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One more time: How do you create value for customers?

- The case of the Value Creation Model

Master's thesis in strategic and operational management accounting

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Abstract

This article uses a survey to identify the impact of hygiene factors on the Value Creation Model. The study indicates that customers highly value hygiene factors. As customer value is central to the Value Creation Model, this can influence the model´s results. Combining research on customer value with hygiene factors, this study shows the importance of the concepts to generate revenue. This study uses a survey to find that customers do in fact value hygiene factors as important. As the Value Creation Model does not examine how attributes create value, a classification of such attributes is therefore necessary. It is therefore suggested that an additional step should be introduced to the Value Creation Model´s methodology. Hence, the use of the Value Creation Model as a strategic management tool can, in its present form, be questioned. It is suggested that further research should be conducted to determine the value of the model in practice.

Keywords: The Value creation model; hygiene factors; satisfiers; customer value; customer satisfaction; management accounting techniques.

1. Introduction

In recent years, numerous innovations have been introduced into the field of management accounting. These include the balanced scorecard, activity based costing and beyond budgeting (Ax & Bjørnenak, 2005; Chenhall & Langfield-Smith, 1998). This development has generated a vast amount of research. Research activities have taken different directions. One research theme critically examines technical aspects of innovations and the rhetoric used to disseminate them to a larger audience (Nørreklit, 2003; Nørreklit, 2000). Critical assessment of innovations may be important for several reasons. One principal reason relates to reported failures of receiving the alleged benefits from innovations in practice (Chenhall & Langfield-Smith, 1998). For example, Nørreklit (2003) has noted that innovations have been implemented in practice before being properly assessed of its potential to enhance business performance.

This study critically examines a management accounting innovation that has yet to be subject to such an analysis. The Value Creation Model (VCM) was introduced by McNair, Polutnik & Silvi to improve firms' ability to create value through customer focus (McNair, Polutnik & Silvi, 2001a; McNair, Polutnik & Silvi, 2001b).

The VCM aims to align customer preferences with firms' internal resources. The authors claim that this can assist firms in focusing on activities that create a competitive advantage. McNair, Polutnik & Silvi (2001a) suggest that the VCM can provide useful insight linking cost to value attributes. They further suggest that the VCM can act as a valuable management tool to aid firms and management in engaging in value creating activities.

However, in models where customer value is central, marketing literature suggest that the impact of hygiene factors and satisfiers can be vital (Naumann & Jackson, 1999; Naumann, 1995; Herzberg, 1987). Hygiene factors are attributes that, from the customer perspective, is expected to be a part of a product or a service. Their presence does not necessarily result in customer satisfaction; however their absence results in dissatisfaction (Naumann & Jackson, 1999). Satisfiers on the other hand, can create customer satisfaction. For satisfiers to generate customer satisfaction hygiene factors must first attain an acceptable level (Naumann & Jackson, 1999).

McNair, Polutnik & Silvi do not mention the concept of hygiene factors and satisfiers in their VCM presentations. As no distinction between hygiene factors and satisfiers is made, it can be understood that all attributes generate value, and consequently, are considered satisfiers. However, Naumann & Jackson (1999) argue that a distinction between hygiene factors and satisfiers is both necessary and important and cannot be ignored. Without considering the impact of hygiene factors it is not certain that customer defined value, the centerpiece of the VCM, actually generates customer satisfaction. Furthermore, as the VCM is suggested to act as a strategic management tool for firms (McNair, Polutnik & Silvi, 2001a), not taking the distinction into account can result in the VCM obstructing its purpose of assisting firms in value creation and strategy formulation.

Combining the concept of hygiene factors with research on customer preferences, this study aims to assess the relative importance of hygiene factors to customers and in turn examine whether this can affect the result of the VCM. As previous research has examined the role of hygiene factors and satisfiers within the airline industry (Juran, 1988) (Naumann & Jackson, One more time: How do you satisfy customers?, 1999), this study uses the results of these studies to critically examine and develop the VMC concept.

Moreover, as the VCM has received little attention beyond the academic setting, we aim to provide suggestions for improvement of the model in order to make it more suitable for use in modern organizations and increase the potential of introducing the model as a strategic management tool in firms. By critically examining the underlying assumptions of customer value in the VCM, we hope to conclude if the model is valid both in theory and practice.

