



The Relationship Between Revenue Management and Profitability - A Proposed Model

Abeer Mohamed

School of Accounting and Law, University of Gloucestershire, UK

Faculty of commerce, Ain Shams University, Egypt

Email: ashafic@psu.edu.sa

Abstract

As revenue represents one of the most important drivers that affect profitability, this research focuses on creating a new revenue model. The aim in producing a model is to assist in the successful management of profitability. The development of such model is located within the strategic management accounting field. To create such model customer is determined as the most important driver in managing revenue. In addition, customer value management is used as a basic approach in developing the revenue model. In order to identify the measurement level of the revenue model, the integration between customer satisfaction indicators, customer loyalty indicators, and customer profitability analysis, is proposed. The main finding, which has not been discussed in previous work, is that the proposed model for managing revenue, which included customer satisfaction; customer loyalty; and customer profitability analysis are associated with profitability and each variable is significant in predicting profitability. This means that the best model is that containing all three variables as its variables are most strongly associated with the profitability.

Keywords: Customer value management, customer satisfaction, customer loyalty, customer profitability analysis.

Introduction

The creation of revenue model requires the following: firstly, identifying the main revenue driver. Secondly, determining the most appropriate approach that used in managing such driver. Finally, proposing the appropriate strategic management accounting techniques that may be integrated in a coherent model to manage the selected driver. Customer focus strategy plays an important role in improving overall profitability. Thus, it used as the driver in managing revenue. Customer value management is a new approach that focuses on building comprehensive view for managing customer value from the perspectives of both customers and company. It used as a basic approach in developing the revenue model. Moreover, focusing on customer satisfaction and loyalty and evaluating them are very important to both manage the value that customer obtains from the company and to improve its profitability. Customer profitability analysis is also a key technique that can be used in managing customer value and to improve profitability.

Therefore, the revenue model focuses on customer satisfaction, customer loyalty, and customer profitability to manage revenue. Model was tested in the Egyptian communication and information technology sector. A self-administrated questionnaire delivered and collected by hand was used to examine the hypothesized relationships. The paper is structured as follows: the next section presents the model creation. Research methods and setting are presented in section two. This is followed by the findings of this study. The next section presents the discussion the results. Finally, conclusion of the whole work is drawn.

Section One: The Model Creation

Determining the revenue driver for the purpose of profitability management

Many studies have focused on the relationship between the customer-focus strategy and company profitability. The following analyses such studies. The main variables that affect the profitability of the company were examined by (Thomas, 1998). One of the findings of this study is that the only variable related to long-term profitability is building customer relationships, rather than the volume of sales or the market share. This is further affirmed by Ahmed (2003), who states that 95% of the profitability of companies is generated by customers with long-term relationships with the companies.

According to Magdy (2002) marketing based on the notion of customer focus has become one of the basics of businesses'. It has major advantages, such as increasing profitability; improving customer satisfaction and loyalty. Similarly, Brewton and Schiemann (2003) illustrate that customers have become the actual assets of companies, and that they can be considered as important as the products. They stated that it is necessary to change the focus of companies from process-oriented and product-oriented, to a customer-oriented strategy. This leads to improving the financial results of the company, since it helps increase revenues, determining the most profitable customers, and hence increasing the company's profits in general. This is further affirmed by Kim, Suh, and Hwang (2003) who show that shifting to customer focus is one of the most important strategies that is currently used for increasing revenues.

From the above it is shown that there is a direct and essential relationship between customer-focus and improving the company's profitability. Therefore, customer has been chosen as the main driver of revenue management for the purposes of profitability management.

Reasons for preparing a customer-management model

Given the importance of the customer as a main driver for profitability improvement, it is important to develop an accounting model that consists of strategic management accounting techniques for customer management. This is based on a number of reasons highlighted in the following discussion.

Three reasons for using a specific approach for customer relationship management are suggested by Brewton and Schiemann (2003). Firstly, the company loses about 20% of its customers in an average year. Secondly, the cost of acquiring a new customer is much higher than the cost of retaining a current customer. Thirdly, reducing the percentage of customer loss by 5% can increase profit at a rate ranging between 25% and 100%. The third reason was confirmed previously by a study conducted by Reichheld and Sasser (1990), which examined the relationship between profitability increase and reducing customer loss through the analysis of more than 100 companies in 24 service industries. One of the results of the study was that profitability can be raised by a percentage ranging between 25% and 85% by reducing the customer loss rate by 5%. Brewton and Schiemann (2003) state that many studies have indicated

that 50% or more of the variations between the average financial performances measured by return on sales are due to the differences in the mechanism of customer relationship management.

A key study in this context has been conducted by Tiberghien (2003), which has shown that businesses have an 80-20 rule which states that 80% of a company's profits are generated by dealings with 20% of that company's customers. This means that the remaining percentage, represented by the other 80%, generates losses to the company. This is further supported by the study conducted by Raaij (2005), which has shown that the great majority of customers do not achieve profits, and that only a small proportion of customers contribute to achieving profits. It can be concluded from the above that it is necessary to develop effective models for customer management for the purpose of revenue management, and, accordingly, profitability management from a strategic perspective.

Customer Value Management as a proposed Approach

Customer value was described by Armour and Mergy (2003) as similar to a two-way street, where value represents the value provided by the company to the customer and the value provided by the customer to the company. This is further affirmed Howes (2003) in his concept of customer value management, which defined customer value management from two dimensions: the first one is the financial and non-financial value that the customer gets from the company; the second one is the financial and non-financial value that the company gets from its customers within a limited period of time.

