,548	68,250	85.56
B	16,344	84,594	106.05
D	<u>(4827)</u>	79,767	100
	<u>79,767</u>		

Table 4: Customer Profitability Profile – Revenue Approach

Customer (in ranked order)	Customer Revenue (N)	Cumulative Revenue (N)	Percentage of Cumulative Revenue to total Revenue (%)
B	166,400	166,400	23.03
A	160,000	326,400	45.18
E	144,000	470,400	65.12
D	128,000	598,400	82.83
C	<u>124,000</u>	722,400	100
	<u>722,400</u>		

The last column of table 3 shows the percentage contribution of each customer to total operating income. The first three customers (A, E, C) contribute 85.56% implying that the last two customers (B and D) contribute the balance 14.14%. This requires that the company should maintain good relationship with the pivotal set of customers. A look at tables 3 and 4 together show that customers A and E contribute into the 65% profitability of the company. While customer C is least in terms of contribution to total revenue, it is third in operating income. This means that customer C is efficient in terms of operating cost.

Dropping A Customer

We can go further to analyze the impact of deciding to drop customer D on the overall profitability of the company. Recall that only relevant revenues and costs are needed for this analysis.

Table 5: Relevant Analysis for Dropping Customer D.

	Total of Revenues and Total Cost		Difference: (Loss in Revenue) and saving in cost N
	Keep customer D N	Drop Customer D N	
Net revenue	<u>697,280</u>	<u>575,680</u>	<u>(121,600)</u>
Cost of sales	497,200	409,200	88,000
Order processing	34,350	26,550	7,800
Sales visit/marketing support	4,860	3,240	1,620
Delivery cost	73,514	45,094	28,420
Special deliveries	3,600	3,600	0
Product handling labour	1,808	1,488	320
Credit collection cost	<u>2,181</u>	<u>1,914</u>	<u>267</u>
Total Cost	<u>617,513</u>	<u>491,086</u>	<u>126,427</u>
Operating Income	79,767	84,594	4,827

From table 5, the company will have N126, 427 savings in cost and a loss of N121, 600 in revenue. Since the savings in cost exceeds the loss in revenue, it is advisable to drop customer D. This will increase operating income by N4, 827. But recall that the final decision must put into consideration other qualitative factors in

addition to this quantitative evidence. Similarly, for management decision to add a customer, the same format of analysis is used. A customer should be added if the incremental revenue exceeds the incremental cost.

DISCUSSION OF RESULTS

The results of data analysis reveal in general the information content of customer profitability analysis. The usefulness of such information as “relevant information” for decision making cannot be overemphasized. Specifically, the results obtained agree with the Pareto 80/20 rule found by Innes and Mitchell (1995) and also with Kaplan and Cooper (1998). Consequently, by focusing on the small proportion that accounts for the majority of value, it leads to efficient resource allocation by firms. The analytical procedure adopted in this study is an improvement on the traditional technique of pricing decisions and profitability analysis based on products. Analyzing profits based on customers, makes organizations customer centered rather than product centered. Adopting customer centered decision-making approach reinforces Homans’ Social Exchange Theory which has been found to be vital key for business survival in a competitive environment.

RECOMMENDATIONS

To stay relevant in today’s competitive world, companies must make customer satisfaction an overriding priority. Consumer education has improved and today’s customers are demanding ever improving levels of service in cost, quality, reliability, delivery and the choice of innovative new products. As found by Foster and Young (1997), customer profitability analysis is fast gaining recognition. Therefore, the study recommends that Nigerian businesses should imbibe this idea as quickly as possible since they are part of the larger business world. Again, the system of ABC which is the basic approach should be adopted. The aim of ABC which emerged in the late 1980s is to use only cause-and-effect cost allocations. In this regard, the Nigerian Accounting Standard Board should formally recognize ABC as a system of cost assignment and incorporate it into the appropriate accounting standard.

CONCLUSION

The paper has examined the framework management uses in finding out its profitable customers. The ever increasing competition in the business environment requires that firms do only value-adding activities as they become customer driven and make customer satisfaction an over-riding priority. Implicitly, firms must be cost efficient, given that customers will buy products with the lowest price, all things being equal. Since cost efficiency gives competitive advantage, organizations must continuously analyse the profitability of their customers so as to concentrate resources in maintaining only profitable ones.

It is important to note the following points in using the information from profitability analysis. First like other profit measures, customer profitability is historical. It is a financial summary of what happened in a previous period. Though the past is indicative of the future, managers should give high priority to maintaining long-term relationship with customers. This is because an unprofitable customer in one period could subsequently become profitable in future periods. Therefore, organizations should do customers life time value, that is a forward looking measure of the value to be derived by serving a customer. Secondly, management should know that cost information does not distinguish between different levels of variability or the time period over which that variability occurs. As a result, not all costs assigned to a customer are purely variable with respect to short run reductions in purchase by customers. To this end, a policy of dropping any currently unprofitable customer may not eliminate all costs assigned to that customer in the short run.

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