



Overcoming internal barriers to implement strategy effectively

Case the Ramk's Heat Pump Test Centre

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ABSTRACT

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A changing environment is a fact today and organisations shall cope with changes, no matter if the organisation is a business unit, educational or social unit. To be successful in changing business environment it is mandatory for the organisations to make changes in their own strategies and to revise it accordingly. Revised strategy itself will not make changes, but people working in the organisation will make changes through the decisions, actions and reactions. The objective of this thesis is to develop sample of the balanced scorecard through analysing effectiveness of the current strategy implementation in case the Ramk's heat pump test centre. This Thesis has three research questions and they are as follows:

1. What tools and methods are used when implementing strategy in the organisation?
2. How effective is strategy implemented currently in the case organisation?
3. How can the heat pump test centre development strategy implementation be managed in an effective way?

The barriers and success factors of the effective strategy implementation in the organisation proposed by various known researchers such as Kaplan and Norton, Raps, Neely, Porter and Jones, just to mention few, formed theoretical framework for this Thesis work. The theoretical framework was obtained by analysing relevant books, articles and previous studies on the subject. The balanced scorecard was introduced to raise effectiveness of the strategy implementation in the organisation at the end.

A qualitative research method was applied in this Thesis. Data was gathered through semi-structured open-ended interviews with organisation management and experts. In addition, my own observations from meetings and development work over the last two years were used. Analysis was done through finding a pattern match of the theoretical background and practice in the case organisation.

To conclude, I first recognise that execution of strategy in the case organisation could be effective based on the positive previous experience in the organisation. For instance, for the past two years development of the heat pump test centre in the case organisation is not effective, I found that placing balanced scorecard in the centre of the strategy implementation would provide clear plan of actions to every member of the team which will raise effectiveness in achieving goals set. Balanced scorecard supports clear decision making through communication, monitoring and control possibilities, and it explains actions to be implemented to each team member. Furthermore, balanced scorecard is proven to be effective in the organisations with complex process of the strategy implementation such as Ramk's case.

Keywords: strategy execution, barriers and critical success factors, balanced scorecard

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1 INTRODUCTION

1.1 Motivation and background

The future can be different from what one expects it to be. According to Wack (1985, 139), one of the most constant variables of today's management practices is the notion of change, adaptation, and innovation. Executives willingly accept change when solutions can be found for and applied to particular problems. However, fundamental modifications have been made in the way business is conducted today. Corporate response should be equally fundamental. (Wack 1985, 139).

The case organisation for this Thesis is the Rovaniemi University of Applied Sciences School of technology (henceforth RAMK). One of the directions schools of technology are aiming at is energy efficiency. RAMK's main product is education programmes in different study levels e.g. bachelor and master programmes. Present day Ramk is aiming to combine education and business life, which is set in Ramk's vision in 2008: *We are authentically international, networked university of applied sciences that is specialised as an innovative developer and influential operator in the northern region of operation. Strategic choices Ramk is aiming to: research; development and innovation which are oriented towards working life, renew working life and create new entrepreneurship and business operations* (RAMK strategy 2008, 3). Thus, the case organisation focuses on implementation of real life cases into study process. The heat pump test laboratory was chosen to be the case study for this Thesis. Choice was made based on that the strategy was set to certify the heat pump test laboratory two years ago. Currently situation is not progressed much further than it was two years ago. The heat pump test laboratory to become the heat pump test centre is very important to RAMK because this centre will generate incomes to organisation in the future.

Heat pump testing laboratory was established sixteen years ago, and it was created to educate, do research and development work. For the past sixteen years, it has worked to implement research and development of the ground heat pumps only. About three years ago, RAMK was invited to join the European Heat Pump Association (henceforth EHPA) and Quality Label (henceforth QL) meetings through local heat pump

association - Suomen Lämpöpumppuyhdistys ry (henceforth SULPU). One of the challenges for the Finnish heat pump production companies was to acquire certificate of their products and that their heat pumps are in line with European standards. A major problem is that still today Finland does not have a certified heat pump test centre. Companies from Finland are forced to send their products to be tested to other countries, e.g. England, Belgium, and Germany. Companies are complaining about large costs deriving from sending products abroad and that it is time consuming process for them too. Simultaneously with RAMK joining EHPA and QL, a promise was made in the Finnish ministry level that Finland will have its own heat pump testing centre in near future.

RAMK is one of the target organisations where a heat pump test centre could be built, because a heat pump test laboratory already exists. In present day, RAMK test laboratory makes tests according to European common standard EN14511-2, the same standard which is used in other heat pump testing centres in Europe. However, RAMK's test centre has not been accredited yet. Thus, RAMK is not able to issue official certificates to tested heat pump products. Two years ago the case organisation made a strategic choice to develop the heat pump test centre and open an accredited heat pump test service as a business unit. SULPU, EHPA and QL together with other European heat pump test centres and local producers supported Ramk with this choice. Local industry prefers Ramk to become an official test centre because Ramk is not a production company, thus having an independent view towards each heat pump producer.

