

Saimaa University of Applied Sciences
Faculty of Business Administration Lappeenranta
Degree Program in International Business

Jarkko Vuorinen

Decision Making Models and Tools to Support Strategic Decision Making - Case: Tarvekaluste Oy

Bachelor's Thesis 2014

Abstract

Jarkko Vuorinen

Decision Making Models and Tools to Support Strategic Decision Making -

Case: Tarvekaluste Oy, 35 pages, 2 appendices

Saimaa University of Applied Sciences

Business Administration Lappeenranta

Degree Program in International Business

International Business

Bachelor's Thesis 2015

Instructor: Senior Lecturer Ms. Marianne Viinikainen

The purpose of the study was to examine theories in decision making and decision making process and cultivate information about valid practices and tools to supplement the company's decision making. The study was commissioned by Tarvekaluste Oy, a carpentry and joinery factory located in Kouvola.

The information was gathered from books and journals and by interviews. The interview format was a semi-structured interview, and information was gathered interviewing the company management, CEO and the president of the board.

As a result of this thesis the company will have researched information about decision making, decision making process and tools used to support them in order to enhance their processes.

Keywords: decision making, strategic decision making, decision making process, cyclical markets

Table of contents

1	Introduction	4
1.1	The objectives and delimitations of the study	5
1.2	Research methods.....	6
1.3	The structure of the study	7
2	Literary review	7
2.1	Decision making: Process and execution	7
2.2	Mintzberg's & Westleys action-oriented forms of decision making.....	10
2.3	Tools and methods supporting decision making	13
2.4	General tools supporting decision making	15
2.4.1	The role of budget in decision making.....	15
2.4.2	The concept of forecasting.....	16
2.5	Risk analysis and risk management.....	17
3	Tarvekaluste	18
3.1	The study and interviews	20
3.2	The description of the project management.....	21
3.3	Who is heard during decision making process.....	21
3.4	Descision making tools used in Tarvekaluste	22
3.5	The role of risk and risk management in decision making	23
3.6	The decision making process.....	23
3.7	Information gathering	24
4	Conclusion	25
	Figures	29
	References.....	30
	Appendices.....	
	Appendix 1 Interview material 13.3.2015 Board President (in Finnish)	
	Appendix 2 Interview material 17.3.2015 CEO (in Finnish)	

1 Introduction

This thesis was commissioned by Tarvekaluste Oy. Tarvekaluste Oy is a carpentry and joinery factory located in Kouvola. The company was founded in 1965 and it specializes in manufacturing and installing tailor-made furniture and fixtures for big construction companies. Tarvekaluste Oy also provides tailor-made interior solutions for households.

The author has done a quite long history working for Tarvekaluste. The author done both his practical trainings in the company and have worked for the company during summertime for many years since 2003. In the recent years I have been working in the office, as my education has provided me the skills needed to work in a secretarial position. Various different tasks have provided me a fairly good insight of the company, and even the business and markets that the company is in.

Tarvekaluste Oy has mainly been doing contracting work for construction industry which has had its own inconveniences: as the industry has been fairly unstable and unpredictable and the market being very cyclical many companies operating in the sector has faced hardships with maintaining stable cash flow and liquidity. The recent recession has affected the markets greatly. During May 2014, five competing businesses either ceased their operations or declared bankruptcy. This tells how harsh the competition and the market situation is.

In order to maintain the high quality of production and high competitiveness, it is crucial to constantly be informed of the changing market situation and conditions. There have been some few big changes in construction industry in the last few years; one of the most notable has been the reverse change in the value added taxation in 2011, aiming to reduce the potential tax risk with VAT frauds.

This has proved to be, at least for Tarvekaluste, a positive change. It has directly affected the company as many practices changed and transparency increased in the construction industry. Even though the company has more responsibilities,

the stricter supervision of the financial industry has been beneficial in terms of more tenders, orders and projects available.

There has been more changes in the near past; starting in July 2014, companies operating in construction industry have had to provide information monthly about construction and installation done in construction sites to the tax administration. How this will affect the company will remain to be seen, but is a good example on how the practices tend to change even in a short amount of time even in manufacturing and contracting.

The cyclical nature of the construction markets, the segment's sensitiveness to economic fluctuations and changing laws and practices requires agility and adaptiveness from a company that operates in the field. This agility and adaptiveness includes preparedness to do larger strategic and production-related decisions.

Tarvekaluste's production could be characterized as a Job-Shop production, which according to Kumar and Suresh (2011) is described as manufacturing only a few or even one product that are designed and manufactured by customer's specifications. Low volumes and high variety of products, in this case customized and tailored products, are also characterizing Job-Shop production. Tarvekaluste's production profile does not however fully fit Job-Shop production, as inventories are kept as small as possible, almost every project requires for some degree manufacturing or installing by hand, usually both.

1.1 The objectives and delimitations of the study

The thesis discusses decision making, the decision making process and tools supplementing it. How to allocate resources, make larger organizational decisions for example large investments and when should they be made? The research question is: Decision making on unpredictable and cyclical market situation – how to gather valid data to analyze and to support decision making?

The aim is to gather theoretical and empirical knowledge and produce data for improving readiness for decision making by producing a study that maps out relevant theories, data and studies and summarizes the relevant information in a way that the company, Tarvekaluste Oy, can utilize.

As the thesis's aim is for the company to get an insight on what should be known and how to gather data to support decision-making. There will be delimitations to the study and any direct analyses for different schemes will not be provided.

The theoretical framework for decision-making on strategic and production segments and the most applicable tools and methods in support of decision making is formed from a literature review. The empirical data for this thesis will be gathered through semi-structured interviews with the management. Decision-making is seen as a process which concerns all of the personnel and relies not only on economic tools.

The Mintzbergs decision making process has been chosen as the backbone of the decision making segment. Mintzbergs model is by comparison (Kansola 2010) the most comprehensive description and visualization of the decision making process in the context of strategic decision making and is also well applicable in the production decision making. However, Mintzbergs model and the proposed tools used to supplement it are not entirely applicable for Tarvekaluste, as the organization is quite small.

1.2 Research methods

This study utilizes a descriptive method with a literary review. The company finances and market situation will be briefly analyzed, but mostly the study will rely on interviews and applicable literature. This study includes both theoretical research and empirical research; the literary review part aims to gather relevant studies and theories within the theoretical framework as the empirical part is conducted of qualitative semi-structured interviews that aim to be in context of the literary reviews findings in order to bind together theories and studies with the Tarvekaluste state of affairs. Relevant studies and theories, both in Finnish and English, will be presented.

The interviews were conducted with the decision makers, operating management in order to gather their insight about the situation. The interviews will be conducted as semi-structured interviews and will be regarded with points coming up in the literary review. The semi-structured interview utilizes interview technique where prepared questions are asked but there is no set choices for an answer (Hirsjärvi & Hurme 2000, p.47), the interview material will be included in the appendices.