The remainder of this paper is divided into five parts. In section 2 we will give a theoretical overview of the VCM along with the most relevant concepts for an analysis of the model. Section 3 presents the results from the customer survey and discusses the results. Section 4 analyzes the implications of our survey on the VCM. The final section offers concluding remarks and implications for future research.

2. Defining the Value Creation Model

The VCM is a management accounting technique developed by McNair, Polutnik & Silvi (2001a). Using customer data, the model quantifies and evaluates the ability of attributes to generate revenue. As a first step the VCM separates the bundle of attributes that constitute a product and relates these attributes to the costs of value adding activities. Thereafter, the VCM evaluates the ability of each attribute to generate profit by constructing a ratio between what the customer is willing to pay and the cost of the value added activities.

According to McNair, Polutnik & Silvi, the process of the VCM aims to increase the potential to generate profit. The VCM aims to relate cost to value, provide a more solid awareness of value creation, include the outside dimension of cost accounting systems and verify the possibility to design and to provide to managers a method to trace cost and value. Furthermore, the VCM aims to provide a competitive advantage and a quantitative tool to strategic management (Silvi, 2008; McNair, Polutnik & Silvi, 2001a; McNair, Polutnik & Silvi, 2001b).

The VCM intends to align the activities and costs of firms with the attributes that customers value. Customer stated preferences are crucial to the assessment of customer value, and hence also to the VCM. Customer stated preferences act as indicators for the customers' true preferences. In turn customer preferences are used to construct the customer-value profiles that are aligned with value creating activities.

Figure 1. The link between customer preferences and revenue.

One of the main assumptions of the VCM is that revenues of the firm are solely based on the value delivered to the customers. Thus, this implies that price cannot be based on the costs delivering the product to the market, but rather on what customers are willing to pay. In order to create revenue, product attributes must be valued by customers (McNair, Polutnik & Silvi, 2001a). Therefore, price cannot be decided by firms but rather by how much customer-perceived value a product can generate. Firms must earn its revenue by creating a competitive advantage and meeting the customer requirements better than competitors.

When conducting a VCM analysis, the last step of the process is to construct revenue multipliers for the different attributes of the products. By asking the customers to weigh each attribute of a product in relation to each other, an estimate of the relative importance of the attribute can be established. The revenue generated by each attribute can thereafter be calculated by dividing the price (i.e. the sum of the bundle of attributes derived from the product) with the weight of each attribute. The end result is the revenue multiplier.

These revenue multipliers are then the basis for which firms are to consider focusing or re-focusing their spending. Revenue multipliers are therefore the most critical aspect of the VCM. McNair, Polutnik & Silvi (2001a) argue that:

"…in the model, multipliers are defined to measure the degree of alignment between the cost of producing a specific attribute and a revenue equivalent of that attribute."

2.1 The methodology of the Value Creation Model

Value attributes are weighted by asking customers to determine the product attributes relative importance in relation to the total product price. This is determined through a customer survey. Within each attribute, the firm then analyzes the "Value Added Activities" from the point of view of the consumers' willingness to pay for them (McNair, Polutnik & Silvi, 2001a). Linking the data from the customer survey and the activity analysis for costs, McNair, Polutnik & Silvi (2001a) suggest that the following is made possible:

- A customer value profile can be created for each customer segment including value attributes and their ranking.
- Revenue proxies can be determined multiplying the ranking of the value attribute by the current total revenue generated by that segment.
- The cost structure of the firm can be analyzed as a result of dividing costs into three entities: value added, non value added and waste.
- The activities that can be concluded as value added activities from the analysis are linked with the value attribute they support.
- Multipliers are calculated using the following formula:

$$\frac{\text{Revenue generated from an product attribute}}{\text{Value added activity cost for an product attribute}}$$

- Lastly the multiplier relationships are analyzed and management is included to provide feedback for the relevance of the results.

As an example, suppose that the costs of the value added activities behind the hypothetical attribute ‘customer assistance’ is 100 USD and the total price of the product is 5000 USD. A customer survey has been conducted and concludes that ‘customers assistance’ is valued at 10 % of the product by the customers. The resulting revenue multiplier is therefore: $(5000\ \mathrm{USD} \times 10\%) \div 100\ \mathrm{USD} = 5$. Dependent on the revenue multipliers of the other attributes this can give an indication of the profit potential of this attribute.