My motivation and interest in making this research on the case study are several, i.e. recently changed my work in the projects from overall business to energy sector cooperation and economic development. In addition, I am involved in the process of developing the heat pump test center into a business unit. Thus, my work is closely related to the heat pump test center development and projects linked to this field. Furthermore, different authors discuss efficiency on strategy implementation in the organisation where an average number would be from 10 – 30 % according to Kaplan and Norton (2008, 3-6), Jones (2008, 1-8), Chan and Mauborgne (2005, 171-176). I have followed the development for the past year now and based on my own observations I have found space for development in the strategy execution in the Ramk case study might not be sufficient. With this research I will analyse reasons for slow

strategy implementation process and will be able to propose a suitable way to manage strategy implementation in an effective way, e.g. through developing a balanced scorecard for a heat pump test centre. Also, gained knowledge is an addition to my current knowledge and experience background.

1.2 Research objective and research questions

The case study organisation currently is ready to provide ground heat pump testing services due to the fact that only ground heat pumps testing line is already available and it applies with standard used in other Quality Label Testing Centres in Europe. Later, RAMK plans in the future to develop also other types of heat pumps e.g. water to air, air to air, CO₂ heat pumps, solar system heat pumps, and other.

For the past two years the case study organisation was implementing a strategy to get heat pump test centre developed to the business unit, but with no feasible evolvement. In the literature relied on in this research, barriers of strategy implementation are widely discussed. At the case study organisation level, to my knowledge, such research has not been carried out. In the organisation in future, strategy implementation will become a very important issue, especially after the changes that the organisation is facing. The organisation will have to be effective in order to sustain, grow and develop in the future. Therefore, it is critical for the organisation to identify the elements, tools, methods, approaches that are not effective and efficient in view of executing strategy, and turning them into effective tools. A heat pump testing centre is a good case example of ineffective strategy implementation in the case organisation and is good case to further analyse this case.

The objective of this Thesis is to develop sample of the balanced scorecard for the heat pump test centre which will provide effective way of reaching the goal and to develop business unit out of the heat pump test center. Thus, the research will seek answers to the following questions:

- 1) *What tools and methods are used when implementing strategy in the organisation?*

Answering the first question draws from the theoretical background of the study which will raise awareness and understanding of current trends when implementing strategy. It also will set a framework or angle in which the strategy execution in the organisation

will be looked at, based on practices existing in the case study organisation. The theory will include different aspects of strategic planning, tools and methodologies used based on previous studies.

2) How effectively is strategy implemented currently in the case study organisation?

The second research question uses theory to explain what practical tools are considered when implementing strategy in case study organisation. It is important to understand current trends e.g. for the monitoring, performance measurement and also for examining the effectiveness of the chosen tools. Furthermore, it is important to be able to measure and bring change where it is necessary before failure happens.

3) How can the heat pump test centre development strategy implementation be managed in an effective way?

The third research question focuses on the development of the balanced scorecard as a planning and implementation tool in the case study organisation. Thus, through balanced scorecard to ensure a feasible, manageable and step by step implementation process for the heat pump test centre transformation into a business unit in the case organisation.

1.3 Limitations of the work

This thesis focuses on designing a balanced scorecard as a tool to effectiveness of strategy implementation in the organisation. The Thesis does not focus on examining human behaviour and the ways in which certain behaviours influence the effectiveness of strategy implementation. Thus, focus is on the process development rather than human factor in the case organisation.

In addition, I am working in the same organisation, which may influence interpretation of the study results. However, my intention is to find weak spots in the strategy execution process together with other team members and to improve the execution process. Thus, a constructive approach is used.

1.4 Structure of the Thesis

The thesis consists of five chapters. In the first chapter I introduce the overall background and the challenge behind the research. The critical historical data is also introduced in the first chapter. Further, I explain the research methodology, data collection method and analysis in chapter 2. Chapter 3 provides relevant literature reviews, which construct the theoretical framework of the thesis. Here the concepts of effective strategy implementation and barriers to implementation are displayed. The main findings and discussion of the results are introduced in chapter 4 of this Thesis. Furthermore, chapter 4 provides suggestions and opportunities for improvements for the case organisation. As the conclusion, I suggest important steps to be taken in order to raise effectiveness when implementing the strategy in case organisation.

Suggestions for further studies are listed in this chapter too.

2 RESEARCH METHODOLOGY

The methodology of the Thesis is characterised here. The motivation for the methods and techniques chosen are explained too. Additionally, data collection and analysis are discussed.