1.3 The structure of the study

A literary review will be conducted with relevant theories and practices regarding decision making, common tools used to aid decision making and role of budgeting in decision making. Furthermore, risk analysis and risk management from the decision making point of view will be discussed.

An overview of the company, starting with the company history and description of the business will also be presented. The description will include details of the organization, its location, project cycle and major customers. The overview will also include a short description about the market that the company operates in.

The management will be interviewed in order to gather their insight on the subject. The interviews will be linked with the findings with topics discussed on literary review. Finally, a conclusion will be made about the main points of the study, and some suggestions and final conclusion of the study will be presented.

2 Literary review

2.1 Decision making: Process and execution

There are several different approaches on understanding and presenting decision making process. The process-oriented view argues that decision making should be seen as a process. According to Forman & Selly (2001, p.1) decision making is a process of choosing an alternative from a set of alternatives in order to achieve defined objectives and goals.

According to the authors, the most used decision making model is BOGSAT, an acronym for Bunch Of Old Guys Sitting And Talking. The term may be a bit rude, but holds a bit of truth in it. In many cases, the decision making models and processes are not thought enough, at least in organizations with fewer resources to allocate into processes other than the core business functions. Even though some tools supporting decision making can have been used and “old guys” may have experience and vision, cognitive limitations can hinder the outcome. Therefore decision making and the decision making process can be improved by adapting tested tools and practices. (Forman & Selly 2001.)

Author	Setting goals	Identifying the problem	Defining the problem	Gathering data	Developing alternatives	Reviewing the alternatives	Selecting	Implementing	Reviewing
Simon		x			x		x		
Janis		x					x	x	x
Schrenk		x			x		x		
Witte				x	x	x	x		
Mintzberg		x	x	x	x	x	x		x
Gordon & Pressman	x		x		x		x		x
Gilligan	x			x			x	x	x
Harrison	x			x			x	x	x
Bridge	x		x		x		x		
Hill		x			x		x	x	

Figure 1. Comparison of decision making process phases. (Kansola 2010)

Forman & Selly suggest that Herbert Simon’s three phased decision making process model is the most widely accepted. However, Kansola (2010, p.33) goes through different schools of thought in both defining decision making and differences in describing the process, including Simon’s model. Kansola states that Mintzberg’s strategic decision making process is one of the most well-known descriptions and the most comprehensive, as figure 1 shows.

Mintzberg, Raisinghani, & Theoret (1976) argue that at the same time, strategic decision processes are extremely complex and dynamic, but still they can be rationalized into structures, which the Mintzberg model is one example of. The model was created by observing and analyzing 25 different decision processes in different organization types ranging from institutional organizations to governmental, manufacturing companies and service companies. The decisions ranged

from purchasing new equipment and the development of new products to HRM decisions. The model is formulated by observing different processes and finding similarities and variations between the processes.

In the Mintzberg model the process of decision making is divided into three stages. The first stage is identification that includes recognizing the need for a decision and a diagnosis. The recognition of the need for a decision emerges from seeing a difference in present and desired situation. However it takes effort for the decision maker to recognize the need(s) from all the information that passes through him/her. The diagnostics is about going through present information sources and possibly gathering some new ones. (Kansola 2010 p.36-38.)

The next stage is developing the alternatives, a process that consists of two different kinds of routines: Searching and planning. Searching, is a process like the name indicates, searching for the alternatives. Searching can be divided into four parts: assessing organizational and/or personnel knowledge, passive “waiting”, employing “agents” for search, and finally active searching. Planning is about building a solution. (Kansola 2010 p.38-39.)

The final stage is the selection. The alternatives gathered in the last step are screened and the remaining alternatives evaluated and finally the chosen alternative is validated by getting authorization from the management. Evaluation has three different methods: Judgment evaluation, analysis evaluation and bargaining evaluation. Judgment means the internal decision making between people, bargaining means multiple persons using judgment and then settling their choice between them, where analysis decision process is based on valid facts, making it the “cold logic” method. Mintzberg’s model for process decision making is very comprehensive so this is only a summary. (Kansola 2010 p.38-39.)

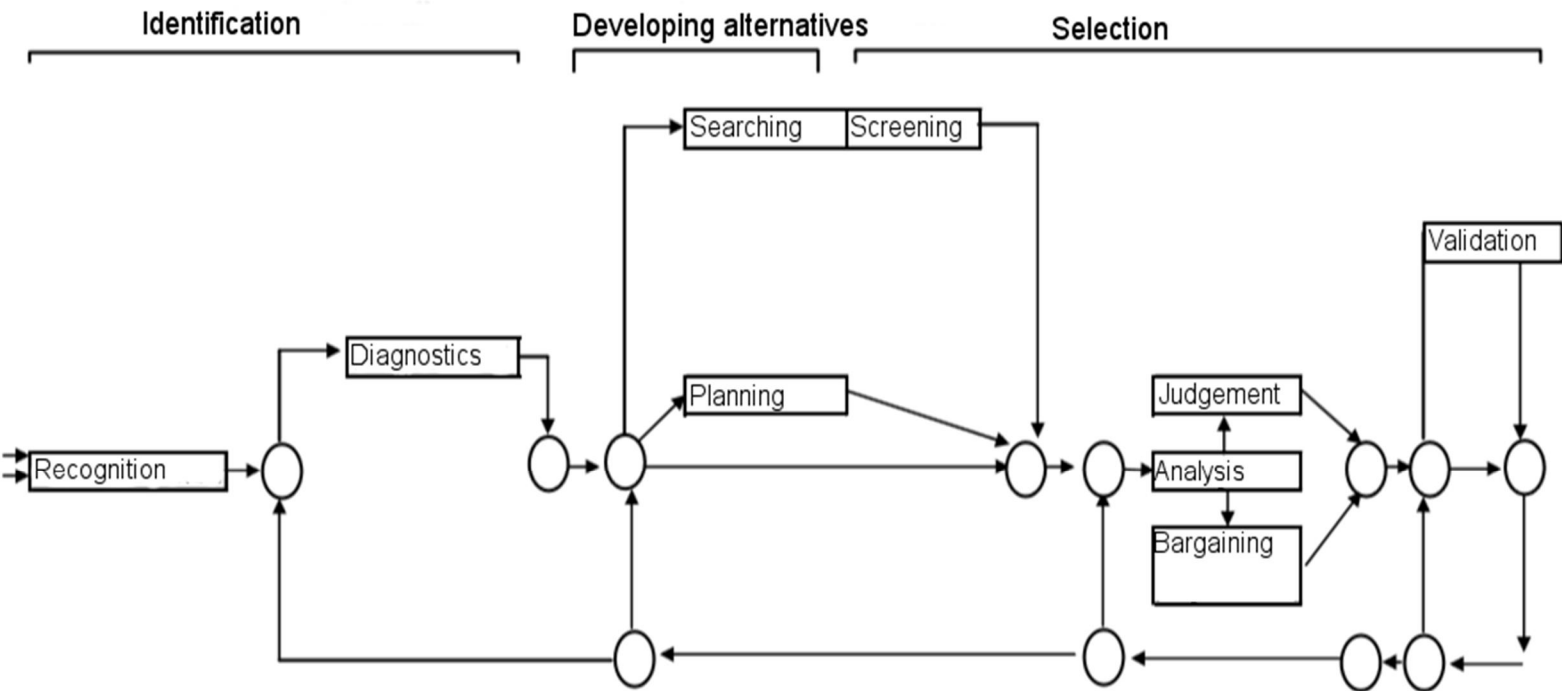


Figure 2. Mintzberg's model of the process of decision making (Kansola 2010, Mintzberg et al. 1976).