The impact of the customer value management approach on profitability

Studies indicate that the application of customer value management has a considerable effect on the company's profitability. Gale (2000) indicated that companies that use the customer value approach achieved return on sales greater than other companies. This is further confirmed by Howes (2003) who noted that the application of this approach is expected to increase companies' profitability at a rate of about 10% per annum. Moreover, Brewton and Schiemann (2003) suggested that the variations between financial performance are due to the difference in mechanisms for managing customer value. This means that customer value is a critical approach for generating profitability (Cokins, 2006). Therefore, the customer value approach is advocated in the revenue model as far as its emphasis on the two dimensions of value is concerned. However, it has drawbacks, represented by the lack of studies on the role of management accounting and the use of management accounting techniques in the management of the two value dimensions.

The measurement level of the revenue model

Customer focus is selected as the main revenue driver in the proposed revenue model. Customer value management is also adopted as the key approach for managing revenue within the revenue model. After determining the key driver and the key approach that have been used in developing revenue model, it is necessary to determine how revenue could be managed from customer value management approach perspective. This is done at the measurement level of the revenue model by determining the appropriate strategic management accounting techniques to manage each value dimension in the suggested approach.

The value that the customer obtains from the company

The value that the customer obtains from the company is translated into behavioural results represented mainly in customer satisfaction and loyalty. Therefore, the objective must be to increase customer satisfaction and boost loyalty in order to achieve the customer's value and improve profitability. Customer satisfaction and loyalty have been proposed as sub-drivers in managing revenue for purposes of profitability management.

This is further supported by many studies that have examined the relationship between satisfaction and loyalty on the one hand and profitability on the other hand. The following are examples of such studies.

The relationship between customer loyalty and profitability in the banking sector was examined by Gronsted (2000). The study has shown that increasing customer loyalty by 5% results in doubling profitability. This affirms that profitability increases with the increase of customer loyalty.

This is further supported by the study conducted by Kaplan and Norton (2001), which stated that if the company achieves value for its customers, this will necessarily result in their loyalty to the company, and will consequently achieve profitability. According to Reichheld and Sasser (1990); Heskett et al. (1994; Gransted (2000); Kaplan and Norton (2001); Reinartz and Kumar (2002); and Helgesen (2006) loyal customers are the most profitable to the company, since they do not attract any marketing costs. In addition, these authors stated that these customers are more ready to pay more money for their trust in the product or the service. They have reached an important conclusion, which is that dealing with loyal customers is the main driver for achieving good financial results; this informs the perspective taken in this research.

This relationship between customer loyalty and profitability has been further developed by the study conducted by Smith and Wright (2004). They examined the relationship between the product attributes represented in the brand image, the quality of the product, and the post-sale services on the one hand, and customer loyalty and financial results on the other hand. The study was applied to pioneering computer manufacturing companies. Smith and Wright concluded that there is a strong relationship between the product attributes and customer loyalty, as well as between customer loyalty and revenue growth and profitability. The increase of customer loyalty results in a rise of the product's average price. Both are associated with the growth of sales. In addition, sales growth and customer loyalty leads to positive results in the average return on investment.

A significant study in this area was conducted by Al-Hawwary (2001), which focused on the relationship between customer satisfaction and sales revenue. Al-Hawwary states that customer satisfaction has become a major concern for many companies, since around 70% of the sales of companies are generated by retaining their current customers. It also showed that the company's success in achieving profits is realized through satisfying the customer's needs and requirements. This is further confirmed Rucci, Kim, and Quinn (1998); and Anderson and Mittal (2000), who empirically investigated the impact of improvement in customer satisfaction on profitability. They concluded that improvement in customer satisfaction leads to increase profitability. It can be concluded that customer satisfaction is a key element that affects profitability (Fornell, Amburg, Morgeson, and Bryant, 2005).

Customer Satisfaction

Customer satisfaction measurement represents an attempt to define the customer's view of the products and services provided by the company and to show the problems faced by customers when they deal with the company. There is no doubt that what is not measurable is not

manageable. Therefore, the main aim is to set indicators and standards for measuring customer satisfaction and loyalty.

Both financial and non-financial indicators are used in the revenue model to measure customer satisfaction for the purpose of profitability management.

There are many financial indicators that can be used to judge customer satisfaction, the most significant of which are suggested by Hassan (2003) as follows:

Repair and replacement costs during the guarantee period;

Legal liability costs (fines, compensations, penalties, etc.);

Decrease of sale prices because of bad quality;

Opportunity cost for lost sales; and

Total investments spent on customer satisfaction.

