

# The concept 'Total Value of Ownership': A case study approach

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## Abstract

*Researchers in purchasing and supply management have traditionally focused on the possible cost savings that could be gained by means of tools such as Total Cost of Ownership. The aspects that are never considered in these calculations are the possible 'revenue-enhancing' effects of buying a certain item. The concept Total Value of Ownership (TVO) does include these effects. This paper will outline the concept TVO theoretically ending in a conceptual framework. In order to answer the research questions, the Ph.D. research project concerning TVO will start gathering empirical data by means of exploratory case studies. The case study approach will be described in this paper.*

**Keywords:** value generation; new product development; case study research

## Introduction

The purchasing function has gained a more strategic position in recent years. This shift towards a more strategic function has resulted in an increased interest in tools such as Total Cost of Ownership (TCO). TCO is a management-accounting oriented approach primarily used for supplier selection, monitoring and/or improvement. TCO aims at reducing the total costs associated with a purchase. The costs beyond price may include, for example, interest costs, scrap/quality costs and maintenance costs.

The categories of aspects that are never considered in TCO calculations, however, are the possible 'revenue-enhancing' effects of buying a certain item. To incorporate these effects, the concept of Total Value of Ownership (TVO) has recently been suggested (Wouters et al. 2004). Using a TVO-approach captures total cost considerations, but also performance advantages gained by the purchasing firm to create value for its customers and receive additional revenues that it otherwise could not. This is all the more relevant given the increased emphasis firms operating in business markets are placing on value-based market offerings, both from the supplier and the customer point of view (Ulaga 2001; Doyle 2000).

In applying a TVO-concept, the focus will be on a triadic chain, instead of the more prevalent dyadic paradigm, with a manufacturing company as the focal company. Taking into account effects that occur at the focal company's customer extends the research on purchasing, which predominantly focuses on the interaction between dyads.

The next paragraph will describe the difference between the value of an offering and the value of a relationship and will explain why it was chosen for the offering as focal point. After that, the three ways of generating value for the customer and customer's customer are discussed. The research problem and main research question will be detailed subsequently. TVO will then be discussed from different theoretical viewpoints resulting in an initial conceptual framework. The remainder of this paper will be devoted to outlining the case study approach.

## The value of an offering

The concept of value is often perceived as being almost equivalent to the value of a relationship. According to the IMP Group, a relationship has value for the buyer, because firstly, exchanges between the supplier and buyer become predictable and

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reassuring since the actors have learnt how they each organize their business operations and secondly, the actors' learning and adaptation in the relationship are likely to result in new product or service solutions. This group believes that three aspects of a relationship provide value, namely activity links, resource ties, and actors bonds (Håkansson 1982).

The value of buyer-seller relationships can however be distinguished from the value of goods and services (Lindgreen and Wynstra 2004). The first kind of value is most referred to in the IMP tradition and has received quite some attention in literature (Ravald and Grönroos 1996). Walter et al. (2001) have conducted a study in which they defined value as the perceived trade-off between multiple benefits and sacrifices gained through a customer relationship by key decision makers in the supplier's organization. The authors regard value creation as the essential purpose for a customer firm and a supplier firm engaging in a relationship. This view is also held by Kothandaraman and Wilson (2001) who see the quality of a firm's relationships in a network as a facilitator for the creation of value.

Although the value of a relationship has proven to be an important concept in explaining buying behavior, the emphasis in this PhD project will be on the value of an offering. Even though relationship value is a key concept, the core of an exchange is very often still the product or service that is being exchanged (Ford 2002). Within a buyer-seller relationship, the exchanged offerings are essential, but it is relatively unknown how buyers trade-off price, cost and value information regarding offerings, especially concerning down-stream effects. This PhD project aims at investigating how customer managers perform this trade-off and what influences this process. If the alternatives in the choice set are from different suppliers, the value of the relationship of each of the suppliers will obviously also influence the choice process. However, if the competing offerings are from one supplier, the influence of the relationship is the same for all offerings. The supplier-buyer relationship could still be an important factor when trading-off offerings. Therefore, the relationship has been used as a (moderating) supplier characteristic in the conceptual framework, as will be shown later in the paper.

