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# Test Results of Practical Value-Centric Business Development Methodology

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**Abstract**
Design and the creativity and innovation involved in it are "living things moving in a field." By limiting their movements, they may be described with greater accuracy, but their natural movements then slip away from the scope of such delineation [1]. It is a challenge to give valuable suggestions to an organic system.
Current research has been done on multiple levels in order to gain an understanding of value-centric design from practical perspective as well as from theoretical perspective. During first stage (Descriptive Study 1) of our research we gained practical experience and knowledge from within one construction company [2]. During second stage (Prescriptive Study) we conducted a wide literature review, analysed cases on literature bases and developed a practical methodology for value-centric product, service and business model development [3], [4]. As a last stage of our research (Descriptive Study 2) we test our methodology on 2 case companies from different fields. This article is giving a short overview of test results.

***Keywords: value-centric design; value system; value activity cycle; business development, case study***

## 1 Introduction

Value is in the centre of economic system. It is being created, exchanged and transacted, and perceived [4]. Many different scientific fields (marketing, Product/Service Systems, virtual organisation, business and entrepreneurship, psychology, environmental sustainability, engineering design etc. ) have discovered the importance of "value" in customers` every-day decisions and started opening up the field. We, the authors, see value to be the core concept of integrated product, service and business development and thus propose that a value-centric model of these processes will be beneficial and is much needed [4].
Companies create value by their offerings and customers judge the value of products and services [5]. However, no two people can have the same experience- each experience derives from the interaction between the staged event and the individual's prior state of mind and being [6]. Therefore perceiving the value is individual and context dependent [3],[4]. Value

for customers is created throughout the relationship with the company, partly in interactions between the customer and the supplier or service provider [7].
The car would have no value if no one knew how to drive, had access to fuel and maintenance, and functioned in social networks, for which particular automobiles have particular meanings, etc. The car only has value when the customer makes use of it- in the context of his or her own life. In this case customers, manufacturers and social services co-create value [2], [8].

The most widely known concept of value creation is Porter's value chain [9], where value is created by multiple actors within a chain and then offered to the market. However, this concept has proved not to be suitable in the context of intangible products (services, knowledge, financial products) [3], [4]. New approaches in science and economics show that "value" can also be shared or co-created (open innovation, open source software, strategic alliances etc.) by combining different assets and resources into a value in the same process (value star) [4],[10] or in interlinked activities (value network) [4], [11].
Value propositions are borne by objects which can be products (physical goods), services, experiences, events, persons, places, properties, organizations, information or even ideas that describe quantifiable benefits that individual organizations making an offer promise to deliver [4]. Therefore propositions include many interlinked activities and actors that are not creating value in sequential pattern. Success of a company depends on how efficiently it can convert one form of value into another [11].

## 2 Research within case company A

As roots of the entrepreneurship paradigm are also in psychology and sociology, where it makes sense to use qualitative methods while digging deeper into our research [12]. Qualitative approaches are used when wishing to go beyond mere description at a generalizable level in empirical investigations [12].
During the first stage of the research we gathered information, experience and feelings from within a construction company. We were included in decision-making, managing, marketing, bidding, accounting, construction, processes during 3 years, that was a sufficient time for gaining a feel of how the company worked within its economic landscape and help it develop its value propositions and business-model.
During and after active research-period we conducted various qualitative data collecting strategies, such as interviews, conversations, observations, documentary studies and self-reports [2],[12].
Although the economic landscape is constantly moving and the business is constantly developing, we also tried to perpetuate the moments and compare the numbers, indicators and trends before, during and after the research [2]. This is how we gathered quantitative data for the research.