There are many nonfinancial indicators for customer satisfaction measurement. The following are some examples:

- The average time taken to meet customers' orders. In this respect one can depend on the delivery performance measurements, which focus on the "delivery cycle time" (Hassan, 2003).
- The frequency of delayed deliveries. The company's management seeks to reduce this indicator to a zero rate, which reflects a rise in the quality of service provided to customers (Eissa, 2007).
- Rate of delivery time commitment (Hassan, 2003).
- The number of returned units in relation to the total number of sold units during a given period of time (Hassan, 2003).
- The percentage of faulty orders needing to be replaced, with a view to measuring and analysing such orders in relation to the total production orders during a given period of time. The lower this indicator is, the higher the quality, and hence the higher the degree of customer satisfaction (Eissa, 2007).
- The number of repair claims during the period of guarantee in relation to the number of units sold (Hassan, 2003).
- The number of daily inquiries by the customers (Kim et al., 2003).
- The percentage of service level (response to customer inquiries). This is measured by the number of inquiries responded to in relation to the total number of inquiries (Kim et al., 2003).
- The number of customer complaints in relation to the number of sold units and to the total number of customers during a given period of time (Hassan, 2003). Marketing management aims to reduce this number to a minimum to achieve meeting customer requirements as much as possible and hence achieving customer satisfaction.
- The percentage of customer complaints that have been resolved in relation to the total number of customer complaints. The higher this indicator is, the higher the level of service provided for customers, which is in turn, an indicator of customer satisfaction (Eissa, 2007).

Customer loyalty

This refers to the tendency of current customers to obtain products and services from the same company in the future. Customer loyalty represents the main key to customer retention (Kumar and Shah, 2004). Customer loyalty can be translated into measurements as shown below (Balagu, 2004):

- The change in customer numbers over three years;
- The growth rate of sales resulting from current customers;
- The percentage of sales by current customers;

- The percentage of customers who have stopped dealing with the company.
- Marketing investments in customer loyalty.
- The rate of investments in research and development for current customers.

Managing the Value that the Company Obtains from the Customer

It can be suggested that the value that the company obtains from customers is represented by the profits gained from dealing with such customers. In order to manage this value, there must be a technique for managing and improving the profits gained in this way. In this context, customer profitability analysis is suggested to manage the value obtained by the company from the customer.

The concept of customer profitability analysis

From the above definitions, it can be concluded that customer profitability analysis is a technique for recording and analysing all the revenues earned from customers, whether at the individual customer level or at the group level, and the costs incurred to earn such revenues, with a view to defining the contribution of each customer, or group of customers in achieving company's profit. This means that profits are calculated at the level of customers rather than products.

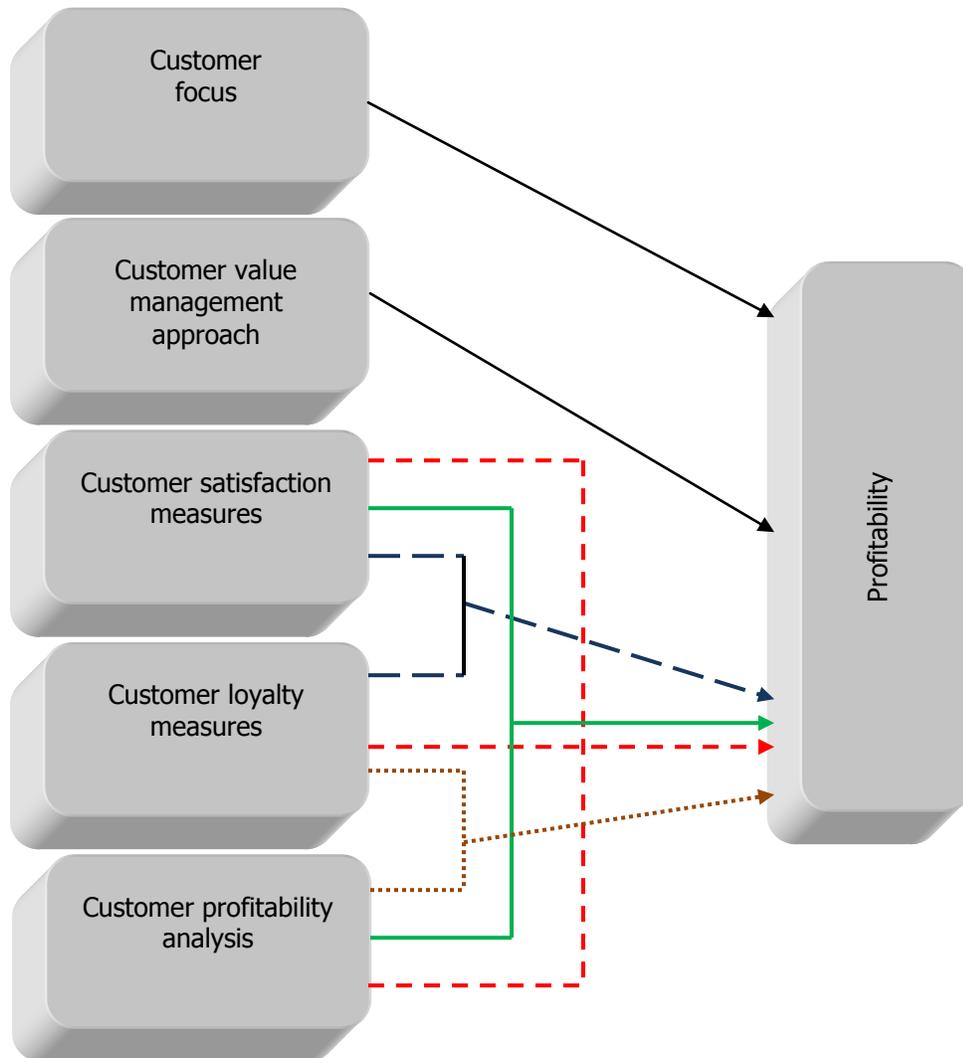
The impact of customer profitability analysis on profitability management