Instead of only delivering an offering, buyers could also actively contribute to the value of the offering. This way of looking at the value of an offering bears a resemblance to the innovation function of a customer relationship identified by Walter et al. (2001). From a supplier's perspective, the authors suggest that suppliers could work together in developing product and process innovations with customers for their technological skills to improve the value for the customer and for other customers. The way that buyers perceive the value of an offering will not be investigated as a one-way process. Dyads can take advantage of the heterogeneity in their respective resources, of the existing interdependencies in their activities and of the differences and complementarities in their respective knowledge and interpretations (Håkansson and Snehota 1995). Following this argument, the trade-offs made in deciding which offering to choose from a supplier will be researched in an area in which the heterogeneity of resources is most helpful: new product development.

Looking at different application possibilities for TVO, new product development would be the most salient area, as a product's costs and its value are largely determined in this phase. In the 'co-creation' of the new product, the two companies are interdependent. The basis for this interdependence is the resources that both companies possess (Turnbull, Ford and Cunningham 1996). The two parties can take advantage of the heterogeneity in their respective resources (Håkansson and Snehota 1995). Value creation does not take place in isolation.

The traditional value chain presupposes that organizations buy a product, add value to this product and then sell this product to the successor in the chain while asking a return for the augmented value (Porter 1985). The relationship between actors tends to be more complex than the sequential and unidirectional model underlying the traditional value chain. Instead of 'adding' value one after the other, the partners in the production of an offering create value together through varied types of 'co-productive' relationships (Normann and Ramirez 1993; 1994). This value is 'co-created' during the complete relationship with a supplier, but is most obvious in the product design phase of the research. Suppliers can

help the customer to create value for them, but also for the customers' customers.

The value of a seller's offering to a buyer is the difference between what the buyer perceives as the offering's expected benefits and what the buyer perceives as its expected total acquisition and use costs (Zeithaml 1988). According to Narver and Slater (1990) 'a seller must understand not only the cost and revenue dynamics of its immediate target buyer firms, but also the cost and revenue dynamics facing the buyers' buyers'. The concept of Total Value of Ownership allows customers to not only look at the direct value effects for the customer but to also incorporate the value effects that occur downstream. This way, TVO connects dyads that develop offerings together to their customers. The economic performance of a company is dependent on the economic performance of its counterparts, mainly its customers and suppliers, but also of other third parties, e.g. customers' customers and suppliers' suppliers (Håkansson and Snehota 1995).

### Three ways of generating value

The value of an offering can be augmented in three different ways. First of all, an offering could directly reduce the related operating costs for the customer, which results in a value increase for this company. This value enhancement is considered to reduce the TCO of the company. In case of the other two (indirect) value increase possibilities, the value for the customer's customer goes up and thereby potentially also for the customer. A second option would then be that operating costs for the customer's customer go down. A third way would be a revenue enhancement due to the offering's superior value for the customer compared to its reference offerings (Anderson and Wynstra 2004). These latter two options can result in increased sales and/or increased margins for the customer, but these effects are usually not explicitly considered when making purchasing decisions, even when tools like TCO are applied.

Sheth et al. (1999) distinguished two different dimensions of value delivery: efficiency and effectiveness. Efficiency refers to receiving the value at the minimal total cost. This dimension is usually

measured in tools such as TCO. Effectiveness, however, relates to delivering superior value to customers/consumers compared to reference offerings. By increasing the effectiveness of an offering, the supplier could also increase the efficiency and/or effectiveness for the customer's customer. The value for the customer could thus be augmented by: 1) increasing the efficiency for the customer, 2) increasing the efficiency for the customer's customer and 3) increasing the effectiveness for the customer's customer.

The following example will clarify the concept of TVO. Consider a packaging machine manufacturer as the focal company. This manufacturer could buy a new component from one of its suppliers, which would allow the manufacturer's customer to enhance their wrapping possibilities. This component has a significantly higher price than the available alternatives. However, due to the enhanced wrapping possibilities, the packaging machine manufacturer would be able to charge their customers a considerable higher price than they could for the packaging machine without the new component. This difference in the down-stream revenues is something the manufacturer should consider when making purchasing decisions.

