

# VALUE CONCEPTS AND VALUE BASED COLLABORATION IN BUILDING PROJECTS

**Per Anker Jensen**

Technical University of Denmark, Denmark

## **Abstract**

Value has in recent years become a popular term in management theory and practice in general as well as in economic theory and architectural management. This paper attempts to clarify the various uses and meanings of concepts of value/values. Six different value concepts are identified. The origin and use of value concepts in classic and modern economic theory and in management theory is outlined. The question of objectivity and subjectivity is discussed in relation to economic value and customer value. Value creation is put in relation to development in products and processes and a number of design strategies are identified. The concept and methods of value based management and collaboration is discussed in this context. The paper is mainly theoretical and based on a MBA study as well as many years of experience as building client and facilities manager.

**Keywords:** Design strategies, performance, value creation, value management, value-based collaboration.

## **THE CONCEPTS OF VALUE(S)**

Value as a concept has many different meanings and usages. There is a basic difference between value in the singular, expressing the worth of something, and values in plural, which has relation to personal belief and social behavior. Based on literature studies the following categories of value have been established (Graeber, 2001, Harpe, 2005, Hatch, 1997, Jensen, 2003, Pine & Gilmore and Thyssen, 2002):

1. Religious values – Values as belief system (not dealt with in this paper)
2. Behavioral values – Values as moral and ethics
3. Economic value – Value as exchange
4. Use value – Value as utility
5. Cultural value – Value as meaning and sign
6. Perception value – Value as experience

Exchange and use value was at the center of thinking concerning value in classic economic theory in the 19<sup>th</sup> century. In neo-classic economic theory, the theory of value of labour from the classic economical theory was neglected and value did not have a central role as a theoretical concept (Andersen & Keiding, 1997). In recent economic theory the concept of value has however got a renaissance, not least as the concept of Economic Value Added (EVA), which clearly relates to exchange. Exchange value is in general the starting point for most economic thinking. Furthermore, the concept of value has become increasingly popular in some of the literature on management, especially within strategy and marketing. Among the most well known is Porter's theories on value chains, which like most economic theory relates to exchange value (Porter, 1985). Another example is the strategy thinking of Teece concerning "non-tradeable assets" like

knowledge, innovative capabilities, brands and service concepts, which relate to use value (Teece, 2003).

Within product development and design use value is also the natural starting point, although often in a combination with the exchange value and value as meaning and sign. The most interesting in this context is however the relations between exchange and use value. Essential concepts in this relation are value creation and added value. In relation to a production process, value creation is defined as the value of the product reduced by the value of the resources used during the production of the product. The value of the product consists of the value of the resources and the added value. In classic and neo-classic economic theory the value of the product is on average equivalent to the price of the product. In modern marketing oriented theory there is a strong tendency to make value a completely subjectively defined concept. According to some authors product value equals customer value. It is the individual needs of the customer that define the value of the product. Similar products thus can have different value for different customers even though they may have to pay the same price for the products. There are even some authors, who claim that the value creation of a product is dependent on the products participation in the customers own value creation. Value is in these theories created jointly (co-produced value) between deliverer and customer (Ramírez & Wallin, 2000).

The apparent contradiction between objective and subjective definitions of value could be resolved using the definition of economic value formulated by Cook (1997). Opposite to the general understanding in economic theory that price is an expression of value, Cook's argument is that a product to be produced must have a value that exceeds its price. The difference between the price and the production cost makes up the producer's "free value" or "net value". The difference between the value and the price makes up the buyer's free or net value. Hence, both the producer and the buyer gain from the transaction. It is remarkable that this understanding of value closely follows the understanding of value in the classic economic theory and at the same time is coherent with the fundamental market mechanism. In the theory of labour value, the basis for value creation is that labour creates more value than the cost of labour. The value of labour exceeds the price of labour. Why should this only apply to labour and not to all products? This means that the added value is redistributed to all products mediated by the market mechanism. The added value will be distributed between producers and buyers according to the relative power of supply and demand. In relation to partnering in the building process, it is of particular interest that the fundamental transaction of exchange with this understanding is a "win-win" situation, which also is a basic aim in partnering.