2.2 Mintzberg's & Westleys action-oriented forms of decision making

As figure 2 shows, Mintzberg's decision making model is basically a step-by-step process depiction with a possibility to backtrack to previous steps when reviewing or making changes. However, Mintzberg & Westley (2001) have argued that the rational decision making process consisting of a step-by-step method is actually not that common. They present three approaches to making decisions and their processes:

- Thinking first
 - o Define → diagnose → design → decide
- Seeing first
 - o Preparation → incubation → illumination → verification
- Doing first
 - o Enactment → selection → retention

With larger decision processes, with interruptions, diversions and gained insights a good, sustainable decision and following action that produces the desired result

can emerge, but it can be hard to analyze how the decision making process came into conclusion. The step-by-step rational decision making method is called “thinking first” by the authors.

Mintzberg and Westley (2001) suggest that decisions, or at least actions could be fueled by just as much how things are perceived as by what has been thought. Insight, strategic vision requires both confidence in order to operate upon it and experience to perceive the value of the insight. Insight requires deeper knowledge over a subject gathered and developed over years, great insight requires some luck too. Great insights are rare, but great leaps of development can usually be traced to great insights. Mintzberg & Westley call this insight-oriented decision making “seeing first”.

If there is no insight and no way of rationalizing decisions, there is the path of just taking action and perceiving the results. This is called “doing first”. In its most basic form, it is experimenting: Finding out what works by doing something, evaluating it and repeating successful behavior or actions while giving up on unsuccessful ones. The writers argue that thinking does not only drive doing, but doing also drives thinking. One example of this “doing first”-decision making is pioneering and diversification. When entering an entirely new market, there is really no certain way to know best practices and rational decision making is hard when there is no data available. (Mintzberg & Westley 2001.)

"THINKING FIRST" WORKS BEST WHEN:

- the issue is clear;
- the data is reliable;
- the context is structured;
- thoughts can be pinned down; and
- discipline can be applied

as in an established production process.

"SEEING FIRST" WORKS BEST WHEN:

- many elements have to be combined into creative solutions;
- commitment to those solutions is key; and
- communication across boundaries is essential

as in new-product development.

"DOING FIRST" WORKS BEST WHEN:

- the situation is novel and confusing;
- complicated specifications would get in the way; and
- a few simple relationship rules can help people move forward

for example, when companies face a disruptive technology.

Figure 3. When each decision making approach works best (Mintzberg & Westley 2001).

The three different approaches to decision making have their own strengths and weaknesses as can be seen in figure 3. In relation to the subject of the thesis these approaches are not that relevant, as the implementation of them requires expertise and broader organization. However, it is important to recognize the different approaches in order to understand the decision making process and to understand the Mintzberg decision making model. When decision making is applied from theory to real life, there is more to decision making than the conscious thought. Biases, experience, personal relations and beliefs contribute to the process more or less, and it is good to be aware of their influence.

2.3 Tools and methods supporting decision making

In this section, tools and methods that can be used in the process of decision making will be presented. Mintzberg's model gives a framework for the decision making process, where the tools and methods can be used either in different parts of the decision making process or even separately.

Forman and Selly (2001, p.3) argue that decision making is not only the most important task that a manager does, but also the most essential; therefore, the most important business skill. They compare decision making to sports: Performance is dependent on techniques, initial aptitude can get you only so far. By learning proper technique(s), there is a significant gain on performance. In this segment a few tools and methods for supporting decision making will be introduced. Kansola (2010, p.41-52) lists these tools and methods into two main groups: Tools that supplement the Mintzberg's model and its three stages and general decision making tools and methods.

For the first stage of the Mintzberg model Kansola lists SWOT-analysis and brainstorming. One could argue that these tools are applicable on the diagnostics part of the identification stage. For developing alternatives, Kansola suggests a literary review, empirical research containing either qualitative or quantitative research, brainstorming and benchmarking. For the client company, the used resources/gain ratio is extremely relevant. Larger organizations and organizations on different sector could have better readiness to commit their resources, either their personnel or monetary, for tools supporting the decision making process. With smaller organizations in very specific fields the resources could be scarcer.

Kansola suggests benchmarking to be an excellent tool. Tuominen, Niva & Malmberg (2012, p.5, 12-15) describe benchmarking as a process that aims to identify, understand and adapt practices that are proven to be effective. They also divide benchmarking into four different types: Strategic, product, process and competence benchmarking. For the client company product benchmarking would not be effective as the company has no specific products, but tailor-made furniture and fixtures for different construction or renovating sites.

Strategic benchmarking focuses on benchmarking financial ratios like return on assets, return on sales, capital turnover and strategic aspects like growth, markets, customer segments, core competence et cetera. Process benchmarking is about assessing the information about a certain process in the company. Tuominen et al use delivery of the company's product(s) as an example. The assessed information is then compared to benchmark information and target performance. Competence benchmarking does not focus on numbers and figures, but is focused more on skills of the employees, used technology or methods.

In order to do benchmarking, there is a need for partners. Tuominen et al. (2012) divide partners for benchmarking into four categories. **Internal benchmarking** means benchmarking for example different departments within an organization. It is suggested to start benchmarking with internal benchmarking due to its relative simpleness compared to other categories. However, this will not suite smaller organizations like the client company.

Competitive benchmarking means benchmarking data from competing organizations. However, obtaining this data could prove to be an arduous task and sometimes even rather impossible. However, according to Tuominen et al (2012) the competitor is not the ideal benchmarking partner as a more accomplished organization should be considered for benchmarking, as the tool is for identifying, adapting and adapting superior practices.

Industry benchmarking means benchmarking a company that is not a direct competitor in the same or a similar field that the company doing the benchmarking is, for example a company operating in a foreign, separate market. When a company is not a direct competitor the partnership should be easier to establish. (Tuominen et al 2012.)

Generic benchmarking means focusing on an aspect that needs improving and then try to find an organization that is the best in that aspect, disregarding which field of business that organization operates in: The intention is to broaden the perspective of the organization, to understand and adapt practices outside its own field that could benefit the organization. (Tuominen et al 2012.)