2.2 Customer value

As described in the above example, the revenue multiplier suggests that customer value can be quantified and that the relative value of attributes can be compared between each other. As customer data and customer value is a centerpiece to the VCM, and this study has its origin in the complexity of customer value, it is necessary to unbundle the concept.

Today, many companies claim to have a customer oriented organization. That is, to align the products and its attributes with the demands from the customers, present or potential. By focusing on the customer a better, leaner way to compete is supposed to emerge (Woodruff, 1997). It is believed that by working towards a greater level of customer satisfaction, a greater level of loyalty and consequently profitability can be achieved (Ulaga & Chacour, 2001). The concept of customer value is often at the center of attention when customer oriented focus is discussed. The VCM is no exception, where McNair, Polutnik & Silvi (2001a) state that the customer perceived value of a product is, by definition, the price a product can be sold at.

In the terminology of business research a wide variety of definitions of value understandably exist. It is therefore not obvious what McNair, Polutnik & Silvi’s concept of value is when they argue that it is possible to create a competitive advantage, i.e. organizational value, through aligning and linking an externally defined customer value. As such the link between the concepts of value is somewhat unclear in the VCM but nonetheless the organizational view is the key to the concept of value.

As customer value is difficult to measure, it is problematic to examine a direct causality between customer value and company performance. Often, however, customer satisfaction can be used as a substitute. It is reasonable to believe that what makes customers satisfied is also highly valued. Furthermore, the proven link between customer satisfaction and customer loyalty (Lam, Shankar & Murthy 2004; Hallowell, 1996) and the link between satisfaction and willingness to pay (Homburg, Koschate & Hoyner, 2005) can potentially improve the profitability of the firm. It is therefore reasonable to believe that if the VCM can generate customer value, it can also create firm profitability. As such the theoretical connection between customer value and profitability is reasonable, but without an understanding of how product attributes are valued by customers this connection still remains uncertain.

2.3 Defining hygiene factors

The theoretical connection between customer value and profitability provides a potential for the VCM to create firm value. However, this is complicated by concept of hygiene factors due to that some product attributes are only valued by customers under certain conditions.

Naumann & Jackson (1999) used Herzberg's (1987) argument on employee satisfaction and linked it to customer satisfaction. They argued that the same conditions as those presented in Herzberg's article were also valid in a customer context. The conclusion was that the distinction between hygiene factors and satisfiers also existed when dealing with customers. Merely meeting expectations, i.e. fulfilling the hygiene factors, would not satisfy customers. In order to create customer satisfaction firms should focus on satisfiers.

Naumann & Jackson (1999) take the example of on-time delivery, where they argue that delivering to the customer on time is a minimum acceptable level of performance. Failure to deliver the order on time results in dissatisfaction. Naumann & Jackson state that:

"A company should ensure that hygiene factors meet customer expectations. Anything beyond that will probably not increase expected benefit to customers"

This means that providing the product on time to a customer is a hygiene factor to compete in the market. However, delivering the product on time will not result in customer satisfaction. Naumann & Jackson claim that as the fulfillment of hygiene factors can never result in customer satisfaction, firms should ensure that hygiene factors are only fulfilled at a minimum, and then focus spending on satisfiers, as they are the key to competitive advantage.

2.4 Linearity and the impact of hygiene factors

From previous research it can be concluded that a customer focused strategy can generate firm profitability. However, this can lead firms to focus too much attention on product attributes that do not always create value. How then, does this affect the VCM?

Analyzing the revenue multiplier more closely, one realizes that the relationship between the revenue multiplier and spending on an attribute does not have to be linear. McNair, Polutnik & Silvi (2001a) assume that investing in an attribute with a high revenue multiplier will increase revenue by more than the investment. Firms should therefore focus on attributes with high revenue multipliers. One can interpret this as if the relationship between spending on an attribute and the revenue multiplier is linear, where the value created from the attribute only varies by an easily predictable pattern. Hence it is assumed that McNair, Polutnik & Silvi expect the true relation between the revenue generated and spending on an attribute to be either descending linearly or constant at a certain level.