This technique provides information that is helpful in determining the reason why some customers may achieve profits for the company while others may not (Mohamed, 1998). Information about the profitability of each customer makes it possible for the company to make decisions about improving, cancelling, or adding a certain activity and about the management of those activities that cause customer profitability. It also helps the company to take the right action to turn unprofitable customers into profitable ones. In addition, it helps the company to determine the best strategy for dealing with customers who cause permanent losses to the company and turning non-profitable customers into profitable ones. This results in improving the company's overall profitability. This technique provides information that is helpful in making pricing decisions, and hence in improving revenue and profitability management (Raaij, 2005). The role of the information provided by customer profitability analysis in pricing decisions can be outlined in the following points: In the case of lack of information on customer profitability, discount is usually made on the basis of the volume of sales. It is then possible to give the group of customers with a large sales volume a higher discount than the group's customer profitability. On the other hand, the availability of information on customer profitability helps to make appropriate decisions concerning the discount policy granted to customers (Noone and Griffin, 1997, 1998; and Krakhmal, 2006).

The information provided by customer profitability helps in developing strategies for distinguished pricing, where customers are divided into profitable customers, break-even level customers and unprofitable customers. Such information can enable the company to set different levels for different categories of customers. In other words, this information allows the categorization of customers into groups between which differences in services, prices, and discounts can be determined. After the determination of profitability on customer level (see for example: Raaij, 2005; Salem, 2002; Horngren et al., 2005; Smith and Dikolli 1995; Morse, Davis, and Harlgraves, 2003), it is possible to identify which customers are profitable to the company, which customers cause losses, and which are unprofitable.

This enables the company to make decisions about the appropriate strategy for each group of customers, especially for the customers who reduce the company's profits, and unprofitable customers and turn them into profitable ones, with the ultimate aim of increasing the company's total profitability. This affirms the effectiveness of the customer profitability analysis technique in improving the total profitability of the company and managing it by providing information that helps set the appropriate strategy for each group. Figure1 describes the conceptual revenue model. In the first part of the model, the independent variable is the main driver, which is customer focus and the dependent variable is profitability. In the second part, the independent variable is the customer value management approach and the dependent variable is profitability. At the the measurement level of the model, the independent variables consist of customer satisfaction, customer loyalty, and customer profitability analysis and the dependent variable is described by profitability.

Figure1. The Proposed Revenue Model



The proposed revenue model considers how customer focus as the main revenue driver affects profitability. In addition, it reflects how the customer value management approach affects

profitability. Furthermore, such a model reflects how the integration between the three proposed variables affects profitability to determine which of the various combinations of the measurement level variables provides best explanation of profitability. In essence, it is assumed that the integration between the three variables better predicts the level of profitability than the use of any combination between any of two variables. Therefore, it is anticipated that the more the proposed revenue model containing the three variables is used, the more profitability is achieved. Thus, hypotheses for the revenue model can be formulated as follows:

- H1:** The focus on customer is positively associated with profitability.
- H2:** The customer value management approach is positively associated with profitability.
- H3:** Customer satisfaction and customer loyalty are positively related to profitability.
- H4:** Customer satisfaction and the customer profitability analysis are related to profitability.
- H5:** Customer loyalty and customer profitability analysis are related to profitability.
- H6:** Customer satisfaction, customer loyalty, and customer profitability analysis are more related to profitability than any of the relationships identified above.

Section Two: Research Methods

Sampling and identifying the population

The current study selects Egyptian ICT companies to apply the suggested model. They are characterized by vigorous competition, which requires focusing on customers to achieve competitive advantage. The suggested model in the current study focuses mainly on the customer as a driver for managing revenue.

Developing the questionnaire

The data collection method used in the current study is self-administrated questionnaire delivered and collected by hand

A theoretical model of strategic revenue was created by reviewing the literature. This model was then used to develop the questionnaire in order to test the proposed model. The objective of this questionnaire is to collect data about the perception of managers related to each variable in the model and their relationships, which can then be used in evaluating the impact of revenue model on profitability. To achieve this objective, Forty items were used to measure the eight revenue in table (1).

Table 1. Variables and Questionnaire Items of Revenue*

Independent variable	Revenue driver	One item
Dependent variable	Profitability from revenue driver	Two items
Independent variable	Customer value approach	Two items
Dependent variable	Profitability from revenue approach	Four items
Independent variable	Customer satisfaction	Fifteen items
Independent variable	Customer loyalty	Eight items
Independent variable	Customer profitability analysis	Five items
Dependent variable	Overall profitability	Three items

* The order of variable presentation in the table is a reflection of the order of item presentation in the questionnaire.

Care was taken to ensure that questions covered all theoretical constructs contained in the proposed model and that negatively worded items were avoided. In addition, a 5-point Likert-type scale (from (1) not important to (5) very important for some questions and from (1) completely disagree to (5) completely agree in others) was used in most questions.

As the respondents are Egyptian therefore, the questionnaire format and related questions were designed to fit the Egyptian standards and norms for format, which requires a tabular-formatted design and the use of a sub-numbering system to specify the items of each construct. This format reduces the perceived time consumed completion of the questionnaire, because it appears clear and easy to read.