2.1 Qualitative case study research

The qualitative case study method will be used to achieve the objective of this thesis. Empirical data are gathered by interviewing people from the case organisation. According to Ghauri (2004, 109-111), case study is the most widely used method when implementing business research. Furthermore, according to Hartley (2004, 323-324), case study is a strategy and qualitative research is used as one of the methods. Thus, a case study is both the process of learning about the case and the product of researcher's learning suggests Ghauri (2004, 109-111). Ghauri (2004, 109-111) also suggests that case study is used when the area of research is less known. Additionally, Hartley (2004, 323) suggests that case study consist of detailed investigation of phenomena within their context. Ellet (2007, 13) adds that case study is simulating or imitating a real life situation where the case must have the following three characteristics:

- A significant issue or issues
- Sufficient information on which to base conclusions
- No stated conclusions

A case study is one which investigates real life case to answer specific research questions and which seeks for a different kind of evidence according to Gillham (2000, 1-2). Case study research is used to seek answers to questions 'what', 'how' and 'why' according to Ghauri (2004, 111) and Yin (2009, 9). Yin (2009, 9) states that 'how' and 'why' questions are explanatory in nature and likely to lead to the use of case studies, histories, and experiments as the preferred research method.

The strategy implementation in the organisation is the subject of this research and it sits in the process of organisational development. This case study of RAMK's heat pump test centre corresponds to all of characteristics proposed by Ellet (2007, 13), thus single case study method is an appropriate method to apply in this research. The multiple

selections of key person views will allow me to study a process of development in the case organisation.

2.2 Data collection and analysis

In this Thesis, primary and secondary data is used as case evidence for instance documentation, interviews, and participant-observation. Yin (1994, 79-80; 2009, 101-112) proposes six sources of evidence, i.e. documentation, archival records, interviews, direct observation, participant observation, and physical artefacts. Yin (2009, 101-112) maintains that e.g. documentation includes means of correspondence, agendas, and minutes of the meetings, formal studies and news. A collection of the data will be implemented throughout the Thesis where the key sources are semi-structured interviews. According to Yin (2009, 102), interviews focus directly on the case and provide fundamental explanations. The interviewees for the interviews were carefully selected where both the management and operational level persons were interviewed. Thus, data gathered provides the overview of decision making and expert view on the case issue. Interviews are semi-structured, but open ended where the participants were in-depth interviewed based on the question guide. Thus, during interviews the discussions are followed through prepared questions, but leaving topics open for interviewees. In addition, some questions during the interviews were left open because the answer could be found from earlier questions discussed. The interview questions were not provided to interviewees beforehand to avoid bias output of the interviews according to Yin (2009, 106-109).

Additionally, Yin (1994, 90-94) proposed that there not necessarily a need to limit source of evidence to only one. Instead, most of the better case studies rely on a several sources. Thus, as proposed earlier, documents and participant observation are used to support the analysis of the research.

I conducted four semi-structured open ended interviews where pre-planned and sequenced questions are presented as shown in table 1. The analysis of data draw from theoretical proposition will be used to analyse data. Collected data is compared to previous research results and theoretical propositions to find a matching pattern. According to Yin (2009, 130-141), this method is preferred when doing case study research. The theoretical proposition is leads to case study through the set of research questions, literature review and the development of the new proposition. New

proposition is developed based on Kaplan and Norton (1996, 2001, 2008), the proposed balanced scorecard as one of the ways of effective strategy execution. Thus, this data analysis approach fits to the Thesis objectives and general plan.

Table 1: Summary of the interviews conducted

Interviewee and organisation	Date/ duration (min)
Campus director, Ramk	5 April 2013/ 72
Head of Arctic Power, Ramk	11 April 2013/ 65
Senior lecturer/expert, Ramk	10 April 2013/ 61
Laboratory specialist, Ramk	10 April 2013/ 42

Interviews were structured in two main parts and the closing part where the first part consisted of questions about the history of the heat pump test centre, current strategic selection, and effectiveness of strategy implementation, while the second part gathered data to construct the sample of the balanced scorecard. The third part of the interview concluded interviews with general questions, e.g. if the interviewee is willing to add something that was not discussed during the interview, if the interviewee would like to receive transcript of interview to review and approve that the interpretation is correct, if interview open or classified as confidential. It was important to send the transcript of interviews because the language chosen during interviews was English, which is not the mother tongue to any of the participants – the interviewer and the interviewee. Thus, to limit the mistakes in the interpretation, the transcripts of the interviews were sent to the interviewees for review, all four were accepted with no corrections and are attached to this thesis. However, the interviews are transcribed as they were spoken and no language mistake corrections are made in order to maintain the original contents of what was said in its original manner.

Furthermore, I developed memos from the interviews that included my own notions that allowed me to build clusters of patterns to match and draw conclusions. Simultaneously, I construed the gained findings according to the theory.

3 LITERATURE REVIEW

This chapter describes the strategy concepts from the theory point of view. Chapter 3 will also serve the framework of the study. Furthermore, it will answer on research questions 1, i.e. what tools and methods are used when implementing strategy in the organisation?

3.1 Strategy in the organisation

In this Thesis the objective is to develop the sample of the balance scorecard and not to make a new strategy, nor suggest improvements of the existing strategy. Through the analysis in this Thesis, the tools and methods for implementing strategy effectively will be studied. It will also be studied how these tools could be used in the case organisation to overcome existing barriers in strategy implementation. Therefore, it is important to formulate what strategy is and how it will be used in this Thesis.