### 2.1 Case Company A

#### *2.1.1 General description of Company A*

After analysing Company A, we can describe it as a successful micro-sized company founded in 2006 and offers turn-key solutions in the area of industrial construction, using developed modular solutions. Regular clients are industrial companies and farms that need fast and effective construction service [2].
Company A is outsourcing all the services it needs (accountancy, construction drawings, material transport, montage etc.) and is mostly seasonal (projects are executed from late

spring till early winter, when the dirt is soft). Small size gives it some advantages: low fixed costs, dynamics, independence, and efficiency, easy and transparent management.
Company A is customer-centric, trying to understand the context and needs of every client. It is open and honest, telling potential customers that „in the end, you are paying for everything", therefore the client is motivated to choose what he wants to pay for and what not (whether it wants to pay for additional security and storage room or let construction workers keep their machinery in customer`s existing facilities).

*2.1.2 What did we learn about Company A?*
Company A is using successfully a different business model than other construction companies in Estonia.

1. Company A is aiming for system efficiency and cost reduction:
   a. Is trying to view the whole value system
   b. Is enabling its customers to contribute to construction process
   c. Is outsourcing most of the services it needs. This also keeps the company dynamic
   d. Is gathering information from construction workers, designers, production companies etc. for better ideas and development
   e. Is ordering from smaller companies from all over Estonia

2. Company A is flexible in order to achieve win-win-win solutions
   a. Contracts are simple and developed for mutual win, if possible
   b. Company A is listening to suggestions from its construction workers, manufacturers etc.

# 3 Development of value system analysing methodology

After analysing and understanding research data from Company A in depth, we conducted a literature review and numerous case analysis on literature basis (IKEA, Merrild, American Express, Amazon etc.). We developed a new value-centric methodology for developing products, services and business-models [4].

## 3.1 Literature review and case analysis

Before developing a practical value-centric methodology, we gained a better and more comprehensive unerstanding of the term „value" in different fields of science [4]. The term „value" is one of the central terms in many research fields related to engineering design, product development, marketing, Product/Service Systems, psychology et. Though the term has many different contexts and applications, we, the authors, see value to be the core concept of integrated product, service and business development and thus propose that a value-centric model of these processes will be beneficial and is needed [4]. Business strategy and marketing literature on rethinking customer value and the value system prove the relevance of the topic and need for a model that would help companies to understand their value system (big picture) and aid them in discovering new potentials within the system.
Next we analysed different cases on literature bases in parallel to the results of our case Company A and our understanding of term „value". We started noticing common success factors, such as:

- Successful companies know their customer`s needs, wants and wishes more perciesely and they are able to see their context.
- Successful companies have found ways to overcome some barriers and restrictions and are able to offer better propositions for their customers.
- Successful companies have learned to expoilt previously unused resources and potentials, that takes their efficiency to a next level.

- Successful companies know their own, clients` and partners` processes well and are able to see the „big picture".

We put our findings on paper and created a two-stage value-centric product, service and business model development methodology. We then tested our methodology, on literature bases, on one successful company [4]. The methodology seamed to fulfil the goals.

### 3.2 Value-centric product, service and business model development methodology

Our developed vaue-centric business development methodology consists of three stages [4]:

1. value activity cycles,
2. value analysing matrix,
3. analysis of the effects of possible changes within the value system.

Value activity cycles make it possible to see some interlinks, opportunities and barriers between the customer and the company. Analysing this model with the help of value analyzing matrix from activity perspective, helps companies to see the big picture about the situations the customers, itself and other actors go through. Analysis of the effects of possible changes within the value system help to foresee benefits and risks of possible changes. By describing the big picture about the situations the customers, the company itself and other actors within a system, it is possible to see potential interlinks for value co-creation, sharing, transaction and find ways to overcome barriers within a system.

## 4 Testing value-centric business developing methodology

Developped methodology is aimed to be practical and easy-to-use tool for every company from any field. We have tested it on 2 different companies with different businessmodels and are in the middle of analysing process in third company (Table 1).