As the current study conducted in Egypt, the questionnaire was then translated to Arabic to suit local users. To assure consistency between English and Arabic versions, the questionnaire was translated back into English using a "back translation" approach before being distributed to ensure linguistic and (and most importantly) conceptual equivalence.

Response rate strategies employed.

467 questionnaires were distributed by hand. After one week, companies which had not replied within the first week were phoned to remind them. After three weeks a reminder letter with another copy of the questionnaire was delivered by hand to companies which had not replied. 277 companies apologized for not completing the questionnaire. Of the completed questionnaires, 80 were completed and collected after the first delivery. 50 were collected after the first follow up process. A further 60 were collected after the second follow up process. A total of 190 completed questionnaires were received.

Section Three: Findings of Revenue Variables

The reliability of proposed revenue driver, revenue approaches respectively and profitability variables

A Spearman correlation test was adopted to confirm the reliability of revenue items because of the non-normality of the distribution of revenue items and the ordinal nature of revenue variables (Gibbons, 1993).

The reliability of a customer variable as a revenue driver. This variable is measured by two items. Therefore, the variable is assumed to be reasonably reliable. The result of a Spearman correlation test indicates that the relationship between the two items is significant at .001 level, with a high correlation coefficient of .73.

The reliability of the customer satisfaction variable as a revenue management approach. This variable is also measured by two items. The result of a Spearman correlation test indicates that there is a statistical significant relationship at .001 level, with a moderate correlation coefficient of .68.

The reliability of a customer loyalty variable as a revenue management approach. This variable is measured by two items. The result of a Spearman correlation test indicates that the relationship between the two items is significant at .001 level, with a moderate correlation coefficient of .64.

The reliability of the profitability variable generated from customer satisfaction and customer loyalty approaches. This variable is also measured by two items. The result of a Spearman correlation test indicates that, there is a statistical significant relationship at .001 level, with a moderate correlation coefficient of .40.

Factor analysis for the proposed techniques variables

Structural factor analysis was applied for variables of the proposed revenue technique. Common Factor Analysis was used. Choosing the appropriate method of Common Factor Analysis depends on the distribution of the data (Fabrigar et al., 1999). Due to the non-normality of revenue' items, Principal Axis Factoring was used as an extraction method.

The Kaiser- Meyer-Olkin (KMO) measure of sampling adequacy indicated that the twenty six sampling items are adequate for structural factor analysis, with KMO measure = .7. In addition, the significance level for Bartlett's test is 0.00 (less than .05). Such results indicate that the data for customer satisfaction, customer loyalty, and customer profitability analysis variables is appropriate for using factor analysis.

Fourteen items from twenty six included in the analysis have communality values ranging from .4 to .7 (from lower to moderate), which are common magnitudes in social science (Velicer and Fava, 1998). Nine items have communality values above .7 which represent high communality. On the other hand, three items have communality values less than .4, which means that they do not fit well with factor solution and should be dropped from the analysis (Velicer and Fava, 1998). In addition, most of items have a factor loading above .49. Furthermore, all items are loaded highly on only one factor and are not split loaded. Principal Axis Factoring with Varimax provided a four factor solution with eigenvalues of 1.0 or above and 26 items are retained under the four factors which explain 60% of the variance in the data set. The first factor explains 16% of the variance, the second for 16%, the third accounts for 16%, and the fourth for 12%. None of the remaining factors are significant.

As mentioned above three items should be dropped from the analysis, in order to confirm that the analysis of reliability Alpha if items are deleted is computed for factor three which included such items.

Factor three included item thirteen, fourteen, and nineteen which should be dropped. The overall reliability coefficient for factor three including the 9 items is 86%. Alpha if item thirteen is deleted from factor three shows that if item thirteen (R3.2.1) is deleted from the analysis, overall reliability is increased from .86 to .87. Moreover, Alpha if item fourteen deleted from factor three shows that if item fourteen (R3.2.2) is deleted from the analysis, overall reliability will be increased from .87 to .88. Furthermore, it also shows that if item nineteen (R3.2.7) is deleted from the analysis, overall reliability will be increased from .88 to .89. Thus items thirteen, fourteen, and nineteen are dropped from factor three. A New factor analysis was conducted for the remaining 23 items.

Among twenty three items included in the analysis, nine items have communality values ranged from .4 to .7, which are common magnitudes in social science (Velicer and Fava, 1998). The remaining fourteen items included in the analysis have communality values above .7, which represents a high communality (Velicer and Fava, 1998). In addition, all twenty three items have a factor loading above .70 which is "very significant" and indicates a strong correlation between items and factor they belong to. Furthermore, all items loaded on only one factor and are not split loaded. Principal Axis Factoring with Varimax suggests that four factors with eigenvalues of 1.0 or above are extracted and twenty three items are retained under the four factors which explain 66% of the variance in the data set (compared to 60% before dropping the three items). The first factor explains 18.5% of the variance, the second for 18.5%, the third for 16%, and the fourth for 13%. None of the remaining factors is significant.

For reliability analysis, Cronbach's alpha is calculated to test reliability and internal consistency for each factor. The result indicates that the Alpha coefficient for all factor is above

85% which is higher than the standard estimates of .70 (Howitt and Cramer, 2008). In addition, the Spearman's inter-correlation for the four factors is significant at the .001 level.

The factors are labelled according to the commonality of items loading on each factor and they are labelled as follows: financial indicators of customer satisfaction, customer loyalty, non-financial indicators of customer satisfaction, and customer profitability analysis.