The selection is usually the most difficult stage of the decision making, as there is no precise assistive tools to recognize the most fitting among the alternatives. What is needed is the ability or insight to recognize the best alternative, (or the decision) that fulfills the criteria that have been devised on the two earlier stages using different tools. Both identification and developing alternatives-stages and the tools and techniques used shape the selection stage considerably. (Forman & Selly 2001, p.19-20; Kansola 2010, p.44.)

2.4 General tools supporting decision making

In this section tools supporting decision making that are classified by Kansola (2010) as general tools not fitting directly into a specific Mintzberg model stage are presented.

2.4.1 The role of budget in decision making

Budget could be defined as a plan for a defined period of a time presented quantitatively. As a plan, it is an articulation of objectives and different goals that provides a direction for the company. It is a tool of evaluating present performance and forecasting the future. When doing a budget, resources and funds are allocated in order to receive desirable outcomes. Essentially, budget provides tools to forecast, measure and implement. As such, budget is an important concept in decision making. (Shim, J, Siegel, J & Shim, A 2011.)

Budgets can be divided by the period of the budget to short-term or long-term budgets. Short-term budgets usually has a span for a year or less, where long-term budgets can be made for three or more years. When the time period of the budget extends, it also tends to be more inaccurate and more approximate.

The process of preparing, reviewing, and approving budgets vary between companies and should be tailored for individual needs. Effective budgeting is described containing:

- predictive ability
- clear channels of communication, authority, and responsibility

- accounting-generated accurate, reliable, and timely information
- compatibility and understandability of information and support at all levels of the organization: upper, middle, and lower (Shim et al 2011 p.3.)

In relation to decision making, budgeting is both planning and controlling. From many different kinds of budgets, the most relevant in this case are the master budget and project budgets. Rolling or continuous budget will be discussed further on. Master budget is to adhere the name, the master budget that serves as the overall budget and therefore serves as the backbone of both the operational and financial plan. It may be a summary of different sub-budgets and is usually made for a year, either calendar or fiscal. (Shim et al 2011.)

2.4.2 The concept of forecasting

Forecasting can and maybe should have a role in decision making in all the three steps. It should be noticed that in the decision making process, forecasts and forecasting serve the process and its steps, especially in developing alternatives and selection, but forecasting is just a secondary process to decision making. Different models of forecasting is not the focus is in the decision making process, but there are few points that should be taken into consideration. (Kansola 2010; Mintzberg, Raisinghani, & Theoret 1976.)

Morlidge and Player (2010) argue that people and businesses often mix the concepts of predictions and forecasts: Prediction would be a statement that will happen, whereas forecast would be a statement that you think will happen with given conditions, underlying assumptions, actions of other “players on the field” and actions of yourself. A forecast has an aura of possible improbability that the prediction is something that is assumed to happen and that forecast is something that could happen. Being aware of your underlying assumptions and limitations is what makes forecast useful. According to the authors, forecasts have two different uses: Being a tool to help shaping a different future or to help plan for the future.

According to Morlidge and Player (2010) the process of budgeting is often began with estimations like “what will be the outcomes of the budget?” The budget

is then used as a plan (and an instrument) to bring out that desired outcome. Which means that any alterations regarding the budget, a plan, are undesirable. The roles of budgeting and forecasting are therefore different and maybe even in conflict.

According to Zaeh, M.F, Reinhart, G, Karl, F, Schindler, S, Pohl, J & Rimpau, C. (2010) both the internal factors, like product portfolio, production resources, available manufacturing technologies and the external factors, like economy and business, customers and markets, competitors and organizations and new products and substitutes exhibit cyclic behavior. Even though all of the above exhibit cyclic behavior, only some of them are predictable. Zaeh et al (2010) describe a concept of "Window of probability", which represents a factors future development range. The more accurately the changes in the factor can be forecasted, the smaller the window of probability is and the adaptation to a new situation is easier. Zaeh et al emphasize the importance of accuracy in forecasting, which in the case of Tarvekaluste can be difficult due to lack of resources.

2.5 Risk analysis and risk management

According to Aven (2012, p.161) risk is an abstraction, a possibility, which needs no recognition to exist: Risk exists when contemplating about future actions. Risk consists of two fundamentals: Consequences and uncertainties. The definition of risk varies by used tools or theories; what is meant by risk varies by author.

Anderson (2013, p.2) defines risk management as a process that consists of understanding the risk, risk mitigation and risk sharing. Understanding the risk is not only about awareness about what could happen, but also why it could happen. Risk mitigation means essentially damage control before the damage happens: Diminishing or eliminating the chance of negative events associated with the risk. Risk mitigation is also about reducing the possible negative impact. Risk sharing refers to sharing the risk with a partner, for example using an insurance policy or other kind of contract. A good example on risk sharing other than insurances are International Commercial Terms that are widely used in logistics functions.

Anderson (2013 p.3) also points out that it is narrow-minded to equate all risk to be negative, as risk can be positive and be handled with similar or same methods

as negative risks. And even when there are “bad” risks present, choosing an alternative, making a decision that includes the given risk can essentially be a better choice than a lower risk option.

Risk can be divided into two categories depending on its inherent source. If there is no control on the source of the risk, for example a government, climate or other force majeure it can in most cases be defined as an external risk. If the source of a risk is something that the organization has even some control of, it could be defined as an internal risk. An example of an internal risk could be issues with shipping schedules or workforce availability.

3 Tarvekaluste

Tarvekaluste is a carpentry and joinery factory that has operated for over 50 years. The production focus and market have changed a little over the years and nowadays Tarvekaluste specializes in manufacturing and installing customized fixtures and furniture for construction companies. In the past, Tarvekaluste has also manufactured for example wooden boats. The market that Tarvekaluste operates in is highly specialized and there are not that many competitors. However, the competition for the contracts is hard and demanding: Work processes have to be efficient and the company agile in order to be competent. That also means that there is a constant aspiration for improvement and development.

The company is located in Ummeljoki, Kouvola and operates mainly in the southern Finland but in past has done some international projects also. Typical customers are construction companies that are either building or renovating larger public or commercial spaces like schools, offices, hotels, day-care centers and hospitals that have a need for tailor made fixtures and/or furniture. Tarvekaluste also manufactures wooden tools for paper mills and specialized furniture and fixtures for private customers per order, but these projects generate under 10 percent of the revenue.

The market that Tarvekaluste operates on is cyclical and sensitive to economic fluctuations. However, this does not mean that for example the portfolio of the orders is somewhat dependent on the economic situation in Finland. Economic

fluctuations affect the market and the construction companies, but even in harder economic situations there can be multiple projects on-going with great profit margins and with better economic situations the portfolio of the orders could be in mediocre state.

There are eight people currently working in Tarvekaluste. The management consists of the board president and the CEO. The office secretary works with the management and is in charge of billing, payrolls and other financial and clerical tasks. There are five carpenters that work in both manufacturing and installing, one of them which also acts as a supervisor and works more closely with the CEO regarding the different projects.