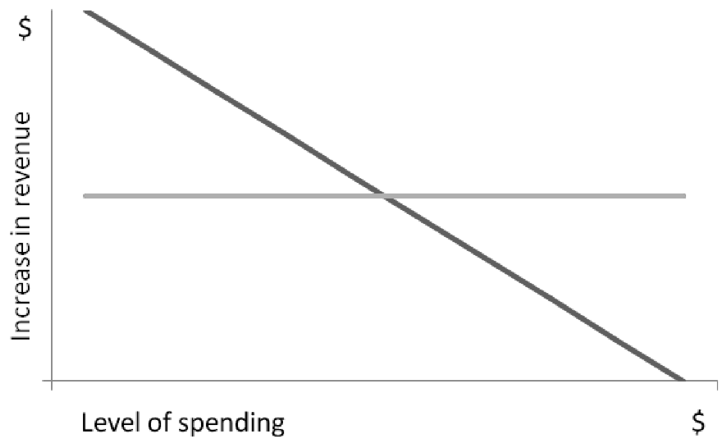

Figure 2. Assumed linearity of the revenue multiplier. As spending on a specific attribute increases, revenue generated by that attribute decreases or remains constant by a linear function.

McNair, Polutnik & Silvi do not recognize, however, that the relation between the revenue multiplier and spending on an attribute can vary considerably dependent on the amount invested. When a hygiene factor reaches a level of spending that satisfies customers, it does not generate any further value. The revenue multiplier gives no indication when this occurs or as to the amount required for the investment to stop generating a return.

As a result, observing the revenue multiplier under certain conditions ignores important aspects of how the revenue multiplier varies as spending on value added attributes changes. Consider an example of an attribute with a high revenue multiplier. If the attribute is a hygiene factor, the value created from the attribute will abruptly drop to zero as spending increases. This means that every investment beyond a satisfactory level for the hygiene factor is unnecessary spending.

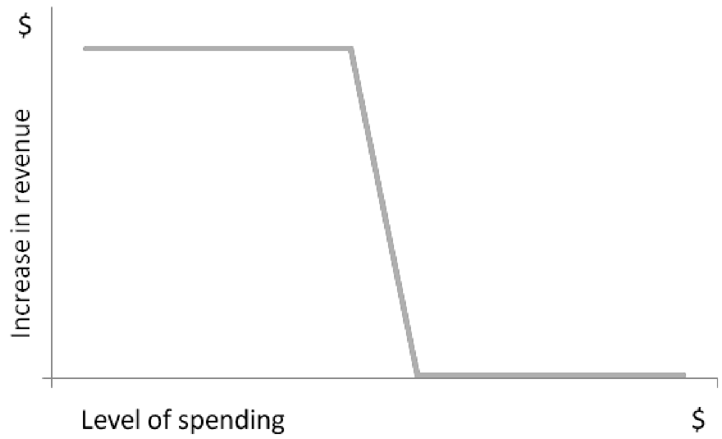

Figure 3. Possible revenue multiplier due to hygiene factors. There is no evidence that increased spending on a specific attribute always increases revenue by a linear function. Above figure illustrates how once spending has reached a acceptable level on a hygiene factor no further revenue can or will be generated.

Observing the argument developed by Naumann & Jackson (1999), customers will not consider a product or service unless certain hygiene factors are fulfilled. Linking this to the VCM, where customers are asked to value certain attributes, it is reasonable to believe that the customers will value hygiene factors as important due to these factors being fundamental for the purchase decision. As such the suggested method of the VCM can potentially create high revenue multipliers for hygiene attributes. This can lead to that firms focus on attributes that do not generate additional revenue. The distinction between hygiene factors and satisfiers is therefore very important when conducting a VCM analysis.

3. Research design

McNair, Polutnik & Silvi suggest that the best method of finding how customers’ value product attributes is through a customer survey. As the relation between these factors is vital for the VCM, this study uses earlier research on customer satisfaction and hygiene factors to construct a survey in order to test whether customers do indeed value hygiene factors. This could establish the relative importance of hygiene factors and its influence on the VCM.

This study uses the concepts introduced by Naumann & Jackson on hygiene factors and satisfiers. Naumann & Jackson use an example by Juran (1988) from the airline industry. Juran analyzed a study by Qantas Airlines and identified factors that customers’ value as important. Juran listed product and service attributes and ranked their relative importance. Naumann & Jackson used this ranking through a series of focus groups to identify the hygiene factors and satisfiers in the ranking presented by Juran. In total Naumann & Jackson identified 22 factors of which 14 proved to be hygiene factors and 8 satisfiers. As such, Naumann & Jackson´s research provided this study with already defined factors.