Although we have now touched upon the value increase possibilities, value has not been defined as such. In this PhD project value in business markets is defined as 'the worth in monetary terms of the economic, technical, service, and social benefits a customer firm receives in exchange for the price it pays for a market offering' (Anderson et al. 1993; Anderson and Narus 1999). The selected definition was chosen, because, first of all, it distinguishes value and price, with the difference being the customer's incentive to pay. The benefits are net benefits, so the sacrifices (costs) are subtracted from the benefits (gross value). Seen from this viewpoint, a research can make a distinction between the value, the costs and the price attached to an offering. This is exactly what is done in this project. The definition sums up different kinds of benefits, which could be perceived by the customer. Most probably, these benefits are not given the same weight in all situations. This could also be interesting to incorporate.

## Research problem and question

When making purchasing decisions, managers weigh different alternatives on certain criteria. In the most elementary stage, the only criterion is price. However, the company will benefit if (all) relevant costs are taken into account with a tool like TCO. The next step is to consider the downstream revenue-generating aspects in the purchasing decision. Instead of only weighing the costs and benefits for the focal company, this research project aims to extend the weighing criteria with the downstream revenue-enhancing effects and see how this affects the weighing that takes place in the purchasing decision of the focal company.

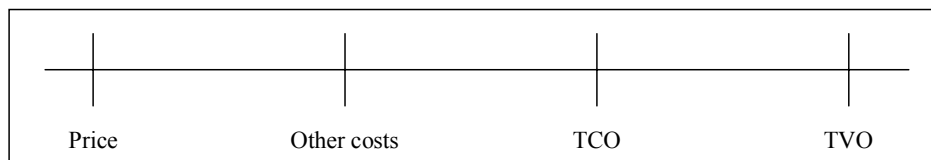
Anderson et al. (2000) have investigated how purchasing managers combine information about product offerings' values and prices to make purchase decisions. The results of two field studies show that managers do not regard monetarily equivalent changes in value and price to be the same. Using reference dependent theory, the authors demonstrate that, rather than a single utility function, separate functions for value and price appear to underlie purchasing managers' decisions.

However, it is unknown how they will weigh the value effects that occur downstream relative to price and cost information. The choices for these managers could be between suppliers but also between different offerings of one supplier. The value of an offering should not be seen in isolation. Often, the attractiveness of an offering also depends on the resources already present in a company.

The first goal will be to describe how managers gather, interpret and use information to develop preferences on a continuum from price to TVO (see Figure 1) during new product development processes. The area of new product development process was chosen because it enables researching the way value is created in a dyad regarding an offering. The purchased offering is customized and the buyer and seller create and search for alternatives collectively.

The second goal will be to investigate how the preferences of customer managers are moderated by variables that are inherent to the buyer and the buyer's organization (individual, group and organizational characteristics) and variables that are inherent to the offering (informational, purchase and supplier characteristics).

Figure 1. Continuum price to TVO



The main research question dealt with in this research project can be formulated as such:

“How do customer managers (a) create, (b) gather, (c) interpret and (d) use information with regard to downstream revenue-generating aspects to develop preferences (and make purchasing decisions) during new product development processes and how can this process be moderated?”

The main interest is thus in the preferences of the managers and not necessarily in the resulting final decision. In most new product development processes, managers from different functional areas will be involved. The goal would be to see if differences exist with regard to how managers from

different functional areas develop these preferences more than how these preferences are transformed into a joint decision. The methodology used to answer the main research question will be explained later on in the methodology part.

## Theoretical foundation

The dependent variable in this research project will be the preferences that customer managers have regarding the different revenue-generating effects. A customer manager can be defined as an employee of the buying company who is involved in the buying process of a certain item. To develop variables to

include in the conceptual framework, two concepts and two streams of literature were chosen: 1) total cost of ownership, 2) customer value, 3) organizational buying behavior, and 4) behavioral decision theory.

Although the concepts TCO and customer value are of importance to TVO, they will not be explained further in this section as they have both been touched upon in previous sections. Moreover, the focus of this paper and the discussion points will be the intended methodology. For this reason, the theory development will not be extensive in this paper.