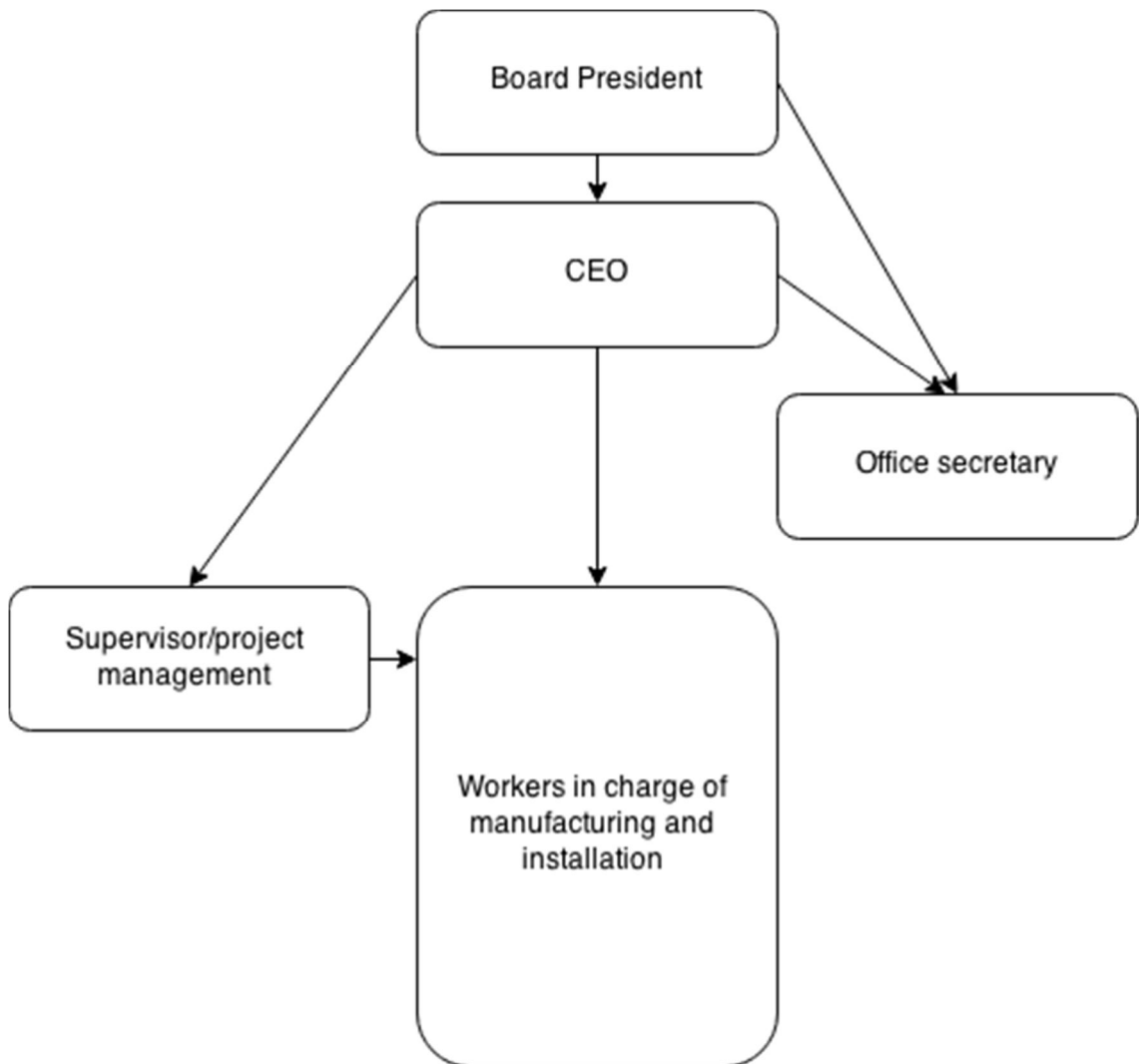


Figure 4. Organizational chart of Tarvekaluste

The carpenters have no separated fields of work, and the role of the carpenter can differ between projects. Much of the work is manual or semi-manual labor operating machinery and the projects have a wide range of variety so the skill portfolio of a carpenter has to be quite diverse. The carpenters have their own preferences and expertise which are taken into account when dividing the work in a project. For instance, someone prefers the paint shop working, someone installations et cetera.

3.1 The study and interviews

In this segment the company and the industry will be discussed and then proceed going through the decision making practices used in Tarvekaluste and examine them in the theory context of the literary review. The information about the practices was gathered by semi-structured interviews. The question sheet had six questions that the interviewees answered in an open manner. The answers were documented during the interview by typing them. The interviews were not recorded so there is no formal transcription.

The criteria for choosing the interview method was following: The method should provide the means for an interview that is both open ended but does not take too much resources to process the answers. As semi-structured interview while simultaneously writing the answers down and finding the relevant points met the criteria. It should however be noted that multitasking while doing the interview can be extremely difficult, and this method would not have been chosen if the interviewees were not familiar to the author and typing while conducting the interview would have been difficult. The Interview was done in Finnish.

The interviewees were the company CEO and the Board President, who is also the founder of the company and held the CEO position for more than 40 years. The interviewees were chosen as they are the decision makers in the company. With larger organizations, there would be several decision makers in the organization, but in the case of smaller companies there seldom are many decision makers present. The number of decision makers depends on the field that the company operates in, the personnel and the ownership.

The answers were quite congruent and differed in outline only on the first question, where interviewees were asked about what kind of decisions the decision makers are in charge of. The CEO is more in charge of decisions regarding personnel, investments, purchases, project purchases and marketing, whereas the role of the Board President regarding decisions is more strategic. The Board President focuses on long term strategic issues and the role of CEO is more operative.

3.2 The description of the project management

In the Tarvekaluste case, the project budget is made when a call for tenders is made. It is done according to the potential customer's blueprints and specifications, which defines the amount and type of materials used. The blueprints and specifications are then analyzed and calculated together. Using a custom made offer calculator that has a list of items with their purchase prices and approximate hours used to work them and variables like margins for different types of materials, work and installation, the calculator provides numbers in order to make an offer, and at the same time, the project budget.

If the customer accepts the offer and places an order, a new project is made in the project management software and the numbers are input in the project file. Invoices, used warehouse materials, work hours and driven kilometers are attributed to different projects as the information arrives.

The calculator, which is the basis for project budgeting, is an excel application that has been developed for a few years with the emphasis on user-friendliness, complementarity, accuracy and unambiguousness. It has been constantly been developed in order to become more accurate, but when conditions, products or features change it needs fine-tuning. The figures given by the calculator are constantly compared with project reports in order to fine-tune the application.

3.3 Who is heard during decision making process

One of the decision making settings is the weekly meeting, which is attended by the board president, CEO and the company secretary, who is in charge of the

day-to-day financial functions. The main function of the meetings is to share information about financial and project related business. The secretary prepares the financial figures in an easily understandable form and the CEO provides information about the projects, and then the state of affairs is discussed. Sometimes, the meeting sparks a process with recognizing a need for a decision.