Strategy is not a new invention; roots for discussions on strategy can be found going back many decades. The first strategy as a concept was used in warfare. In the business field, strategy has been discussed by number of authors. One of the first definitions is suggested by Chandler where the concept of strategy is understood as determination of the basic long term goals and objectives of a company and the adoption of courses of action and the allocation of resources necessary to achieve goals set (Chandler 1962, 13). In addition, when planning a new course it is important to allocate, if necessary also reallocate resources, in order to maintain achieving goals. Thus, not only setting goals, but also implementation of them has critical weight. In addition Campbell, Stonehous and Houston (2002, 8-27) point out three components of the strategy as follows:

- Objective: your goal to be achieved
- Action: specific arrangements to achieve goal set
- Resources: inputs in real measures to perform an action.

These three above mentioned components will have a major focus in this Thesis.

Furthermore, according to Porter strategy is the creation of a unique position through implementation of a set of the activities. Porter emphasise that these activities are

making difference from the competitors by doing the same activities differently, or doing different activities than rivals. If not, than strategy would be no more than a marketing tool that will not make a company better than a competitor. (Porter 1996, 61-69.) Strategic position then can be based on customer needs and availability of the customers, also products or services available in a company.

Van Der Heijden suggested that question is not only about company, it is also about satisfying all stakeholders. He states that organisational strategy is an articulated policy framework that is used to steer actions coherently towards survival and success. Good strategy is a policy that, if adherent to by all players, promises enough economic surpluses to reward all stakeholders, motivating them to continue supporting the organisation. (Van Der Heijden, 2009, 286.) From this statement it could be understood that how important it is that all involved individuals in specific strategy implementation shall know strategy well, also in the case organisation.

The role of the strategy in the organisation is provided by Merchant and Van Der Stede defines how resources should be used in the organisation to achieve its objectives (Merchant & Van Der Stede, 2007, 6-7.)

3.2 Strategy execution in the organisation

Implementation of the strategy requires special attention in the organisation. This topic also is widely discussed by various recognised researchers. The Focus is on both strategy planning and strategy implementation. Both of these phases are equally important as proposed by Singh (1998, 146), and Kaplan and Norton (2001, 1). Good plans alone are still not a guarantee for great success, neither is implementation without a good plan. Thus, a good plan has to be followed by careful execution, evaluation and changes applied when necessary. If only one person does both, implementation of the strategy is easier than many people involved in it. And in different environments, implementation is complex and needs special attention to avoid ineffective strategy execution. Today in the organisation a five person team is working together to execute the strategy. Therefore, it is important to analyse barriers and success factors when implementing strategy.

3.2.1. Barriers to strategy execution

According to Singh (1998, 146), strategy execution process requires no less attention than planning. Implementing strategy might be very difficult if the structure of the strategy is very complex or if it is large. In both cases monitoring and controlling requires many decision points and feedback loops. First, complex strategy confuses implementers and also requires additional resources such as financial, human and time resources to stay on selected direction. Singh (1998, 145-163) describes this process as complex decision making strategy, which needs to be considered when implementing strategy. Thus, process is slower and requires more attentions from management and employees when strategy is complex and high volume implementation.

However, Kaplan and Norton (2001, 1) evaluate ability to execute strategy and it is much more important than the quality of the strategy itself. The ability is valued more when individuals involved could actually understand the strategy, i.e. turn it into an implementable activity plan. However, strategy shall be also carefully planned, as it will generate the expected outcomes. If these outcomes do not match expectation, strategy was planned poorly. Based on their research Kaplan and Norton (2008, 1-8) made estimation that 70% of failures in strategy execution derives from bad execution, not the bad strategy itself. One of the reasons found was inaccurate measurement tools.

Kaplan and Norton (2008, 3-6) identify that four main barriers to execute strategy successfully as is showed in figure 1 exists. In addition to four barriers, Kaplan and Norton (2008, 125-156) and Jones (2008, 11) emphasise that communicating strategy has also critical value where aligning organisational units and individuals. Moreover, communication and alignment process shall start already with determination of strategic themes and objectives. Therefore, I have added a fifth barrier as a cross-cutting issue throughout the strategy implementation process.