Organizational buying behavior (OBB) differs from consumer buying behavior in several ways. Webster and Wind (1972) attribute this to the fact that organizational buying usually takes place in the context of a formal organization and that it involves many people in the decision process with complex interactions among people and among individual and organizational goals. Only limited knowledge within the organizational buying behavior literature exists with regard to how buyers actually process information and the specific rules they tend to use for this (Vyas and Woodside 1984). For marketers, it is important to understand when, how, and why buyers make particular choices. This will enable them to understand what influences are involved and how these influences are likely to impact the decision process (Kauffman 1996).

OBB-literature will help in developing hypotheses about the effect of supplier, purchase, group and organizational characteristics included in the conceptual framework.

The supplier characteristics can be defined as the variables inherent to the supplier. These variables combined with the buyer-seller relationship will probably affect the preferences of a customer manager. Buyer and supplier firms do not only do business with each other because of the value of the good or service being exchanged. There may be factors on the level of the supplier firms that make one offer more attractive than another one. This includes, for example, the reputation or location of the supplier, but also the supplier's innovative capability.

The purchase characteristics combine the purchase situation with the product characteristics. The product characteristics are constituted by the

criteria that are taken into consideration by the buying company, such as price, quality, delivery time, after-sales service et cetera. The purchase situation could be the straight rebuy, modified rebuy and new task (Robinson, Faris and Wind 1967). Other purchase characteristics are product type, perceived risk, prior experience with buying a similar item, product complexity and time pressure.

Group characteristics could be constituted by size, structure, authority, membership, experiences, expectations, leadership, objectives and backgrounds.

The reward and measurement system in place in an organization will in all probability affect this. Other possible organizational characteristics involve size, structure, orientation, technology, tasks and goals.

Purchasing decisions often involve uncertainty about outcomes. OBB-literature will also be useful in defining which risk handling strategies customer managers might use. In most of the organizational buying behavior literature, perceived risk has been viewed as the function of two variables: the importance of the purchase and the level of uncertainty associated with the outcome of the purchase (Wilson et al. 1991; Henthorne et al. 1993). Johnston and Lewin (1996) have added two other variables, as they see purchase risk also as a function of the complexity associated with a purchase and the need to reach a decision quickly (time pressure).

Although it is useful to study how perceived risk influences the variations in the buying process, it does not learn us about the actual decision-making process. It would therefore be valuable to investigate how the level of risk perceived by a purchasing manager would explain the preferences for offerings containing a varying level of risk. Every individual probably uses different strategies to handle risk. These strategies are expected to directly influence the preferences a customer manager has as an intervening variable.

Organizational buying behavior is useful in explaining which variables influence the decision-making process in one way or another. However, it does not teach us about the way the decision-making process actually takes place at a micro-level. Behavioral decision theory is primarily used in

consumer marketing literature and aims at finding out in which way people interpret and use information to develop preferences. The construct that covers this has been labelled decision-making heuristics in the conceptual framework. Furthermore, this theory helps us in identifying how individual and informational characteristics have a moderating influence on the heuristics.

People use different heuristics or 'rules of thumb' to elicit information when making decisions. These heuristics could be explicit, but are often also applied unconsciously. Prospect theory for example challenges the economic notion that people compare the positive utility of having a good with the negative utility of its price. Instead, prospect theory argues that people evaluate purchases in terms of gains or losses, relative to a reference point (Smith and Nagle 1995). This reference point is one factor that determines the decision frame - the perspective through which a decision maker views the alternatives in a decision problem (Puto 1987). The other factors included in the decision frame are the choice alternatives (Qualls and Puto 1989).

The value function is normally concave for gains, commonly convex for losses, and is generally steeper for losses than for gains (Kahneman and Tversky 1979). This shows that buyers are not perfectly rational in their decisions regarding value and price. This holds true also for price differences. Consumers appear to frame differences in price in relative terms rather than absolute terms (Smith and Nagle 1995; Anderson et al. 2000).

Literature on decision-making heuristics will provide an insight into the way people make decisions. This will be an important variable, as the heuristics are expected to intervene the relationship between the value generators and a customer manager's preferences

Prospect theory is applicable to decision situations involving risk. People seem to behave differently in choices involving ambiguity (Fox and Tversky 1995) and uncertainty. Individual decision makers have a basic attitude toward taking risk, which for some individuals remains invariant across choice contexts (risk averse, risk taking, or context dependent). Risk taking managers will thus probably apply different risk handling strategies than risk

averse managers. This 'sensitivity' to risk can be placed among the individual characteristics, just like, f.e. an individual's function within the company, education and experience.