Based on Cook's understanding the product value can be divided in a relatively objective use value or design value and a more subjective customer value. The design value is under market conditions expressed by the exchange value, while customer value is decisive on how the demand for potential customers is divided on competing products. In a marketing context, it is therefore important to develop a design value that is increasingly more segmented and adapted to specific groups of customers to attract a higher proportion of the potential demand – or a more exclusive part willing to pay a higher price.

There is in general a definite tendency in marketing to "undermine" the market relations by creating closer and longer lasting relations between deliverers and customers. In this way the market related transaction costs could be reduced for both deliverer and customer, leading to reduced usage of resources and increased value creation. According to Ford et al (2002) a customer can gain value in two ways: The value of the offering and the value of the relationship. The building industry has traditionally focused solely on the value of the offering. It may be time for the industry also to gain value from relationships.

### **VALUE AND PERFORMANCE**

A researcher from Finland refers to the four e's of performance: "Performance is a factor of the building feasibility. The four e's of performance are economy, efficiency, effectiveness and efficacy"... "Economy means doing things for low cost"... "Efficiency is doing things right, i.e. using resources well. Effectiveness is doing the right things; it is taking into account the market demand. Efficacy means the relevance of the outcome." (Himanen, 2003). These concepts of performance can be divided in relation to the exchange and use value and the distinction between process and product as shown in figure 1. The performance concepts can be regarded as different methods of creating value.

**Figure 1. Different methods for value creation**

	<b>Exchange value</b>	<b>Use value</b>
<b>Process</b>	Economize	Efficiency
<b>Product</b>	Effectiveness	Efficacy

The method of economization aims at lower production cost per unit by acquiring cheaper resources or making the workforce work harder without an equivalent increase in salaries. The efficiency method aims at increasing output without increasing the use of resources by working smarter and doing things right the first time. The effectiveness method aims at the highest possible income from sales by doing the right things in relation to the demand from the market. The efficacy method aims at increasing the products fulfillment of need and user satisfaction.

The above methods mostly apply to production of goods. In delivery of services and experience the process and product aspects melt together and cannot be analyzed separately. According to Pine & Gilmore (1999) a general increase in value occurs as society develops from agriculture, to industry, to service and further on to experience and ultimately to a so-called transformation society.

An important aspect of use value creation is that business processes can both create value for the customer and internally in the production process, for instance in the form of new knowledge and other "non-tradeable" assets as mentioned earlier. This is becoming increasingly important, which the many efforts to create learning organizations illustrate. Speculative capital investments can be seen as a parallel in creation of exchange value

(Sarasoja et al, 2004). Both non-tradeable assets and speculative capital investments are capabilities that aim at long term benefits. Value creation can also take place in relation to cultural value and perception value. Cultural value includes branding and the image of companies as well as prestige and signal value for individual customers. Perception value relates to the customers experience by use of a product or participating in an event.

### **VALUE BASED MANAGEMENT AND COLLABORATION**

A Danish working party on value management has produced a State-of-the-Art report, where the value aspect of the productivity concept is in focus. A distinction is made between an external set of values, which is defined as the customer value regarding both product and process and an internal set of values defined as the value based behavior in the delivery team (Christoffersen, 2003). Compared with the earlier defined categories the external set of values can relate to exchange, use, cultural and perception value, while the internal set values relate to behavioral value. The external set of values are equivalent to the values which are defined by use of value management in the way the term is used in building literature in the UK (Blyth & Worthington, 2001, Green, 1996 and Kelly & Male, 1993) and in the international literature on lean construction (for instance Koskela, 2000). Other authors use the concept value management equivalent to value based behavior and value based management. Thyssen (2002) sees values in an ethical and moral context and also makes a close link between the value base and the strategy of an organization. A value base must be developed in dialogue as part of a political process.

In relation to partnering it seems relevant to make a distinction between value based management and value based collaboration. Value based management is managing an organization based on values defined by the management, i.e. management values. Value based collaboration is a collaboration between different organizations based on values defined by the collaborating parties, i.e. collaboration values. Value based collaboration will or can include a value management process of defining the external set of values together with the end users of the building project.