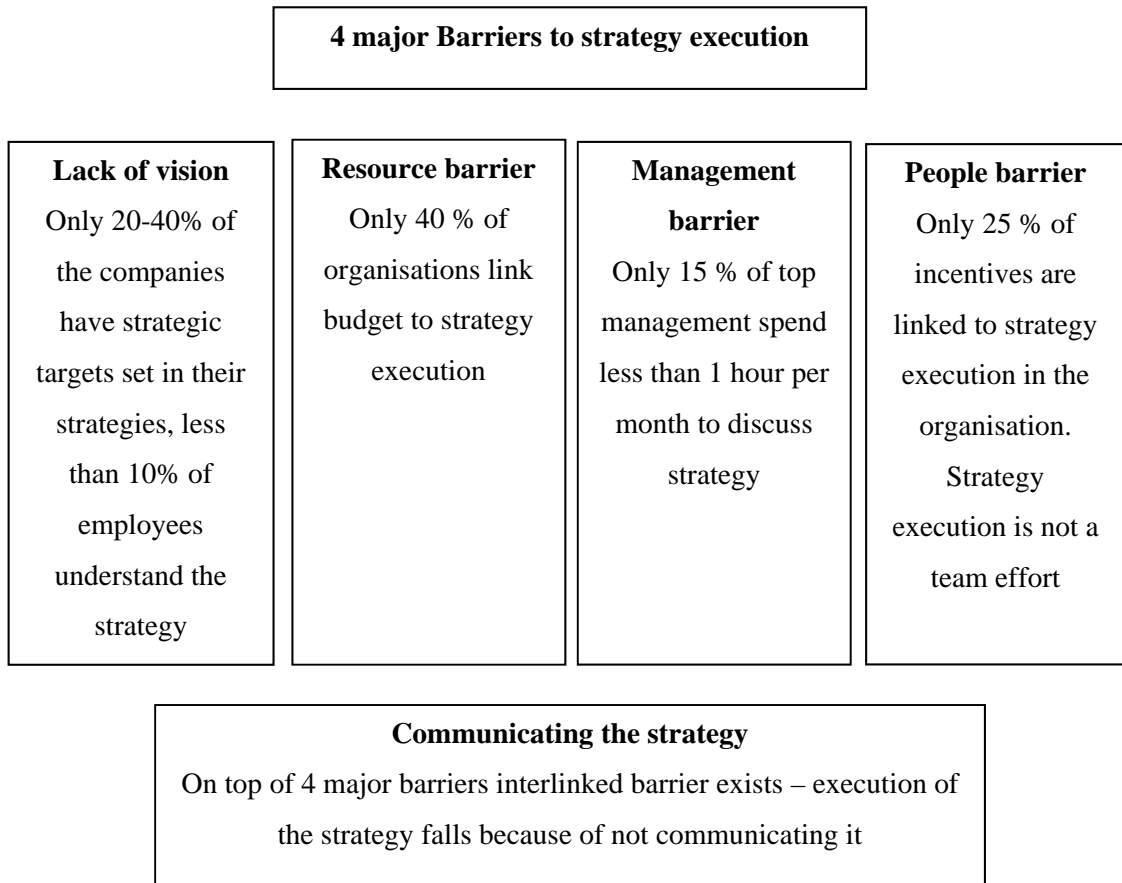


Figure 1 Barriers for strategy execution (Kaplan & Norton 2008, Jones 2008, Raps 2004)

According to Kaplan and Norton survey in 1996, a majority of the companies do not have a formal system in the company that would help to execute their strategy. They point out that 60% of organisations do not allocate financial resources to the strategy implementation; less than 10% of employees understand the strategy; management does not allocate time to discuss strategy, thus leading to the fact that only about 25% of company's incentives are linked to strategy execution. In such environment where less than 10% of the employees understand the organisations strategy, execution of it will fail, as employees cannot link their daily activities to strategy implementation. Employees simply are not aware of the strategic direction and doing their daily activities as they used to, no thinking required. One of the reasons could be that only 15% of management teams are dedicating more than one hour per month discussing the strategy. In today's business environment changes appear very fast and management are kept busy dealing with them. It results in spending less time on future planning, but solely on fixing present or even the past instead. Not discussing the future planning leads to least importance of the strategic subject among employees. Operational workers

are requested to make their daily work to ensure that customers will receive their order in time, leaving no room to learn, and to understand the strategy. Moreover, discussion shall be constructed and implemented among all players, not only to be kept in the management meeting room. This is to ensure that information reach all employees, which is not working in the majority of the cases. (Kaplan & Norton, 2008, 3-6; Jones 2008, 2-11.) In addition, not practically understanding the strategy, employees have also no instruction to work on strategy implementation as their daily salaries are paid to do other work (Kaplan & Norton 2008, 6). If the main work is not done, management is not happy with it either. Thus, the results cannot be required only from the employees alone, if results are required only in operational level, then it creates barrier in implementation if all responsibility is put on them.

Moreover, Hrebiniak (2005, 5-13) identifies six main obstacles to effective strategy execution as it is shown in table 2 which are closely linked to barriers discussed in this chapter above. The focus is on managers and implementer's perspective where the major difference is in the planning and implementation phases.