Factor one related to the financial indicators of customer satisfaction, it explained 18.5% of variance with an eigenvalue of 4.8. The reliability alpha of this factor is .93. To further examine the internal consistency, the reliability of this factor is confirmed by Spearman's inter-correlation of items included in this factor. They are all significant at .001 level. The total correlation for all items ranged between .60 and .85 which means that the correlation between items is ranged from a moderate to a high correlation (Hair et al., 2007). The value in the column labelled "Alpha if items are deleted" indicates that none of the items would increase the reliability if they are deleted. These results suggest that all items positively contribute to overall reliability.

Factor two related to the indicators of customer loyalty, it explained 18.5% of variance with an eigenvalue of 4.3. The reliability alpha of this factor is .93. To further examine the internal consistency, the reliability of this factor is confirmed by Spearman's inter-correlation of items included in this factor. They are all significant at .001 level. The total correlation for all items is ranged between .62 and .80 which means that the correlation between items is ranged from a moderate to a high correlation (Hair et al., 2007). The value in the column labelled "Alpha if items are deleted" indicates that none of the items would increase the reliability if they are deleted. Again these results suggest that all items positively contribute to overall reliability.

Factor three is related to the non financial indicators for customer satisfaction, it explained 16% of variance with an eigenvalue of 4. The reliability alpha of this factor is .89. To further examine the internal consistency, the reliability of this factor is confirmed by Spearman's inter-correlation of items included in this factor. They are all significant at .001 level. The total correlation for all items ranged between .40 and .81 which means that the correlation is ranged from moderate to high correlation (Hair et al., 2007). The value in the column labelled "Alpha if items are deleted" indicates that none of the items would increase the reliability if they are deleted. These results suggest that all items positively contribute to overall reliability.

Factor four is related to customer profitability analysis, it explained 13% of variance with an eigenvalue of 3.2. The reliability alpha is .87. The spearman's inter-correlation of all items included in this factor is significant at .001 level. The total correlation for all items is ranged between .55 and .63 which means that all items are moderately correlated (Hair et al., 2007). The value in the column labelled "Alpha if items are deleted" indicates that none of the items would increase the reliability if deleted. These results suggest that all items positively contribute to overall reliability.

Hypothesis tests related to the revenue model

(The formal rejection/acceptance of each hypothesis is detailed in the discussion section.)

Association between a proposed revenue driver and profitability, and a proposed revenue approaches and profitability

A Spearman test of association is adopted to test the association between revenue driver and profitability, revenue approaches and profitability.

The association between customer as a main revenue driver and profitability.

The result of Spearman correlation indicates that significant correlation at the .001 level of significance exists between the focus on customer and profitability, with a moderate positive correlation coefficient of .50. Such a result suggests that the focus on customer is moderately and directly associated with profitability.

The association between the customer satisfaction and profitability.

The result of Spearman correlation indicates that significant correlation at the .001 level of significance exists between the customer satisfaction and profitability, with a moderate positive correlation coefficient of .40. Such a result again suggests that the customer satisfaction is moderately and directly associated with profitability.

The association between customer loyalty and profitability.

The result of Spearman correlation indicates that significant correlation at the .001 level of significance exists between customer loyalty and profitability, with a moderate positive correlation coefficient of .48. Such a result again suggests that the customer loyalty is moderately and directly associated with profitability.

The association between customer profitability analysis and profitability.

The result of Spearman correlation indicates that significant correlation at the .001 level of significance exists between the customer profitability analysis and profitability, with a moderate positive correlation coefficient of .45. Such a result also suggests that the customer profitability analysis is moderately and directly associated with profitability.

Relationship between suggested revenue management technique and profitability, using ordinal regression

The main purpose of this section is to examine if the combination of the three variables "customer satisfaction (CS)", "customer loyalty (CL)", and "customer value analysis (CPA)" will be the best model to predict and improve profitability. Ordinal regression will be run for all paired combinations of the three variables and finally all three together (CS with CL, CS with CPA, CPA with CL, and CS with CL with CPA) to find the best combination of variables, which meets the proportional odds assumption, fits data well, significantly predicts profitability, and produces the highest pseudo R-square statistics.

The dependent variable is categorized into the following three levels:

- Slight improvement in profitability (5%) = category 1
- Moderate improvement in profitability 10% = category 2
- High improvement in profitability 15% = category 3

Table 2. Frequency of the Dependent Variable

Levels of Dependent Variable	Frequency	Percent
1.0	37	19
2.0	87	46
3.0	66	35
Total	190	100

In building ordinal regression models for revenue variables, the five link functions provided by the SPSS program were tried. Although the complementary log-log function would seem to

be the best choice because the higher categories of the dependent variable (levels two and three) are more probable than the lower as illustrated in the above table, the negative log-log function is the only link function that achieves a better fit of model data and meets the assumption of parallel lines of an ordinal dependent variable (Johnson and Albert, 1999).

Findings of ordinal regression models

Table 3 Test of Parallel Lines

Combination of Variables	Chi-Square	d.f	Sig.
CS with CL	3.07	2	.21
CS with CPA	3.04	2	.21
CL with CPA	3.00	2	.23
CS with CL with CPA	3.70	3	.30

The test of parallel lines showed that this assumption is not violated for all models, indicating that the relative effect of predictor variables is consistent across all levels of profitability. Such a result means that ordinal regression can be run for all of these models.