If the nature of the decision regards workers or the way the work is done, then the personnel is also heard during the process. An example for these kind of decisions would be purchasing new equipment or adopting new working methods.

With scarcer resources and smaller personnel than larger organizations, in developing alternatives and the selection stages of the decision making the number of people contributing is bound to be smaller. However, the field that Tarvekaluste operates in is highly specialized, so even with external consulting it could prove to be hard to get true insight.

3.4 Decision making tools used in Tarvekaluste

In Tarvekaluste, the most used tools in decision making are the quite general financial figures: the order book, receivables, financial liabilities and the budget. The cash flow is monitored continually and cash flow forecasts are made weekly in order to effectively allocate the resources.

The tools used are mostly for producing financial data to help with decision making processes. Tools like benchmarking are not used, as they are too demanding resources-wise. With some larger equipment purchases, investment aids have been applied, and in order to qualify for investment aids a company has to analyze and produce calculations according to the aid qualification requirements. In some cases, the SWOT-analysis has been used, like Kansola (2010) suggests it to be used in the first stage of the decision making.

Kansola (2010) also suggests benchmarking as an excellent tool. Benchmarking as a tool has not been used per se, but the company performance has been compared to the competitor's general performance with Association of Finnish

Woodworking and Furniture Industries (AFWFI) published data that they obtain with surveys from their members.

3.5 The role of risk and risk management in decision making

Risk management is a part of the decision making process in Tarvekaluste and some risk assessment is made almost always when doing larger decisions. The risks that are assessed and dealt with are mostly financial. If a decision is for example an investment, the risk assessment focuses on if the investment will pay itself back, if something goes wrong and what are the possible different scenarios. Basically, an investment has to pay itself back in either reduced working hours spent on a task, reduced material, outsourcing or other expenses or by enabling the company to bid on a wider variety of projects.

Even though risks are assessed and considered during decision making processes, they are just “rough estimations” and are treated as such. The risks are also not always treated as negative, but they are treated as either positive or negative and handled the same way, as Anderson (2013) suggests.

3.6 The decision making process

The decision making process in Tarvekaluste follows quite closely the Mintzberg decision making process model. The simplified model could be described as following: The decision making process emerges from recognition and need. After there is a recognized need for a decision, the next step is mapping out the possibilities which is followed by analysis and gathering information. Next step is assessing alternatives, which is followed by selection.

When everything else is done, it is time to evaluate the decision by how it will affect the production, workload or other somewhat measurable and relevant indicator, and if decision should be made at all.

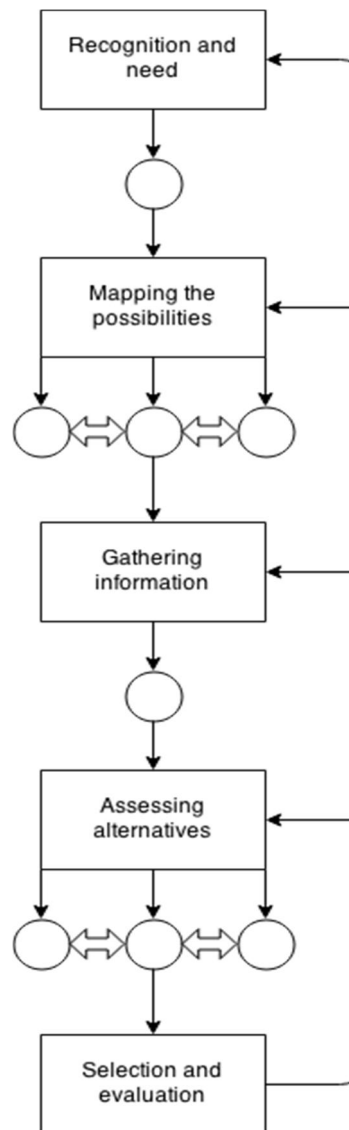


Figure 5. Decision model derived from interviews visualized

The decision making process model that was derived from the interview with the CEO is fairly similar to the Mintzberg model. Recognition and need could be parallel to the identification stage, mapping the possibilities and gathering information to developing alternatives and assessing alternatives and selection and evaluation to selection stage.

3.7 Information gathering

Tarvekaluste conducts its information gathering about the state of competitors and the industry with the employers association, Association of Finnish Woodworking and Furniture Industries (AFWFI). They publish industry wide data, like order book data which they obtain by surveying their members. Partners and

even competitors provide some information too, as there is some socializing amongst the companies which leads to sharing and gathering general information. During the 50 years that Tarvekaluste has operated, it has built relationships to other firms, suppliers and buyers, and this enables Tarvekaluste to obtain information too.

Different financial numbers are followed closely and compared to previous years. Project figures are also followed and benchmarked in order to see how accurate the offer calculations are and if there should be changes in the prices of some products for example.

The purchasing power of the households has not been a relevant financial indicator for a time as the company's revenue is produced by public sector's building projects, but could become relevant financial indicator as there is a longer term project oriented for the consumer markets.

Pre-bids are one way of getting information about possible future projects. Pre-bids are sent by all the major construction companies as they are gathering pricing information for their bidding competition. According to the CEO, it is almost certain that a construction project will begin after 1.5-2 years after the pre-bidding period, and Tarvekaluste tries to find out who won the bidding competition in order to get a tender from the winning company.

Another way of getting information about construction projects is through the HILMA-register, which lists public procurement notices. The register is checked weekly in order to be aware of what kind of public investments are done and if there are some possibilities open for the company.

As mentioned earlier, Tarvekaluste gathers both internal and external information relevant to the decision making processes. The most coherent data is the internal one, and the external data tends to be more abstract and not so precise.

4 Conclusion

Decision making can be examined on so many different viewpoints and levels. This thesis has only scratched the surface of this multidisciplinary subject, but

with a tight focus that has allowed procuring information that is hopefully beneficial for the company.

The aim of the thesis was to gather theoretical knowledge about decision making processes by literary review and compare and analyze it in the light of empirical knowledge gathered in the interviews. This was done in order to improve readiness for decision making by mapping out relevant theories, data, studies and tools to provide a review of what should be known in order to have a good premise for decision making. The research question was the decision making on the unpredictable and cyclical market situation – how to gather valid data to analyze and to support decision making?

During the literary review it became obvious that theories, methods, practices and tools play a large role in defining and understanding decision making process, and that data has little value if it cannot be assessed properly. The work with the thesis started with a focus more on how to gather data. However it became clear that gathering data and information is almost trivial when considering the decision making process. It is much more important to be able to assess gathered information and to be able to comprehend what information is important and useful in the concept of decision making process.

When examined, Mintzbergs model of the process of decision making proved to be quite similar to the decision making process described in the interviews. Mintzbergs model for process decision making is very comprehensive. As Tarvekaluste is not a large organization and their processes are fairly simple, extensive absorption in the model is not really necessary.