Bettman and Kakkar (1977) show that information is processed in the fashion, which is easiest given the display used. People are generally unable to process more than 7-9 items of information simultaneously. They therefore often opt for the 'divide and conquer' approach (Lipe and Salterio 2002), which assumes that people divide information in categories and judge the categories instead of the individual variables. The informational characteristics could include the degree of quantification of the information and the certainty of this information. All the information used for the decision should be included.

## Conceptual framework

A conceptual framework explains, either graphically or in narrative form, the main things to be studied – the key factors, constructs or variables – and the presumed relationships among them (Miles and Huberman 1994). The same authors state that frameworks can be rudimentary or elaborate, theory-driven or commonsensical, descriptive or causal. Conceptual frameworks can also evolve and develop out of fieldwork itself. The initial conceptual framework in this project is more rudimentary, commonsensical and descriptive than elaborate, theory-driven and causal. With the help of the case studies, the conceptual framework will be sharpened and based on this, hypotheses will be generated for the next methodological step. The amount of variables, which could have an impact on the preferences, is enormous. The case studies are aimed at distinguishing the most salient variables. Moreover, these case studies will also give insights into the common practice of decision-making in organizations.

The conceptual framework can be explained as follows. It is not expected that a direct relationship exists between the three different value generators and the preferences of a customer managers. Behavioral decision theory demonstrates that people use 'rules of thumb' or heuristics to simplify information before choosing a preferred offering and

finally making a decision. The variable decision-making heuristics is thus predicted to intervene the relationship between the value generators and the preferences a customer manager has.

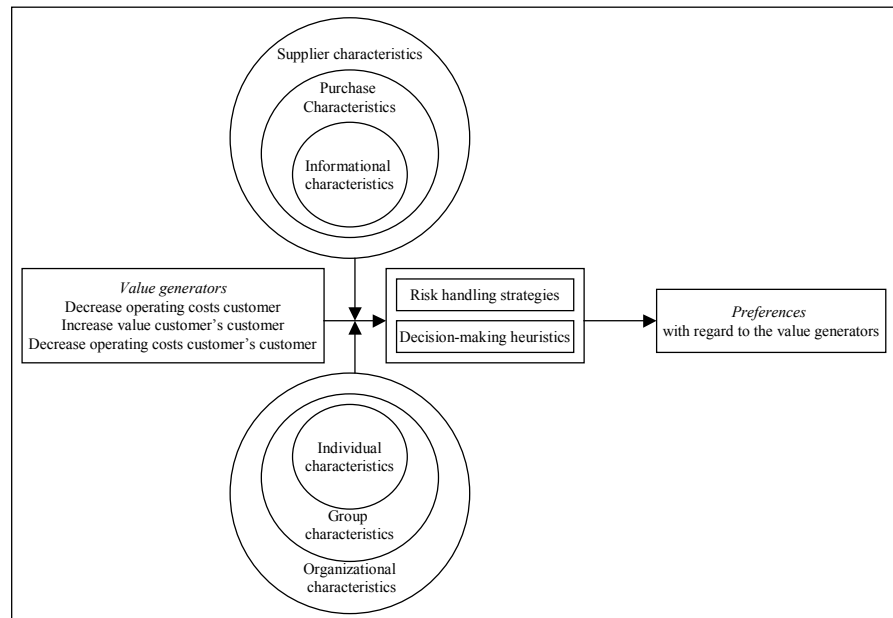
Another variable expected to have an intervening effect is the risk-handling strategy a customer managers applies. Extant research from organizational buying behavior shows that purchasing agents use different strategies to handle the risk associated with buying tasks. As a higher level of risk is linked to these offerings, which provide value for the customer or the customer's customer without an

immediate return, customer managers will probably use techniques to lower this risk.

Apart from the two intervening variables, two sets of moderating variables have been defined. The first set is concerned with the offering under consideration: the supplier, purchase and informational characteristics. The second set of variables is concerned with the customer: the individual, group and organizational characteristics.

The explanation of the different variables is summarized in the conceptual framework (Figure 2).