3.1 Research Method

To examine the importance of hygiene factors on the VCM, we constructed a customer survey. The survey presented respondents with important attributes for air travel. This allowed us to use the factors drawn from Naumann & Jackson´s research (See appendix for complete survey). Naumann & Jackson presented a total of 22 attributes in their survey. In order to assess the relative importance of hygiene factors versus satisfiers this study needed an equal number of both. Therefore, 6 satisfiers that have been proven of low importance in Naumann & Jackson´s study were excluded. Of the 16 remaining 8 of these were hygiene factors and 8 were satisfiers.

The exclusion of 6 hygiene factors was necessary in order to allow for the respondents to have an equal number of hygiene factors and satisfiers to value. Not excluding the 6 hygiene factors could potentially skew the results as a greater number of hygiene factors are likely to receive more attention. The 6 excluded factors were randomly selected and should therefore not affect the results. In the survey, the respondents were not given any information of which attributes were hygiene factors or satisfiers, as this possibly could affect the valuation process.

The survey was divided into two parts. To allow for a possible segmentation of respondents, the first part presented the possibility for respondents to specify whether their answer was based on them flying for the purpose of business or pleasure. This segmentation was conducted to allow for different segments valuing different attributes as important. The second part of the survey presented the 16 factors drawn from Naumann and Jacksons study of which 8 were hygiene factors and 8 satisfiers. All respondents were given a total of 100 points and were to distribute them according to their own preference. Lastly, as it is likely that respondents would value factors not included in the survey, the respondents were given the possibility to add an extra number of factors (see appendix).

Hygiene factors	**Satisfiers**
No lost baggage	Comfortable seats
No damaged baggage	Ample leg room
Clean toilets	Good quality meals
Clean and tidy cabin	Prompt reservation service
Comfortable cabin temperature/humidity	Assistance with connections
Being well informed of delays	Transports to cities
On-time arrival	Quick/friendly airport check-in
On-time departures	Prompt baggage delivery

Table 1. The 16 chosen factors for the survey.

The survey was sent to a sample of 450 to represent a wide population of potential air travelers. This relatively large population was made possible through the use of an online survey, and consisted mainly of persons either directly or indirectly associated with the authors. The respondents were contacted through various online communities and via email. This allowed us to reach a wide audience and a large number of respondents within a limited time period.

It is possible that using an online community we risk targeting a specific demographic group prone to be active within these communities, thus creating a biased selection of respondents. Although this sample cannot be considered entirely random, it is not likely that this would skew the results of the statistical analysis as the population varied widely in terms of social background, occupation and geographical location. Furthermore, as the survey also included respondents employed at the University of Gothenburg and various firms the effect of this bias should be minimal.

Some criteria of the respondents were necessary when distributing the survey. Firstly, the respondents had to be at least 18 years of age to ensure some experience in terms of air travelling as well as reassuring that the purchase decision is carried out by the respondents themselves. The total sample of 450 included 160 persons at the University of Gothenburg and various firms to allow for a reasonable number of respondents from the business travelling segment (See appendix 2 for sample companies). The respondents from University of Gothenburg and from the firms constituted a mix of employees at various positions within their respective organization. The respondents at the University of Gothenburg were accessed through an internal email-list and the firms through their respective HR-department. Thus, the total sample constituted the largest group accessible using the previously mentioned tools.