There are many different tools available to support decision making. Some of them are applicable in the context of Tarvekaluste, some are not. The SWOT-analysis is sometimes used in the company. It is suggested to be used in the first stage of decision making, identification, which includes the processes of recognition and diagnostics. Mapping out the Strengths, Weaknesses, external Opportunities and Threats of a situation or option could prove to be helpful if used more. Another tool that was discussed in the literary review for the first stage of the decision making process was brainstorming. In a larger organization it could

prove to be more useful. The benefit from brainstorming could be questionable in Tarvekaluste as the management comprises only of two individuals. External resources could be used, but the cost/effectiveness ratio could also be questionable.

Benchmarking was suggested by Kansola (2010) to be an excellent tool. During the interviews it was found out that a variety of benchmarking is used in Tarvekaluste, as the Association of Finnish Woodworking and Furniture Industries (AFWFI) publishes industry wide data that Tarvekaluste examines and compares to their own figures. This form of benchmarking would fall under the category of strategic benchmarking, as it focuses on benchmarking financial ratios. Process benchmarking and competence benchmarking would require a many resources and a few partners in order to be able to produce valid data. For a larger organization or an organization in other markets they could be a solid option for a tool to use. However, Tarvekaluste's market is highly specialized and quite small so benchmarking could prove to be too resource demanding. For Tarvekaluste, product benchmarking would not be effective as the company has no specific products, but tailor-made furniture and fixtures for different construction or renovating sites.

The aim has not been to provide a set of ready-to-use tools, so there are no tailored tools or instructions prepared, but information on different options and what should be considered when making decisions.

The interviews proved that Tarvekaluste is employing the available tools and methods quite well, but the company can make use of the theories and tools that have been described in the thesis as the methods and tools used now are based on experience and a strong vision that have been accumulated during the decades of operating in the industry. The experience and vision can be supplemented with researched information to achieve better decision making processes and therefore improve the results.

The small sample of interviewees can set the validity of the empirical part open to question. However, it has to be noted that the organization is small and the management, the de facto decision makers in the company, consists only of two

people. Both interviewees are also highly experienced and valued in their field. The literary review was conducted by exploring relevant literature and studies and comparing different decision making process models for the base of the theoretical framework, and the whole framework molded together by combining various pieces of literature and articles from valid, reliable sources so that the study would be reliable.

For further study, it could be interesting to find out about how some specific tools like brainstorming and benchmarking could be made easier to use to organizations with limited personnel, time or financial resources. This thesis would have benefited from a study or a case work that explores how smaller enterprises see the decision making process in general.

The thesis process was long and sometimes quite hard as it was difficult to keep up the right direction. The work progressed in separate time segments, but was mainly done from December 2014 to April 2015. The work was also rewarding as well as the author learned much and improved his skills in both analyzing literary sources and conducting literary review.

Figures

Figure 1. Comparison of decision making process phases, p.8

Figure 2. Mintzbergs model of the process of decision making, p.10

Figure 3. When each decision making approach works best, p.12

Figure 4. Organizational chart of Tarvekaluste, p.20

Figure 5. Decision model derived from interviews visualized, p.25

References

Anderson, E. 2013. Business Risk Management: Models and Analysis. Chichester: John Wiley & Sons.

Aven, T. 2012. Foundations of Risk Analysis. Chichester: John Wiley & Sons.

Forman, E. & Selly, M. 2001. Decision by Objectives. How to convince others that you are right. World Scientific Publishing Co. Pte. Ltd. Singapore.

Hirsjärvi, S. & Hurme, H. 2000. Tutkimushaastattelu. Teemahaastattelun teoria ja käytäntö. Helsinki: University press.

Kansola, M. 2010. Tuotantostrateginen päätöksenteko yrityksissä [Production strategy decision-making in companies]. VTT Tiedotteita – Research Notes 2535. Espoo.

Kumar, S & Suresh, N. 2009. Operations Management. New Age International. New Delhi.

Mintzberg, H & Westley, F. 2001. Decision Making: It's not what you think. MIT Sloan Management Review 42 (Journal). Massachusetts Institute of Technology. Cambridge.

Mintzberg, H, Raisinghani, D & Theoret, A. 1976. The Structure of "Unstructured" Decision Processes. Administrative Science Quarterly 21 (Journal). Graduate School of Business and Public Administration, Cornell University. New York.

Morlidge, S & Player, S. 2010. Future Ready: How to master business forecasting. Cornwall: John Wiley & Sons.

Shim, J, Siegel, J & Shim, A. 2011. Budgeting basics and beyond. New Jersey: John Wiley & Sons.

Tuominen, K, Niva, M & Malmberg, L. 2012. Development models: Benchmarking in practice. Turku: Benchmarking Ltd.

Zaeh, M.F, Reinhart, G, Karl, F, Schindler, S, Pohl, J & Rimpau, C. 2010. Cyclic influences within the production resource planning process. Production Engineering (Journal). German Academic Society for Production Engineering. Berlin.

Appendices

Appendix 1 Interview material 13.3.2015 Board President (in Finnish)

Haastatteluaineisto 13.3.2015

Yrittäjäneuvos, hallituksen puheenjohtaja Risto Heikkilä

Millaisia päätöksiä joudut asemassasi tekemään?

Osakeyhtiön tehtävät määrittelevät tehtäviäni. Johdan hallitusta ja yhtiön strategiaa. Tilauskannat, tarjouskannat, niiden suhteen teen strategisia päätöksiä. Operatiivinen johto on henkilöstön, toimitusjohtajan vastuulla. Itse vedän suurempia linjoja.

Ketä kuullaan päätöksiä tehdessä?

Maanantaisin viikkopalaveri jossa toimitusjohtaja, HPJ ja konttoristi joka hoitaa käytännössä taloudenpitoa. Viikoittain mietitään suuntalinjat niin operatiivisella tasolla kuin hallituksenkin tasolla.

Käytättekö työkaluja päätöksenteon tukena? (Jos käytätte, mitä? Jos ette, miksi ette?)

Tietotyökaluina tilauskanta, myynti, tarjoukset, kassat, tilit, tilivelat ym. taloustilanne. Ennakoidaan tulevaa töiden kannalta. kassat, tilit, tilivelat. Ennakoidaan rahaliikennettä joka viikko, projekteja seurataan jatkuvasti jotta resurssit käytössä fiksumusti. Nähdään niin lyhyt aikajänne että päätöksenteko on reaktiivista. Ennakointi on käytännössä lähes mahdotonta. Markkinatilannekaan ei määrää, sillä hyvässä markkinatilanteessa firma saattaa tehdä tappiota mutta huonossa taas voittoa. Koneostoja mietitään mutta toteutus vaihtelee tilanteen mukaan.

Millainen rooli riskien kartoittamisella on päätöksenteossa?