**Figure 2: Conceptual framework**



## Methodology

The main research question is a how-question. These types of research questions are best answered with an experiment or case study (Yin 2003). This research project will make use of both research methods. In general, case studies are the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context. All these factors apply to the research problem of interest.

Case studies can be used to accomplish various aims: to provide description, test theory or generate theory (Eisenhardt 1989). The case studies in this

project will be used for description and to generate theory. The first phase of the research project aims at selecting the most important variables for answering the main research question. To do this, I propose to apply an embedded multiple-case design. Multiple case companies are examined to vary the organizational characteristics and within each company different product development processes are researched to vary the other characteristics of concern. This will give me the opportunity to see the influence the different characteristics have on the buying process. In selecting these cases, the focus will be on the purchase of high value component or modules for the companies in question. The developed product will preferably have an impact on

the way the customers' customer values the product. This phase of the research project will be of an exploratory and descriptive nature. A possibility would be to embed a small-scale survey in the case study design.

After this more qualitative oriented phase, I would like to use a more quantitative approach by means of applying (quasi)-experimentation. The experiments will build on the results gathered by the qualitative approach. Experimentation is the research method that comes closest to proving causality (Cooper and Schindler 2003), thus gaining more general conclusions. The experiments will consist of a vignette and a questionnaire. Vignette analysis is a technique that is often used in sociology. This one page vignette describes a purchasing decision and in the questionnaire different questions about the respondents' preferences can be posed. The different independent variables can be varied among different vignettes. This type of experiments is becoming more popular within business research where they are often called scenario-based experiments. Of course, these experiments also have to comply with all the validity tests like random assignment etc.

The first scenario-based experiments will be conducted with (MBA) students. The variables tested in this round of experiments will mainly be the variables that emerged from behavioral decision theory.

The second round of experiments will be a scenario-based experiment with customer managers. These managers may come from different disciplines within an organization, but have to have an influence on purchasing decisions in new product development processes.

## Case study questions

The primary dependent variable will be the preferences of a customer manager regarding the three value generators. However, preferences for a certain option do not mean that this option will be chosen eventually, certainly not if more people are involved in this decision. Although the preferences of customer managers will be the main focus, data will also be collected regarding the decisions that were taken in the new product development projects. This

will help in extending the focus of the main research question to decisions in subsequent empirical work.

The *main research question* dealt with in the case studies can be formulated as such:

"How do customer managers (a) create, (b) gather, (c) interpret and (d) use information with regard to downstream revenue-generating aspects to develop preferences (and make purchasing decisions) during new product development processes and what could be the moderating factors in this process?"

As it is expected that customer managers react differently on each of the value generators, the case studies will be designed to see how these value generators affect the preferences. Yin (2003) identified four different types of case study designs: a holistic single-case design, an embedded single-case design, a holistic multiple-case design and an embedded multiple-case design. The latter case study design was chosen for the study of TVO. One of the reasons for choosing this design is the multiple units of analysis, which asks for an embedded design instead of a holistic. One unit of analysis will of course be at the individual level of the different customer managers. Another unit of analysis within the same case study will be the different components that are purchased in the setting of a new product development process. The intention is that three components will be selected within a development project company that each highlights the trade-off for a value generator. These three decision processes for the components will together add up to a case. The benefits of selecting decision processes within one product development process are twofold:

- 1) the processes are more easily comparable as is controlled for the group/project characteristics and
- 2) group members can be interviewed on all three decision processes.

If the three value generators cannot be distinguished within one project, it will be needed to select more new product development within one company. To discover how organizational factors might contribute to this process, different case companies will be selected applying replication logic.

*Research question 1:* How do the preferences of customer managers change with regard to the different value generators?

The second set of research questions considers the intervening variables. Research questions 2 and 3 will deal with the risk-handling strategies and decision-making heuristics respectively.

*Research question 2:* What kind of risk-handling strategies did the customer managers apply (for the different value generators) and why did they do that?

*Research question 3:* What kind of heuristics did the customer managers apply (for the different value generators) and why did they use these heuristics?

The third set of research questions is concerned with the moderating variables. The case studies will be used to gain insight into the factors that moderated the preferences of the customer managers in the specific cases. In this stage of the empirical work, finding out that these factors do affect the process is enough. In the scenario-based experiments that follow the case studies, more insights will be gained into to what extent the factors moderate the relationship between the value generators and the intervening variables. Seen from this perspective, research questions 4 and 5 can be formulated as such:

*Research question 4:* What factors concerned with the supplier's offering are perceived by the customer managers to have a moderating effect?