3.2. Survey results

Factor	Type	Business - mean	Business - variance	Pleasure - mean	Pleasure - variance
No lost baggage	Hygiene factor	12.8	170.7	15.5	142.7
No damaged baggage	Hygiene factor	6.0	47.2	9.4	37.6
Clean toilets	Hygiene factor	3.7	13.2	1.9	10.7
On-time arrivals	Hygiene factor	12.5	122.5	10.2	56.5
Clean and tidy cabins	Hygiene factor	3.7	15.9	3.8	58.7
Comfortable cabin temperature/humidity	Hygiene factor	3.0	18.5	2.9	27.2
Being kept informed of delays	Hygiene factor	3.2	11.7	5.3	22.6
On-time departures	Hygiene factor	10.1	95.3	9.2	88.0
		54.9		58.2	
Comfortable seats	Satisfier	9.2	51.1	7.9	67.3
Prompt baggage delivery	Satisfier	4.3	29.8	4.1	22.5
Ample leg room	Satisfier	7.3	89.0	5.3	51.5
Good quality meals	Satisfier	3.3	13.8	3.4	44.2
Prompt reservation service	Satisfier	3.4	36.2	3.6	40.2
Assistance with connections	Satisfier	1.1	17.0	3.2	101.0
Tranport to cities	Satisfier	2.9	51.0	3.0	61.3
Quick/friendly airport check-in	Satisfier	5.2	43.8	6.5	70.2
		36.8		36.9	
Others		8.3		4.9	
		100.0		100.0	

Table 2. Descriptive table of survey results.

In total 127 responded to the survey, resulting in a response rate of 20.8 %. The response rate can be considered high and statistically acceptable. The following statistical analysis can therefore be conclusive for the entire population.

For both the business and pleasure segment the results are similar and indicate that hygiene factors are regarded as important. The business segment had a total of 47 respondents and hygiene factors received an average of 54.9 points. In the same segment the satisfiers received an average of 36.8 points. The remaining 8.3 points were distributed on categories constructed by the respondents themselves and could therefore not be classified as either hygiene factors or satisfiers. As the underlying assumption about variances cannot be assumed to be equal a “Wilcoxon signed rank test” (Kotz & Johnson, 1993) is used to test whether hygiene factors are in fact ranked higher by the respondents. The results from this test indicate on a 1% confidence level that hygiene factors are valued higher by the population in the business segment. The result from the test is presented below.

Rank statistics

		N	Mean Rank	Sum of Ranks
Satisfiers – Hygiene factors	Negative Ranks	31[a]	2.77	706
	Positive Ranks	11[b]	17.91	197
	Ties	5[c]		
	Total	47		

a. Satisfiers < Hygiene factors

b. Satisfiers > Hygiene factors

c. Satsifiers = Hygiene factors

Test Statistics – significance level

	Satisfiers – Hygiene factors
Z	-3.187[a]
Asymp. Sig. (2-tailed)	.001

Table 3.Survey results – Business segment

Of the 80 respondents in the pleasure segment, the hygiene factors received on average 58.2 points and satisfiers 36.9. 8.3 points were distributed on categories constructed by the respondent themselves. The “Wilcoxon signed rank test” give the same indication for the pleasure segment on a confidence level of 1%.

Rank statistics

		N	Mean Rank	Sum of Ranks
Satisfiers – Hygiene factors	Negative Ranks	64	39.53	2530
	Positive Ranks	12[b]	17.91	396
	Ties	4[c]		
	Total	80		

a. Satisfiers < Hygiene factors

b. Satisfiers > Hygiene factors

c. Satsifiers = Hygiene factors

Test Statistics – significance level

	Satisfiers – Hygiene factors
Z	-5.536[a]
Asymp. Sig. (2-tailed)	.000

Table 4.Survey results – Pleasure segment

This study indicates that hygiene factors not only are regarded as important, but also valued as more important than satisfiers by customers. The results therefore suggest that by asking customers to merely weigh the importance of different attributes the answers will result in a bias towards hygiene factors.

4. Implications of this study

The question that arises from this study is what the implications are of high revenue multipliers for hygiene factors. To answer that question one must go back to the earlier discussed concepts of customer value and customer orientation as such. Much research has been done in the field indicating that customer orientation can give firms a competitive advantage and is for many the key to profitability within an industry (Woodruff, 1997; Gruca & Lego, 2005; Parasuraman, 1997). The emerging trend has however brought about many dangers that can easily be ignored or forgotten in the process of customer focus. General issues with customer focus as discussed by Ben-Akiva et al. (2005) become apparent where customers potentially diverge in what they state as their preference and how they actually behave. Without taking the discussion into a general customer accountability dilemma, the many uncertainties are brought to light through our survey.