Table 1 Overview of companies, where value-centric business development methodology has been tested

| | **Company B** | **Company C** | **Company D** |
|---|---|---|---|
| **No. of workers** | 250 workers | 50 workers | 50 workers |
| **Field** | Machine building | Production | Engineering |
| **Example of products** | • Heavy cranes<br>• Platforms for oil rigs<br>• Other XXL products | • Metal parts and assemblies for Mother company.<br>• Some sub-contracting activities | • Drawings, calculations, optimization of different constructions, conveiers etc. |
| **Close relationships with** | • Head contractors<br>• Sub-contractors of Company B | • Mother-company<br>• Sub-contractors of company C<br>• Innovation-partners | • Clients<br>• Sub-contractors<br>• Concern (Company D is one part of bigger concern) |

As it was first difficult to find companies to test our methodology on, we were forced to reduce the amount of time the companies need to invest in analysing their business by using our value-centric methodology. The research was conducted in table tennis principle-researchers created a draft of one stage of analysis and sent it to case company (Figure 1).

Case company improved and corrected the draft and sent it back to research team ect. After proposing such working principle, the companies agreed to participate in our research easily.

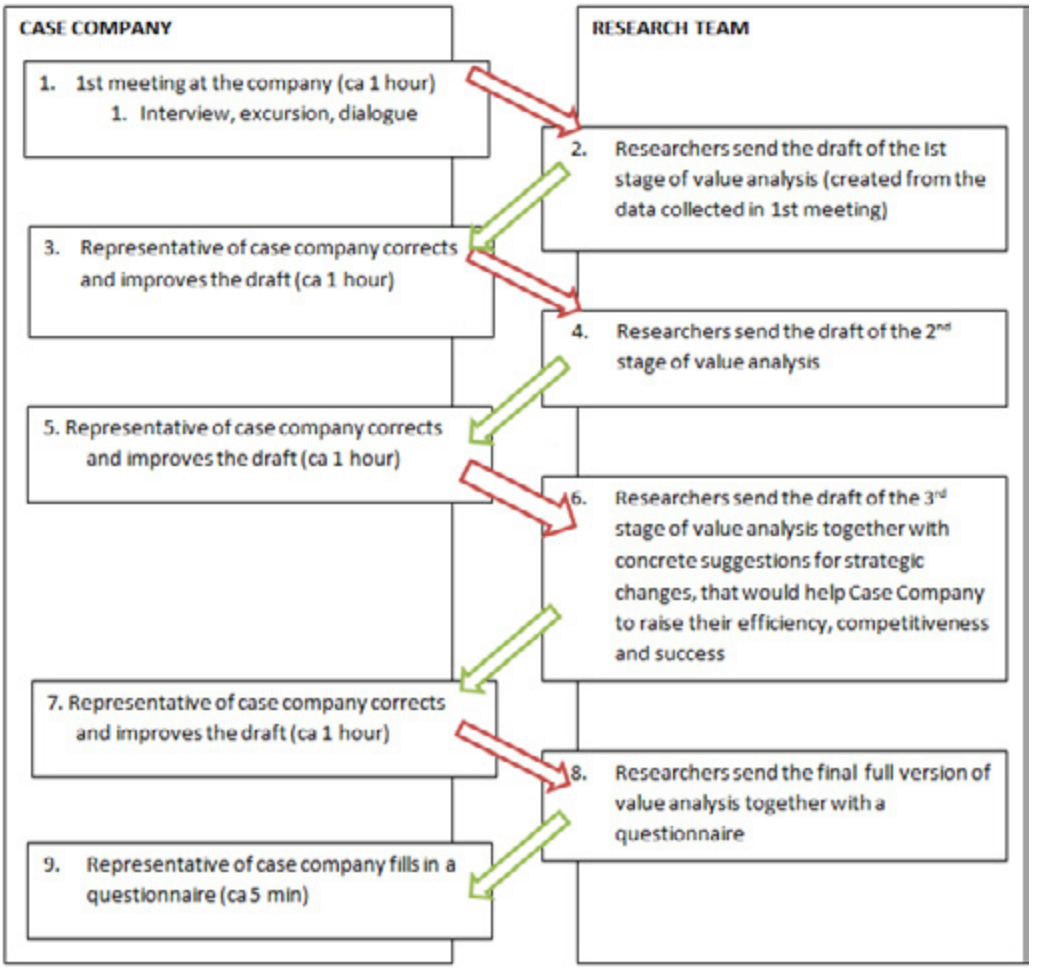

Figure 1 Principal process of the testing phase

### 4.1 Stage one of value-centric business development analysis

Based on information gathered from meeting with company representatives, we created activity cycles of all actors within the value system. Results of Company B are shown in Figure 2.