*Research question 5:* What factors concerned with the customer itself are perceived by the customer managers to have a moderating effect?

The last research question is related to the final decision that was taken by the project team. The answers will be used to see how the different preferences of the customer managers are combined into a group decision.

*Research question 6:* Based on the preferences of the different project members, what was the final decision that was taken by the group?

The collection of the main research question and the six research questions form the general questions that will be answered by the case studies.

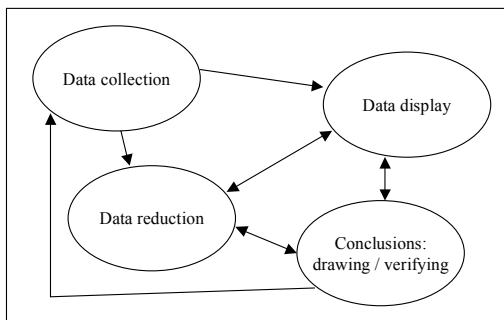
## Data collection

In total, six different sources of evidence can be identified when conducting case studies: documentation, archival records, interviews, direct observations, participant-observation and physical artifacts (Yin, 2003). The first three sources of evidence will be the ones used in these case studies.

The main source of evidence will be conducting interviews with the different employees involved in the decision-making unit regarding a project involving a value generator. Not all of the interviewed persons will be customer managers. Some of them could also be supplier representatives that can explain how they have demonstrated the value for their customer and possibly their customer's customer(s). The aim of the interviews is to gain insight into the preferences of the interviewees regarding the value generators and to develop some answers to the case study questions. To do this, the interviews will be semi-structured. To compare the individuals and the projects, also a short questionnaire will be part of the interviews. This questionnaire will contain questions about their decision-making style, risk preference, experience in purchasing, importance of the project, relationship with the supplier, complexity of the project, division of power between the departments, et cetera.

Apart from the interviews, documentation and archival records will be sources of evidence. Documentation could consist of minutes of project meetings and e-mails relating to the project. Archival records could be organizational charts, budget rules and documentation on the review and reward system in operation. The triangulation made possible by multiple data collection methods provides a stronger basis for developing hypotheses. The collection of data will be both concurrent and sequential. Parts of the analysis will be done when the data collection has not been finished. This way the conceptual framework will be changed and sharpened during the process. Miles and Huberman (1994) have defined data analysis as consisting of three flows of activity: data reduction, data display, and conclusion drawing/verification. As can be seen in Figure 3, this process is highly iterative.

**Figure 3. Data analysis (Miles and Huberman 1994)**



### Selection of case companies

Given the limited number of cases, which can usually be studied, it makes sense to choose cases such as extreme situations and polar types in which the process of interest is 'transparently observable' (Eisenhardt 1989). Choosing cases, which are likely to replicate or extend the emergent theory, allows for theoretical sampling. The goal in selecting case companies will be to collect a diverse group of companies.

The case companies are selected based on a few conditions. First of all, the company needs to have experience with new product development projects in cooperation with their suppliers. Moreover, the purchasing department needs to have a grasp of what their customers consider as 'value'. Only these two conditions, limit the possible set of case companies severely. Possible case companies are likely to be larger companies in a competitive and technological industry. A variable that hasn't been mentioned yet is the difference between B2B and B2C markets. It could be that the kind of end-market influences the preferences. As customers tend to be more professional than consumers, it is expected that customers are more inclined to purchase offerings based on TCO. Supplying a business or consumer market will thus probably be an influencing factor for the customer. To control for this difference, every studied industry will involved cases regarding B2B and B2C markets.

At the time of submitting this paper, a first set of companies has been approached for their cooperating in conducting the case studies. A few

companies have consented to their cooperation. These companies operate in the health-care industry, food industry, and semi-conductor industry. Apart from the semi-conductor industry, companies in both B2B and B2C markets have been selected. A total of 17 interviews have been conducted right now. Unfortunately, the first results of these case studies could not be incorporated in this paper at this stage. However, the goal is to present some initial results during the summer school.

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