Riskikartoitus tehdään, mutta se on vain summittainen oletus, joko positiivinen tai negatiivinen eikä kartoitusta kohdella faktana vaan arviona. Esimerkiksi konehankinnassa omat riskinsä, mutta toteutumia on vaikeaa arvioida. Riskikartoitus on kuitenkin osa päätöksentekoa.

Kuvaile päätöksentekoprosessia alusta loppuun

Esimerkiksi konehankinnoissa tarpeet lähtee kyselyistä tilaajilta sellaisista töistä joita ei voida toimittamaan koska kone puuttuu. Jonkin aikaa käytetään ali-hankintaa, mutta jos järkevää niin mietitään koneen ostoa. Trendien perusteella-lähdetään miettimään päätöksiä, eli kysynnän mukaan.

Alustava kartoitus hintojen tasolla, mahdollisuuksia lasketaan ja pyöritetään, miten kone saadaan töillä maksettua. Prosessi on vaiheittainen, kertaheitolla ei saada ahaa-elämyksiä, vaan hankinnat ja muutkin päätökset ovat harkinnan takana. Asiat saattavat muhia vuoden tai kauemminkin.

Mistä saatte relevanttia tietoa, (sisäistä, ulkoista) mistä esim. tietoa meneillään olevista tarjouspyyntöprosesseista tai tulevista julkisista tai yksityisistä investoinneista (mahdollisista kaupoista).

Tilauskanta ja toimialaseuranta tapahtuvat aika pitkälti työnantajaliiton kautta. Yhteistyökumppaneiden ja kilpailijoiden kanssa seurustellaan ja jaetaan ja hankitaan tietoa. Alakokonaisuuden pystyy kartoittamaan melko hyvin. Oma taustaa vasten mietitään myös, eli vertaillaan omaa menestystä ja talouslukuja edellisiin vuosiin.

Kymmenien vuosien suhteet alan toimijoihin mahdollistaa paljon tiedonhankinnan kannalta. Nettisivujen kautta mainostetaan ja pyritään saamaan tietoisuutta. Muu markkinointityö on aika olematonta.

Talousseuranta on laaja ja kuukausikohtaiset ja vuosikohtaiset seurannat löytyy ja joita päivitetään. Lähiajan seuranta ja lähivuosien seurantaa tehdään ja sen perusteella tehdään havaintoja. On huomattu ettei ole yhdenlaista trendiä, vaan vuodet vaihtelevat varsin suurestikin.

Appendix 2 Interview material 17.3.2015 CEO (in Finnish)

Haastatteluaineisto 17.3.2015

Toimitusjohtaja Kimmo Heikkilä

Millaisia päätöksiä joudut asemassasi tekemään?

Kokoajan kaikenlaisia. Suurimmat päätökset ovat henkilöstöpuolen juttuja. Myös investointeihin, ostoihin, projektistoihin ja markkinointiin liittyvät päätökset kuuluvat toimenkuvaan.

Ketä kuullaan päätöksiä tehdessä?

Netistä haen taustatietoa, investointien kanssa netti on hyvänä lähteenä hintatietojen kanssa. Eri alojen yhteistyökumppanit, jopa kollegat samalta alalta toimivat myös joskus tietolähteinä. Henkilöstön kanssa keskustellaan luonnollisesti, jos päätös koskee henkilöstöä tai työntekoa, mm. laitehankinnat. Hallituksen puheenjohtajan kanssa keskustellaan myös.

Käytättekö työkaluja päätöksenteon tukena? (Jos käytätte, mitä? Jos ette, miksi ette?)

Useasti isommissa laitehankinnoissa on haettu ja saatu investointitukia, ja niihin liittyen on tehty mittavat analyysit jotta tuet on mahdollista saada. SWOT vähän muokattuna on käytössä, Excelillä toteutettuna.

Millainen rooli riskien kartoittamisella on päätöksenteossa?

Riskit on mielessä koko ajan. Kaikki tarkastellaan riskien kautta, mutta kartoittaminen on vaikeaa. Kannattavuus on erittäin tärkeää, ja on erittäin tärkeää tietää esimerkiksi miten investointi maksaa itsensä takaisin, ja skenaariot selvittää tarkasti. Investointien on maksettava itsensä takaisin joko pienentyneenä työaikana, vähentyneinä kustannuksina, lisätöinä yms.

Kuvaile päätöksentekoprosessia alusta loppuun

Tarve -> Mahdollisuuksien kartoitus -> Tietojen hankinta -> Vaihtoehtojen selvitys -> Valinta

Kun kustannukset selvillä, selvitetään haetaanko tukea vai otetaanko lainaa vai hoituuko omalla rahoituksella. Esimerkiksi kaluston kanssa voidaan harkita myös käytettyä kalustoa ja niitä markkinoita seurataan myös.

Päätöksiä tehdessä käydään viimekädessä läpi että onko koko projekti järkevä toteuttaa ja loppuarvioinnin, jossa selvitetään miten vaikuttaa tuotantoon, työmäärään yms. jälkeen päätetään toteutetaanko.

Tarpeesta lähtee myös esim. palkkausprosessi, ja sen on oltava iso sillä vaihtoehtoina on vuokratyövoima lyhytaikaista työtä varten. Mutta jos tarve tulee, hyödynnetään omia kontakteja.

Mistä saatte relevanttia tietoa, (sisäistä, ulkoista) mistä esim. tietoa meneillään olevista tarjouspyyntöprosesseista tai tulevista julkisista tai yksityisistä investoinneista (mahdollisista kaupoista).

Projektit menevät pääasiallisesti yleisen rakennusalan trendin mukaisesti, joten sitä seurataan ja niitä tietoja löytää alan liitosta, esim. oman alan työnantajaliitosta Puuteollisuusyrittäjät ry. Selviää kilpailijoiden ja kollegoiden tilanteet yms. Seuraavaa vuotta ei tiedä kukaan. Yleinen markkinatilanne on myös tärkeä. Yksityinen ostovoima merkitsee hieman, mutta koska tärkeimmät ja suurimmat asiakkaat tulevat viimekädessä julkiselta sektorilta, joten yksityisen sektorin kysyntää ei paljoa analysoida. Kuitenkin nyt on projekti päällä jolla pyritään suuntaamaan myös kuluttajamarkkinoille. Suomen Yrittäjiltä saadaan myös dataa jonkin verran, kuten rakennusliikkeiden markkinapositiont.

Ennakkotarjouksista selviää paljon uusista urakoista, niitä tehdään kaikille isoille rakennusliikkeille. Jos ennakkotarjous tulee, niin voidaan sanoa että 1,5-2v päästä alkaa projekti. Pitää selvittää kuka rakennusliike projektin saa, ja sitten suunnataan paukkuja sinne suuntaan.

Julkisten hankintojen ilmoituskanava, Hilma-järjestelmä tarkistetaan kerran viikossa jotta pysytään kärryillä mitä julkisia investointeja ollaan tekemässä.