### 4.2 Stage two of value-centric business development analysis

In second stage we analyzed previously specified activities in 3 perspectives, for all actors-

- Why the actors are acting like that? (their needs and wants),
- Can they act differently? (their potentials, resources) and
- Why don`t/can`t they act differently? (their barriers, restrictions).

A small fraction of the matrix is shown on Figure 3.

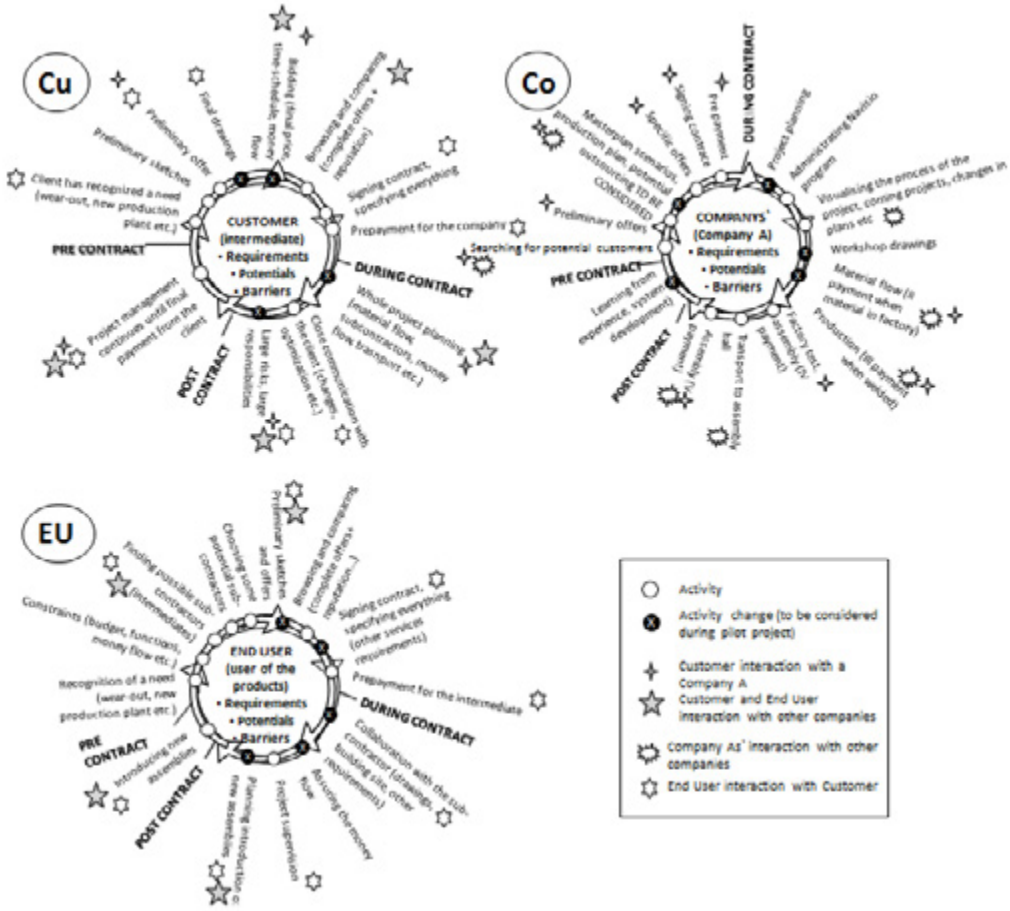


Figure 2 Current value activity cycles of Company B

Grey highlights- statements to be analysed further in next matrix

| 1) Product design | Customer | Company A | End User |
|---|---|---|---|
| Needs, wants | • Early confirmation on sketches with certain parameters (from End User).<br>• Product design using previous databases and solutions (then it is possible to estimate production price, time and possible arising problems). | • Final drawings for price offering as soon as possible.<br>• Product design with optimizing opportunities (possibility to choose alternative materials, production processes, technological order etc. and thereby reducing price and/or delivery-times). | • Working final product with good quality, easily introduced to current processes.<br>• Good price<br>• Good service. |
| Potentials, resources | • Designers and software. | • Practical experience, partners, knowledge (what materials, processes and products are better, cheaper, more functional, what problems can be prevented).<br>• Experienced construction and production drawing designers. | • Practical experience on product exploitation. |
| Barriers, restrictions | • Designers have no practical experience on production, materials available, etc. Designs are often impractical.<br>• Designs are not developed- the same principal solutions are used, even when not practicable. | • No contact with End User, (to specify fixed parameters and concrete needs). | • Often no designing knowledge and skills.<br>• Mind is fixed to what has been working before- difficult to put client to talk about their dreams. |
| 2) Bidding (price, money-flow, schedule...) | Customer | Company A | End User |

Figure 3 Value analyzing matrix of Company B (a small fraction)

### 4.3 Stage three of value-centric business development analysis

In third phase, we analyzed the impact of changes within the value system (Figure 4):

- What precisely can be changed within a value system?
- What are the expected benefits of the change?
- What are the expected dangers of the change?

| Activity | What can be changed (in a value system)? | Benefits of a change (for a value-system) | Dangers of a change (for a value-system) |
|---|---|---|---|