Table 4. Pseudo R-Squares

Combination of Variables	R-squares Measures	Values
CS with CL	Cox and Snell	.38
	Nagelkerke	.43
	Mc fadden	.23
CS with CPA	Cox and Snell	.63
	Nagelkerke	.72
	Mc fadden	.48
CL with CPA	Cox and Snell	.50
	Nagelkerke	.57
	Mc fadden	.33
CS with CL with CPA	Cox and Snell	.68
	Nagelkerke	.77
	Mc fadden	.54

The analysis of the R-square measures for all models indicates that there is a higher correlation between predictors and profitability for the CS with CPA model compared with the CS with CL and CL with CPA models. In addition, the model with CS, CL and CPA is the best model because its predictors are strongly associated with the profitability. It can be concluded that profitability is better predicted by the model containing "customer satisfaction (CS)", "customer loyalty (CL)", and "customer value analysis (CPA)" together.

Table 5 Parameter Estimates

Variables	Estimate	Wald	d.f	Sig.
CS	1.64	47.9	1	.00
CL	.67	24.7	1	.00
CS	1.74	41.5	1	.00
CPA	2.0	67.4	1	.00
CPA	1.8	72.2	1	.00
CL	.64	21.1	1	.00
CS	1.8	41.1	1	.00
CL	.80	24.5	1	.00
CPA	2.1	62.1	1	.00

Table (5) shows that all predictors in the four models are significant in predicting profitability. In addition, all regression coefficients in all models have a positive value, which means that for a one unit increase in each predictor variable, the profitability level is expected to change to a higher level by its respective regression coefficient, while other variables in the model are held constant.

Section Four: Discussion of Findings of the Revenue Model

A key finding of this study indicates that the focus on customers is positively associated with profitability. This means that the more a customer focus is used, the more profitability is achieved. These results emphasize that companies that aim at improving profitability should focus on customers in managing revenue. Therefore, the hypothesis (H1) that there is a positive association between customer focus strategy and profitability can be accepted.

This finding supports previous work of Magdy (2002) and Kim et al. (2003) related to the positive relationship between customer focus and profitability. In addition, this finding is further confirmed the view of Brewton and Schiemann (2003), who stated that improvement in financial results requires changing the focus of companies from process and product to a customer-oriented strategy. Thus, companies should change their focus from internal process, function and goals to a broader and external view, represented in customer focus, in order to improve profitability. This new focus will generate new goals that will require new models in order to achieve such a goal. Therefore, customer focus represents a fundamental variable that leads to the construction of a strategic model for managing revenue.

A significant finding of the current study suggests that the focus on customer value management approach is positively associated with profitability. This means that the more a customer value creation approach is used, the more profitability is achieved. Therefore, the hypothesis (H2) that there is a positive association between customer value approach and profitability can be accepted.

This supports Gale's (2000) findings regarding to the influence of customer value on profitability. He found that companies that focus on customer value achieved return on sales three times greater than other companies that do not. This further supports the finding of Brewton and Schiemann (2003), who noted that about 50% of the variations between average

financial performance are due to the difference in the mechanism of managing customer value. Similarly, Howes (2003) found that the application of a customer value management approach is expected to increase companies' profitability at a rate of about 10% per annum. This finding is also confirmed by Cokins (2006) who indicated that the profit growth for companies is generated from the analysis of customer value, which represents the main driver for enhancing profitability. It can be seen that most of previous studies focus on investigating the influence of customer value on profitability use financial and actual data in their methodology. Conversely, the current study was conducted using a questionnaire instrument to collect non-financial data and examine the relationship between such variables, which has not been addressed in previous studies.

The customer value management approach is a fundamental variable that the revenue model constructed on. Companies that aim at strategically managing their revenue should focus on a customer value approach. Companies that effectively manage customer value should apply appropriate techniques for managing both sides of value. As focusing on the value that customer obtains from the company may increase customer satisfaction and loyalty. In addition, focusing on the value that a company obtains from customers leads to improved profitability. Thus, using such an approach in the revenue model could achieve a balance between the internal and external aspects and illustrate how companies can achieve their internal goals represented in profitability, by focusing on external dimensions represented in customers.

Furthermore, one interesting current finding, which has not been discussed in previous work, is that the proposed comprehensive model for managing revenue, which included customer satisfaction; customer loyalty; and customer profitability analysis are associated with profitability and each variable is significant in predicting profitability. Although all combinations predict a higher level of profitability, the best model is that containing all three variables as its variables are most strongly associated with the profitability. Therefore, the hypothesis (H6) that integration between all three variables is more related to profitability than any of the relationships can be accepted. This result emphasizes that integration between the above three variables achieves better profitability predictions than the alternative models that contained any combination of any two variables. Moreover, companies that strategically manage revenue should establish a coherent model that contains customer satisfaction, customer loyalty and customer profitability analysis, in order to improve their profitability. As the proposed revenue model is new, there is a lack of the literature that has investigated the significance of the relationship between all the above variables in the revenue model, and profitability.

The findings of this study also reveal that the second model which achieved a high correlation between variables and profitability is that of "customer satisfaction" and "customer profitability analysis". Therefore, the hypothesis (H4) that the integration between customer satisfaction and customer profitability analysis is related to profitability can be accepted. This result emphasizes that companies that strategically manage their revenue should focus mainly on the use of customer satisfaction and customer profitability analysis to improve profitability as they represent a fundamental combination in the revenue model.