Table 2 Obstacles to effective strategy implementation (Hrebiniak 2005, 5-13)

1. Managers are trained to plan, not execute	Managers have been educated and trained to plan the strategy, not to execute. In major MBA programmes strategy implementation is not kept to any level, but only formulation. Instead, execution is learned in on-the-job experience.
2. Top management task is to plan, let the operational level implement strategy	Top level management aim is to plan and think strategically, while action left to operational level employees. The sensitive subject here is also division in "smart" and "not quit as smart" or "doers" groups, which lead to separation.
3. Planning and implementation are separated processes	Planning and implementation has been separated from each other. Planning affects execution, the execution, in return, affects changes to strategy and planning over time.
4. Faster is not always better,	The execution of the strategy usually requires

thus, implementation is a process that takes longer time than formulation	more time than formulation. The longer time frame can make harder to focus on and control the execution process.
5. Strategy communication becomes challenge – execution involves more people than strategy formulation	This presents additional problems. Communication across different functions becomes a challenge. Linking strategic objectives with day-to-day activities at different organisational levels becomes a legitimate, but challenging task.
6. Execution is the process, not an action or step	Execution is not the result of a single decision or action. It is a result of a series of integrated decisions of actions over time. Execution is a process that demands a great deal of attention to make it work.

Furthermore, Jones (2008, 11) considers that two major barriers exist while communicating strategy, understanding people and failing to get strategy out to people. The question is not about the communication. It is a matter of trust, but also, individuals' interest in the topic that the strategy is about; strategy is explained in plain, detailed form and last, but not least – changes. In the study Jones (2008, 14-15) states that management considers that employees are not interested in the company's strategy. Employees do their daily work; receive payment and return happily home at the end of the day. Further, Jones (2008, 14-15) discusses that many of the managers have decided for employees that they are not interested in strategy and do not make any initiative to change that assumption. Thus, managers denied the chance for employees to have an interest and to be engaged in strategy implementation. In addition, employees who are involved in strategy implementation, have actually no choice, they have to implement strategy. As a result, the company has large part of its employees who even do not care about the company, at least, to the managers' understanding. Here, the question is about communicating strategy, implementation plan and possible integration of daily work towards strategy implementation with employees. (Jones 2008, 14-15.)

Furthermore, Kaplan and Norton (2008, 3-18) stress that a control system and measurement tools are essential in the strategy implementation process. Merchant and

Van Der Stede suggest that management control problems might be the reason also for not executing strategy effectively. They categorise causes of the needs for control into three main categories as is discussed below (Merchant & Van Der Stede 2007, 8-11):

a. Lack of direction

Poor performance could be explained with that employees do not know what the organisation is expecting from them. Therefore, a part of the employees could have built their own goals aligned to the organisational goals. However, the organisation goals might be different from how the employee has understood them and set the goals.

b. Motivation problems

Even if employees understand expectations from the organisation, some choose not to perform in line with the expectations because of motivational problems. Because organisation and employee motivations do not match, problems with motivation occur. As the result, some of the employees put their own interest over the organisation at the organisation's expense, e.g. surfing in the Internet for individual purposes. Motivational problems appears also if, e.g. management has purchased better technologies for doing their work and other employees are not allowed to have the same, even if they need similar technologies at work. Employees also compare what and how other organisation, i.e. partners and competitors are doing and expect at least the same level in their own organisation. If not satisfied, motivation is lost and problems arise.

c. Personal limitations

Personal limitations are normally person-specific. Lack of essential intelligence, training, experience, stamina or knowledge is just a few of person-specific limitations that are causing bad performance, even if a person has the right motivation and a good command of expectations. According to Merchant and Van Der Stede (2007, 10-11), also information is a key factor of limitation. The danger of personal limitation lies in the decision making process where decision might be made wrong. Merchant and Van Der Stede (2007, 10-11) point out that these three above mentioned categories can occur simultaneously and in any combination.

All these three factors are very important when implementing strategy. The difficulty starts with strategy initiation, later also following by challenges in implementation if a plan is made without employee participation or a detailed plan is missing. A detailed plan may actually help the implementer to understand tasks to be performed, in some cases also what for the chosen strategic direction is taken. Inexistence of detailed strategy implementation plan measurement of performance cannot be implemented either. With a poor plan it is impossible to follow the performance of the organisation, e.g. financial, action, and result, and to apply changes chosen strategic goal when needed. Thus, to have practical implementation plan for the strategy is critical.

3.2.2. Key success features of effective strategy execution

In order to have successfully executed strategy company shall have one. Selecting strategy that is not alike or have a place in the market where it can be applied. Some organisations are better than others to see that the future will not be like the past. Understanding that the business ideas need to adapt and be kept closely aligned with changes in the country, region and the world. Ways of operating become ingrained in a company over the years. Also dominant management figures can stifle innovation and new thinking within an organisation. Business as usual thinking, and reliance on previously successful business ideas, can lead to organisational decline when customers value change. Strategy requires mapping out future scarcity landscape where scenario planning is an invaluable tool for achieving this. (Kaplan and Norton 2008, 34-38.) Furthermore, based on studies by Kaplan and Norton (2005, 2-5) companies have achieved performance breakthrough by setting the balanced scorecard at the centre of strategy execution. Companies also align key management processes for effective strategy execution.