| 1) Product Design: (opportunity for value co-creation and system efficiency raise) | • Company A can be included in Product Design stage for some practical optimization advises.<br>• Also for developing new principal solutions to the client. | • Reduced price of a product<br>• Reduced delivery times<br>• Development of new principal solutions<br>• Full responsibility of the product is on Company A (design+materials+production) | • Designing phase could be longer<br>• Customers will need to bring Company A and End User together- danger of being left out from the system (Customers will need to think about what is their CORE BUSINESS. Is it designing?). |
| 2) Bidding: (Price, money-flow, schedule...) (opportunity for system efficiency raise) | • Agile responding program for bidding between Customer and its partners (price, money-flow, schedule, included services etc.).<br>• Production volume booking commission fee (early booking gives certain discount, but commission fee will not be refund)<br>• Frist prepayment from the Client is small and symbolic (just to book production volumes and start the project). First prepayment for materials will be asked later (this optimizes Clients' money-flow) | • Fast collaboration in bidding between Customer and its partners.<br>• Optimized money-flows for the End User and contracts signed early.<br>• Early and reliable Masterplan fill-up (thanks to commission fee and discount). | • End User will need to decide and sign contracts earlier (greater uncertainty). |

Figure 4 Matrix for analysing the impact of changes in Company B (a small fraction)

Based on the understanding gained from value-centric analysis methodology, we proposed practical strategic suggestions and described in concised manner their impact (Figure 5).

## Strategic suggestions:

1. **Practical product design**:
   a. Company A can be included in Product Design stage for some practical advises. Some of current designs are impractical (difficult to manufacture, impractical raw material selection etc.). By considering Company A suggestions, developed design can reduce production and product price and delivery-times.
   b. Also for developing new principal solutions to the client. Product Designers often choose principal solutions for new products from their databases. New practical ideas could be appreciated in developing better principal solutions.
   c. Optimized product design. Design, where it is possible to choose alternative materials, production processes and technological order could save money and time. In case of machinery failure or project planning error, it is possible to choose another technological path or material.

**Company A wins**: wider selection of materials, production processes and technological paths to choose from- efficiency raise, cost reduction, risk management. Profit from the design works.