A test building project of a student hostel called Limfjordskollegiet in Aalborg, Denmark had value based management as a starting point, but as the project developed the involved parties changed the terminology towards value based collaboration (Wandahl, 2002). Values were originally defined in a workshop using the concept of “future workshop” as a methodology. Starting from not preferable “anti-values” the involved parties defined the preferred values in the project collaboration, and this led to the definition of a value base included in a formal agreement of collaboration.

During the project period the values were monitored every fortnight by use of an IT-based value-web, where all parties should give their evaluation of the importance and the fulfillment of the different values by indicating a score between 1 and 5. At meetings and workshops the evaluations were discussed and actions agreed upon.

In a major on-going Danish building project - DR BYEN - the project management of the client organization is utilizing value based management, and the collaboration with consulting companies and contractors is based on partnering. DR BYEN is a multimedia building which is to be the new headquarters for DR (Danish Broadcasting Corporation)

in Copenhagen. The project includes a total of 130.000 sq. m divided in four segments, with different teams of designers and contractors for each segment. The author was employed as deputy project director in the client organization until spring 2005.

A value base for managing the client organization in DR BYEN was defined by the project management. This was developed during seminars involving the leading members of the clients project management organization. Similarly, the collaboration parties have as part of the partnering process defined common vision, objectives and rules for the collaboration. The example used in this paper concerned segment 3 and was developed at the beginning of the design development at a kick-off seminar with representatives from the design team and the client. The outcome was called rules of collaboration, but they are very close to the values defined at Limfjordskollegiet and the partnering collaboration can be regarded as value based collaboration. A comparison of the value base of DR BYEN's project management and the values in the collaboration in both Limfjordskollegiet and DR BYEN's segment 3 is shown in Figure 2.

**Figure 2. Comparison of the values of collaboration (from Jensen, 2003).**

<b>Values on collaboration in Limfjordskollegiet</b>	<b>Values of management in DR BYEN</b>	<b>Rules of collaboration in DR BYEN's segment 3</b>
Good collaboration	Good partner of collaboration	Collaboration should be a gain for all
Honesty and openness	Honesty + openness	Open and honest
Respect and equality	Respect for others	Respect
Keeping agreements	Timeliness	Timeliness
Joint responsibility	Professionalism	Holistic
Effective communication	Dialogue	Dialogue
Sharing of knowledge		Helpfulness
It must be good fun		Be good fun
		Self-realization
		Clear to everybody

The comparison shows a lot of similar values and rules for managing and collaborating. The main difference is that the value base for DR BYEN's value based project management does not include values related to personal engagement and personal gain in relation to knowledge sharing, self-realization and enjoyment, which are present in both

cases of value based collaboration. The value based management mainly focuses on the values of the organization as a company, while the value based collaboration also put focus on the individual aspects of the collaboration.

This clearly indicates that it makes a difference to define collaboration values in a group based process with all involved parties. The participants start to realize their possible individual gain from the process instead of just seeing themselves as professionals representing their company.

## **CONCLUSION**

Based on the above mentioned methods of value creation and management of value, a set of different strategies for value creation has been identified as shown in Figure 3.

A focus on value creation has the advantage that it at the same time requires a holistic approach and awareness towards what is essential for the company and it's customers. Cook (1997) expresses it as follows: "Understanding how value is generated is vital to the development of successful products because value is the only fundamental metric which makes a positive contribution to all the other bottom-line metrics". The difficulty with the concept of value is the many different facets and aspects, and a lack of agreement on the definition and practical application of the concept.

This paper shows from a theoretical point of view, that the concept of value and value creation should be related to both producers and customers as well as to both processes and products. There is however a clear trend towards increased collaboration between producers and customers in value creation. This applies to business in general as well as to the building and facilities management industries. Another trend is that products and processes are becoming more and more intertwined, particularly in the expanding areas of delivering services and experiences. This trend is one of the driving forces behind the development of facilities management as a service delivery.

Both trends are also important for the building industry. The increasing demand for involvement of the end users in the building process is an example of collaboration between producers and customers in the value creation process. However, it is also an example of the increasing need for delivering services and experiences to the customer during the process as part of the products delivered by the building industry.