There is a lack of literature that empirically investigates the influence of the integration between customer satisfaction and customer profitability analysis on companies' profitability. However, there are studies that empirically examine the relationship between each variable and profitability. The finding of this study support previous work including that of Rucci et al. (1998), who found that a 4% improvement in customer satisfaction generated more than \$200 million in revenues in companies, which confirms a strong and positive relationship between customer satisfaction and profitability. Anderson and Mittal (2000) found a similar result in that a 1% increase in customer satisfaction, described by non-financial measures, led to a 2.37%

increase in return on investment. This finding is also in-line with a study conducted by Fornell et al. (2005), which found a direct link between customer satisfaction and the improvement of financial results.

Customer profitability analysis is another initial element in the revenue model. It concerns recording and analysing all the revenues earned from customers and the costs incurred to earn such revenue in order to determine the contribution of each customer in achieving profitability. This technique provides companies with strategic information that can be used in enhancing profitability. Companies that effectively manage revenue should use an activity based costing approach with customer profitability analysis in order to enhance profitability. This is supported in the work of Noone and Griffin (1997, 1998) and Krakmal (2006) who used activity based costing with customer profitability analysis to manage yield and improve financial performance in the hotel sector. They found that the use of customer profitability analysis with activity based costing in the hotel sector provides management with information about the revenue, costs, and profit of each customer. This enables hotels to determine the amount of profitability generated from each customer and to use the information to determine the maximum discount or service that the hotel can offer. In so doing, the management can evaluate their customers. Using activity based costing can increase the effectiveness of customer profitability analysis because it enables companies to avoid waste by identifying the main processes and improving their efficiency, allocating revenue to activities that create value and increase and measure the costs for each customer (Mohamed, 1998).

This study also finds that the third model to achieve a high correlation between variables and profitability is that of customer loyalty and customer profitability analysis. Therefore, the hypothesis (H5) that integration between customer loyalty and customer profitability analysis is related to profitability can be accepted.

There is the lack of the literature that empirically examined the impact of the integration between customer loyalty and customer profitability analysis on companies' profitability. However, the relationship between each variable and profitability are empirically examined by previous studies. The findings of the current study that relate to the positive influence of customer loyalty on profitability are supported by the previous findings of Reichheld and Sasser (1990) who noted that a 5% increase in customer loyalty leads to an improvement in a company's profitability of 100%. Similarly, it supports the finding of Gransted (2000) who examined the relationship between customer loyalty and profitability in the banking sector, and found that an increase in customer loyalty of about 5% leads to a doubling of profitability. It can be concluded that the most important thing is to recognize that there is a positive relationship between customer loyalty and profitability regardless of the numerical amount of such a relationship (which may vary according to different factors, such as the population and the methodology that used in each study).

Customer loyalty is considered to be one of the most important drivers that improves profitability in the revenue model. According to Reichheld and Sasser (1990); Kaplan and Norton (2001); and Reinartz and Kumar (2002) loyal customers are the most profitable because they do not need any marketing costs, there is a reduction in operating costs for loyal customers, they can pay more money for their trust in the product or services and loyal customers become repeat buyers.

The results of the current study also suggest that there is a correlation between integration of customer satisfaction and customer loyalty and profitability. However, such integration achieved the lowest correlation with profitability compared with the other models. Thus, the hypothesis (H3) that the integration between the above variables is related to profitability can be accepted.

This finding supports the work of Heskett et al. (1994), and Helgesen (2006) who investigated the relationship between customer satisfaction and customer loyalty (measured by non-financial indicators) on one hand; and profitability measured by return on assets on the other hand. Such investigations adopted different statistical techniques such as correlation and regression analysis. They found that there is a positive correlation between customer loyalty and profitability and a positive correlation between customer satisfaction and customer loyalty. These findings suggested that the more satisfied and loyal a customer tends to be, the higher the obtained profitability.

Section Five: Conclusion

This work developed a new model to manage revenue for the purpose of profitability management from the strategic perspective. This model highlights the significant roles that customer focus strategy and the value management approach play in managing revenue and enhancing profitability based on theory and findings of previous studies. In addition, the revenue model was the first to integrate customer satisfaction measured by financial and non financial indicators, customer loyalty measured by financial and non financial indicators, and customer profitability analysis into a coherent model to manage revenue. Such integration explains how customer satisfaction and customer loyalty can be managed to create value for the customer. In addition, how the value that a company obtains from its customers, represented in customer profitability, can be managed to improve profitability is also considered. A significant contribution that has not been addressed by previous research is to examine the relationship between all combinations of the three proposed techniques in the revenue model and profitability to determine the best revenue model in predicting profitability.

The main limitation in the current study is the limitation of the generalization of the findings of this study. This study was conducted only in a single country and in a single sector that of the Egyptian ICT sector, whilst this is one of the most appropriate sectors for the proposed profitability model because it focuses on customers to achieve competitive advantage, such a focus could be viewed as a limitation. The findings of this study are influenced by the particular nature and characteristics of the Egyptian ICT sector. Therefore, the generalization of findings beyond the Egyptian ICT sector should be made with caution. In evaluating the model the nature of the drivers must also be considered – what was appropriate here may well not work well for sectors with other characteristics.

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