In addition, Chan and Mauborgne (2005, 171-184) and Jones (2008, 2-5) suggest that organisation will be successful only when all members of the organisation will stand together to support the strategy implementation. The team shall be involved from the very beginning till the very end of the strategy. Then the team involved in strategy execution will have the feeling of ownership; at all times will be up-to-dated in the same level as the other persons in the team. Likewise, management will have the opportunity to build the right attitude in their employees towards the successful execution of the

strategy. And it is as important as explaining to employees the strategy itself, insuring that employees willingly will contribute to strategy implementation. Chan and Mauborgne highlight that voluntary cooperation is more than just automatic implementation of general activities in order to get by. In this case where voluntary participation is visible individuals are ready to invest energy and initiative to the best of their abilities to succeed. (Chan & Mauborgne 2005, 171-184; Jones 2008, 2-5.)

Moreover, the culture, the organisation as a process, people and control systems and instruments are key success factors for the strategy implementation according to Raps (2004, 2-6) as illustrated in figure 2. Shared beliefs and values in the organisation compose culture. Raps affirms that culture in the organisation is created by internal environment e.g. cooperation, degree of education, strategic thinking. Values of the organisation have to be unfrozen in order to manage change, strategy implementation. While organisation is divided in two phases – decision making process and structure of the organisation. For strategy implementation to be successful, the decision making process in organisation shall be very clear. (Raps, 2004, 2-6.) In addition to the organisation decision making process also a clear structure of responsibilities is an asset. Here, it is important to consider cross-functional relations with other departments to contribute to whole organisations strategy implementation. To implement strategy successfully, executive managers shall not assume that operational level managers have the same perceptions of the strategy plan and its implementation. Thus, one of the key factors in strategy execution is human resources and their involvement, in other words - communication. People are the ones who implement desired strategy and change, and they are actually behind everything the company does. Changes are part of everyday working life; therefore it is important to involve people from the very beginning with providing valuable information, making the process clear, describing responsibilities and action in details. Communication plan could be good foundation for describing actions, responsibilities of the participants, time, aim and tools to be used, measurements and work plan. (Raps 2004, 1-6.)

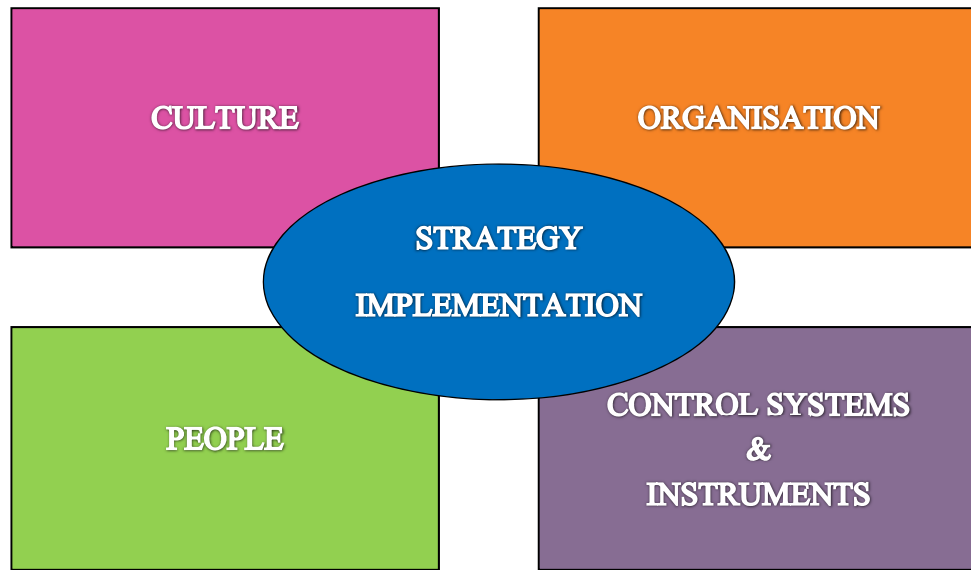


Figure 2 Strategy Implementation's key success factors (Raps 2004)

Nevertheless, executing strategy is essential to measure, monitor and control performance during and after the implementation (Raps 2004, 3; Kaplan & Norton 2008). Raps (2004, 3, 5) states that a control system is needed to follow up the timeframe planned when executing the strategy. Since strategy execution is a complex process estimation of time is not so easy work. Raps (2004, 5) suggest that an extra buffer for unexpected incidents should be calculated.

Merchant and Van Der Stede agree that management control is a critical function in an organisation. Absence of management control in an organisation could lead to large financial losses, reputation damage and even to termination of the organisation. When a control system is in a good condition in the organisation, the future of the organisation is predictable, easy to follow and easily changes path when necessary. A control system can be divided in two separate functions strategic control and management control. Strategic control focuses on validity of the strategy and changes necessary to keep strategy effective. On the other hand management control focuses on implementation factors, i.e. human resources. The matter is about understanding the strategy, if employees ready for strategy implementation and if they are capable of implementing the strategy. (Merchant & Van Der Stede 2007, 3-8.) Thus, both strategic and management control is essential to keep strategy implementation in its right course. It is to control that resources, i.e. human, time, financial and technologies are provided to

implement strategy, and planned actions are done to expected quality and within time boundaries.