Considering our survey, assume that the firm had an issue with profitability. Regardless of its attempts to focus on its customers both turnover and profit are decreasing, a common example in many organizations. As a result of this the firm decides to conduct a VCM analysis to find a more suitable strategic position. The analysis indicates that they have misunderstood what their customers demand and it is made clear that ‘no lost baggage’ and ‘on-time arrival’ are the two most important factors for their customers. These two factors should therefore also have high revenue multipliers. An obvious reaction to this result is for the firm to devote resources and attention to these activities. The high revenue multipliers indicate that every dollar invested in these activities may very well generate a promising return. However, without considering the effect of these factors being hygiene factors the risk of the firm being led astray is considerable. After a certain level is reached, these activities will no longer generate value for the customer and hence not increase the customer’s willingness to pay. An increase in focus on hygiene factors cannot increase the price.

For hygiene factors to reach a level of acceptance determined by the customer, the VCM gives no indication as to the amount of investment for this to occur. Furthermore, the current level of spending might very well be sufficient in order to attain the customer required level of performance. However, the firm might as a reaction to the result of the analysis have engaged in refocusing efforts and strategy reformulation that will generate little or no extra return. In fact, it holds the potential to be costly and misleading in that hygiene factors only generate value up to the level of expectancy determined by the customer. Before any result of the analysis is used in practice, firms must therefore be certain on what their customers consider to be hygiene factors within their particular industry and customer segment. What makes this issue even more complex is that hygiene factors have the potential to diverge within an industry. Hygiene factors can even differ between individuals which further complicate the customer segmentation process. Customers are likely to value different attributes as hygiene factors dependant on which company they purchase a product or service from. As such every firm must always be aware of what these factors are and engage to spend the minimum amount to attain an acceptable level. All other spending should be focused on the satisfiers. Using the example from the airline industry, supposing an equal cost allocation, comfortable seats should be given a higher priority than ‘no lost baggage’ even though ‘no lost baggage’ has received a higher revenue multiplier. Regardless of the relatively low revenue multiplier of ‘comfortable seats’, the activity being a satisfier it can create customer value. As such a company should apply the distinction between the factors and spend on the attributes that are satisfiers.

As this study shows, the intention of customer focus can result in the opposite. One cannot assume that customers are aware of the classification of activities, i.e. satisfiers or hygiene factors. In other words, there is a missing logical step in the process of conducting a VCM analysis where each attribute and activity must carefully be considered before firms apply the results of the VCM. Without this consideration firms might see themselves unintentionally spending and investing in waste rather than value adding activities.

For the VCM to provide a more reliable tool for value creation, this study shows that a thorough analysis of how each attribute create value is necessary to the VCM. The introduction of hygiene factors as a necessary concept for the model, show that firms must add an extra level to the VCM process. A firm must carefully define and classify which activities are hygiene and the activities that are satisfiers. Without this distinction a firm does not only risk focusing on non-value creating activities, the risk is substantial as shown by the study presented in this thesis. As such the implications of hygiene factors on the VCM is considerable and while the model in theory is a valuable strategic management tool, the method requires improvement and consideration before being practiced and effectively used in firms.

5. Concluding remarks and suggestions for future research

Although this study has concluded that hygiene factors do in fact have an impact on the results of the VCM little can be said on the practical impact of hygiene factors on the model. A practical case study on a firm that measures the actual effect of hygiene factors is therefore suggested. This could provide useful insight into the field and determine the importance of hygiene factors in practice as well as to provide a useful improvement to the VCM.

The focus of this study has been on the revenue multiplier and how the multiplier is affected introducing hygiene factors. However, many uncertainties remain. The authors acknowledge the theoretical difficulty of using the revenue multiplier as a tool to focus on attributes that create value for a firm in the future. McNair, Polutnik & Silvi divide costs into: customer value-added, business value-added, and waste, and suggest that firms should focus on customer-value added activities. This however, holds potential of leading firms to lose its competitive advantage. As an example, some industries require a large amount R&D and innovation in order to remain competitive within the industry. Consumer electronics is one example of an industry where innovation is the key to survival. However, conducting a VCM analysis on a company in this industry, it is likely that customers would not regard R&D costs as value-added. In turn a company would as a result of a VCM analysis focus its spending on other attributes which potentially would lead to this competitive edge being lost. As the customer is not willing to pay for R&D of a product today that will only exist in the future the VCM can potentially be misleading as an indicator for creating a future competitive advantage. The classification of costs into the three categories is therefore subject to future research and should be analyzed in detail.