**Customer wins**: Product prices will reduce, risk of late deliveries reduces, good collaboration with Company A could lead to other beneficial development projects (visual real-time project management report for example).

**End User wins:** Prices can be reduced, risk of late deliveries reduces.

Figure 5 Strategic suggestions and their impact in concised manner

### 4.4 Testing results

Companies were rather happy to participate in our value-centric business development research. They were open in giving input to our research and replied research draft within 2-3 days (this might indicate their belief in our methodology). After value-centric analysis process was finished, we asked them to fill in questionnaire. The results are shown in Table 2.

Table 2 Answers to questionnaire

| | Company B | | | Company C | | |
|---|---|---|---|---|---|---|
| | YES | No changes | NO | YES | No changes | NO |
| After analysing companys` value system with our methodology, the Company knows what actions its clients perform BEFORE perceiving their product or service. | | x | | | x | |
| After analysing companys` value system with our methodology, the Company knows what actions its clients perform DURING perceiving their product or service. | x | | | x | | |
| After analysing companys` value system with our methodology, the Company knows what actions its clients perform AFTER perceiving their product or service. | | x | | | x | |
| After analysing companys` value system with our methodology, the Company knows what its clients and partners NEED and WANT . | x | | | x | | |
| After analysing companys` value system with our methodology, the Company knows its clients` and partners` RESOURCES and POTENTIALS . (material, technological, intellectual, timely etc. ) | | x | | x | | |
| After analysing companys` value system with our methodology, the Company knows its clients` and partners` BARRIERS and RESTRICTIONS . (What makes it difficult for their clients and partners to act). | | x | | x | | |
| After analysing companys` value system with our methodology, the Company knows how to create offers and propositions, that harmonize with clients` and partners` values and processes. | x | | | x | | |
| Analysing Companies` value system with our methodology helps the Company to see the "BIG PICTURE". | x | | | x | | |
| After analysing Companys` value system, the Company understands its OPPORTUNITIES better. | x | | | x | | |
| After analysing Companys` value system, the Company understands its RISKS better. | x | | | x | | |
| After analysing Companys` value system, the Company understands its BUSINESS MODEL better. | | x | | x | | |
| After analysing Companys` value system, the Company understands its POTENTIALS for development and next steps to take. | x | | | x | | |

| | YES | Rather No | Rather Yes | NO | YES | Rather No | Rather Yes | NO |
|---|---|---|---|---|---|---|---|---|
| Analysing Companys` value system with our "Value Activity Cycle" methodology was EASY. | x | | | | x | | | |
| Analysing Companys` value system with our "Value Activity Cycle" methodology was USEFUL. | x | | | | x | | | |

Company's` representatives evaluated the methodology to be easy and useful. They gained a better understanding of their clients and partners, and know how to create offers that harmonize with their clients and partners values and processes. The methodology helped them to understand the "big picture" and discover development opportunities as well as potential risks. From practical point of view, the methodology helped companies to understand its development potentials in deeper level and know what steps to take next.
Going through our methodology took in average 3,5 hours of time from Company's representatives and 14 hours of time from the research team, which is perceived as acceptable and worthwhile investment of time.

## 5 Conclusions

During first stage (Descriptive Study 1) of our research we gained practical experience and knowledge from within one construction company [2]. During second stage (Prescriptive Study) we conducted a wide literature review, analysed cases on literature bases and developed a practical methodology for value-centric product, service and business model development [3], [4]. As a last stage of our research (Descriptive Study 2) we test our methodology on 2 case companies from different fields.
This paper introduces the results of our research projects final stage- testing of our value-centric business development methodology. Test results show that our research project has been successful. We have been able to develop an easy and useful practical methodology for manufacturing companies to use to gain a better understanding of the "big picture", its clients and partners, its potentials and risks. Further tests will be done in other companies from different fields (Company D is an engineering company, providing drawings and calculations).
As we are living in a volatile world, companies need to be proactive and use their resources effectively. Our methodology helps companies to easily analyse and do research in their value system

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