The paper also indicates that the practical implementation of value management in the form of value based collaboration can provide a holistic approach to building process development and building product evaluation that is promising in relation to the positive engagement of all stakeholders in the building process and providing a more holistic product assessment compared to other methods for building evaluation.

**Figure 3. Strategies for value creation**

	<b>Behavioural values</b>	<b>Exchange Value</b>	<b>Use value</b>	<b>Cultural value</b>	<b>Perception Value</b>
<b>Process</b>	Value based management.	Minimize cost of resources.  Maximize output with the same resources.	Gradually improve process by doing things right.  Radically improve process by working smarter.  Improve process to create new internal knowledge.		
<b>Product</b>		Maximize amount of sales by doing the right things.  Maximize product prizes.  Speculative capital Investments.	Gradually improve product by increased functionality.  Radically improve product by new functionalities.	Create significant products that support company branding and customers signal value.	Create products that give customers valuable experiences.
<b>Process and Product</b>			Make the process part of the product by including services of value for the customer.		Create events that give customers valuable experiences.
	Value based collaboration.				

## References

- Andersen, Jan & Hans Keiding (1997): *Introduktion til Nationaløkonomi*. Jurist- og Økonomforbundets Forlag.
- Blyth, Alastair & Worthington, John (2001): *Managing the Brief for Better Design*. Spon Press. London.
- Christoffersen, Anders Kirk (2003): *Værdiledelse - State-of-the-Art Rapport*. Working Party on Value Management. Byggeriets Evaluerings Center. August 2003.
- Cook, Harry (1997): *Product Management - Value, Quality, Cost, Price, Profit and Organization*. Chapman & Hall.
- Ford, David et al (2002): *The Business Marketing Course - Managing in Complex Networks*. John Wiley & Sons.
- Graeber, D. (2001): *Towards an Anthropological Theory of Value - The False Coin of Our Dreams*. Palgrave.
- Green, Stuart D. (1996): *Smart Value Management: A Group Decision Support Methodology for Building Design*. University of Reading. England.
- Harpe, Lennart B. (2005): *Development of facility concepts within a perception economy*. Proceedings from the European Facilities Management Conference EFMC 2005 in Frankfurt, Germany. VDE Verlag, Berlin, Offenbach.
- Hatch, Mary Jo (1997): *Organization Theory - Modern, Symbolic and Postmodern Perspectives*. Oxford University Press.
- Himanen, Mervi (2003): *The Intelligence of Intelligent Buildings. The Feasibility of the Intelligent Building Concept in Office Buildings*. Doctoral Thesis. VVT Building Technology. Espoo, Finland.
- Jensen, Per Anker (2001): *Håndbog i Facilities Management*. Danish Facilities Management Association.
- Jensen, Per Anker (2003): *Værdi og værdiskabelse i byggeprocessen*. MBA report.
- Kelly, John & Male Steven (1993): *Value Management in Design and Construction*. E & FN SPON.
- Koskela, Lauri (2000): *An exploration towards a production theory and it's application to construction*. VTT – Technical Research Centre of Finland, Espoo 2000.
- Pine, B. Joseph & Gilmore, James H. (1999): *The Experience Economy - Work is Theatre and Every Business a Stage*. Harvard Business School Press.
- Porter, Michael (1985): *Competitive Advantage – Creating and Sustaining Superior Performance*. Free Press.
- Ramírez, Rafael & Johan Wallin (2000): *Prime Movers - Define Your Business or Have Someone Define it Against You*. John Wiley & Sons.
- Sarasoja; Anna-Liisa, Gibler, Karen M. & Leväinen, Kari (2004): *Value adding attributes of CREM*. 11<sup>th</sup> Annual European Real Estate Society Conference, Milan, Italy. June 2<sup>nd</sup> to 5<sup>th</sup> 2004.
- Teece, David J. (2003): *Dynamic Capabilities: Retrospective and Prospective*. Paper presented at a guest lecture at Copenhagen Business School, 2. September 2003.
- Thyssen, Ole (2002): *Værdiledelse - om organisationer og etik*. Gyldendal. 3. edition.
- Wandahl, Søren (2002): *Værdibaseret samarbejde - Processtyring skaber højere produktværdi for alle*. Aalborg University. June 2002.