Lastly, the revenue multipliers give little indication on the required amount of investment to generate value. McNair, Polutinik & Silvi have concluded that high revenue multipliers might indicate that a firm should focus its spending on the attribute, however the required or optimal amount to invest is unknown and theoretically hard to determine through a VCM. As such a study that measures the effect of investing in attributes with high revenue multipliers would provide insight on how useful the VCM is as a tool for value creation.

It should be mentioned that McNair, Polutnik & Silvi point out several of the critical aspects and assumptions of the VCM. McNair, Polutnik & Silvi argue

(2001a) that the results of calculating revenue multipliers can be ambivalent and high revenue multipliers can indicate that a firm has a competitive advantage delivering that attribute. However, according to McNair, Polutnik & Silvi it can also indicate that the cost allocation to that attribute is too low and potentially means that cost and value are not properly aligned. This argument alone from the authors indicate the uncertainties behind the model and the suggested use of VCM as a strategic management tool can therefore be doubted. As the end product of the VCM is the revenue multiplier any misleading multipliers can have a strong effect for a firm using the VCM to create a competitive advantage. Therefore, the VCM in its present form requires considerable development before being put into practice in firms.

This study highlighted some of the uncertainties of the VCM. Along with the ambiguities already presented by McNair, Polutnik & Silvi it is made evident that the uncetainties of the VCM make it a less attractive management accounting technique. This might also explain why the VCM has received little attention beyond the academic setting. However, management techniques that focus and guide firms in finding activities that generate value and assist in strategy formulation would be a useful contribution to the field of management accounting. Therefore a development of the model, and further research analyzing the uncertainties of the model could lead to an important contribution to management accounting as well as providing a useful quantitive analysis tool for managers and firms.

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Appendix 1 - Survey

Thank you for participating in this survey. Please read through the instructions below before answering the questions.

Before considering the options we ask you to estimate your average travel time in hours per flight, along with an estimate of the number of trips you do per year.

All answers are anonymous.

ESTIMATE YOUR AVERAGE TRAVEL TIME IN HOURS PER FLIGHT: _______

ESTIMATE YOUR AVERAGE NUMBER OF RETURN TRIPS PER YEAR: _______

ESTIMATE YOUR AVERAGE TICKET PRICE PER FLIGHT IN SEK: _______

Please indicate in the box below whether your answer is based on you flying for the purpose of business or pleasure. If the answer differs between the two we ask you to fill out two separate surveys specifying how you value the corresponding factors.

SPECIFY YOUR MAIN REASON FOR TRAVELING: <u>BUSINESS</u> OR <u>PLEASURE</u>

We ask you to read through the factors stated below and rate their relative importance to you when travelling by air and choosing the airline of your preference. You are given a total 100 points and you are to allocate the points according to your subjective opinion. You do not have to rank all factors listed below but only those important to you. Please note that there is no correct answer and we ask you to carefully consider the options before allocating the points. The factors are not listed in any specific order of importance.

If there are important factors, not listed below you have the option to specify those in the blanks at the bottom of this page.

NO LOST BAGGAGE: _______

COMFORTABLE SEATS: _______

NO DAMAGED BAGGAGE: _______

PROMPT BAGGAGE DELIVERY: _______

CLEAN TOILETS: _______

AMPLE LEG ROOM: _______

ON-TIME ARRIVAL: _______

GOOD QUALITY MEALS: _______

CLEAN AND TIDY CABIN: _______

PROMPT RESERVATION SERVICE: _______

COMFORTABLE CABIN TEMPERATURE/HUMIDITY: _______

ASSISTANCE WITH CONNECTIONS BEING KEPT

INFORMED OF DELAYS: _______

TRANSPORT TO CITIES: _______

ON-TIME DEPARTURES: _______

QUICK/FRIENDLY AIRPORT CHECK-IN: _______

(OTHER): _______

Thank you for your participation!

Appendix 2 - Companies in the survey

Companies
A.P. Møller Mærsk Group
AB Volvo
Accenture
AstraZeneca
Atlas Copco
EF Education
Elof Hansson AB
Nordea Bank AB
Sandvik AB
SIX AB
Skandinaviska Enskilda Banken AB
Stora Enso
Svenska Cellulosa AB
Svenska Handelsbanken
Telia Sonera Sverige AB