Furthermore, several other practical tools are identified which are helpful while implementing strategy, for example assessment meetings, balanced scorecard and supportive software solutions. (Raps 2004, 2-6; Kaplan & Norton 1992, 69-79; 2008, 251-278.) The balanced scorecard, introduced by Kaplan and Norton (1996, 8-18), is one of many great tools in order to overcome gaps in measuring success when executing the strategy. Kaplan and Norton (1996, 15-18) also provide simple explanation on a balanced scorecard where balance scorecard is a set of measures that gives top managers a fast but comprehensive view of the business action. A balanced scorecard is also strategic planning and management system used to align business activities to the vision and the strategy of the organisation by monitoring, controlling performance against strategic goals. Balanced scorecard is also a strategic management instrument used to explain strategy, set targets, communicate and evaluate – adjust strategy. Thus, it is effective tool for measuring, control and monitoring as well as achieving set goals. (Kaplan & Norton 1992, 71; Kennerley & Neely 2002, 145-155.)

As suggested by Kaplan and Norton (1996, 47-146) a balanced scorecard is formed from four perspectives - financial, customer, internal business process, and learning and growth as described below:

Regarding the financial perspective - building a balanced scorecard should encourage business units to link their financial objectives to organisation strategy. The scorecard is design to tell the story of long run financial objectives and in what way this goal will be achieved through involving customers, employees and internal processes. Focus could be on future rather than past. For instance, how new products, markets, relationships could be capitalised for revenue growth in the organisation along with the strategy set.

In view of the customer perspective, it is important - first to identify the customer and market segment in which organisation is developing its action. A balanced scorecard should identify the customer objectives in each targeted segment through in-depth market analysis. The customer perspective core measures include market share, customer relations, customer satisfaction, acquisition and customer profitability where the main drivers for the customer still remain time, quality and price.

The internal business process recognises the main processes that are critical to achieve customer and stakeholder objectives. The value chain of internal business process includes an innovation phase, where identifying customer needs and developing product offer accordingly; operation process in which product is delivered to customer; and post-sale process where follow if a customer need is satisfied.

The Learning and Growth perspective focuses on developing objectives and measures to drive organisational learning and growth. This perspective provides infrastructure to facilitate ambitious objectives to be achieved in other three perspectives, delivering excellence. Kaplan and Norton suggested that organisation should invest in addition to traditional IT and equipment, new product development also in people, i.e. capabilities, system, i.e. information system and procedure development, i.e. motivation, empowerment and alignment.

Furthermore, Kaplan and Norton (2008, 69-89) and Raps (2004, 2-6) outlined six key success factors when implementing a balanced scorecard described as follows:

- Involving all level of employees in the project
- Obtaining executive sponsorship and commitment
- Choose the right Scorecard Champion
- See the scorecard as long term journey
- Getting outside help when needed
- Being interactive tool for communication: two way communication.

Additionally, Kaplan and Norton (1992, 69-79, 1996, 8-18) state that an organisation would get what it measures. A measurement system in the organisation is strongly linked to the behaviour of employees at all levels. Besides, only financial measures no longer are effective alone, especially when an organisation is focusing on skills and competence development in the organisation. Financial measures mainly tell about operations in the past. Therefore, operational measures shall be taken along; it is suggested to combine these two. A balanced scorecard puts the strategy not control at the centre (Kaplan & Norton 1992, 69-79). According to MacAdam and Bailie (2002, 973), a balanced scorecard can be used to monitor and control characteristics essential to the future success of the organisation, and are able to look forward, rather than

relying on historical data. In that way a balanced scorecard provides simultaneous view on organisation performance, both, financial and behaviour measures. Hence, it is important to keep measurement, management and control in balanced. Too high level of control might destroy the process of implementation because the implementing team would have unnecessary pressure or feeling of mistrust in a way they implement the strategy.

When implementing strategy management control and performance measurement could be combined in order to achieve greater result. Performance measurement is also widely discussed in literature by various known researchers. For instance Marshall (2003, 51-80) describes performance measurement as the development of indicators and collection of data to describe and report, analysis performance. Neely (et al., 1995, 80-116) suggest that it is a process of quantifying the efficiency and effectiveness of the action. Furthermore, Neely (1999, 205-228) indicates seven reasons that are seen necessary for performance measurement in the organisation - the changing nature of work; increasing competition, specific environment initiatives, quality awards, changing organisational roles, changing external demands, and the power of information technology. Performance measurement is kept also to measure if the right work is done, not only that the work is done right.

Likewise, Kaplan and Norton (1996, 8-18) stated that the balanced scorecard is a powerful tool when implementing vision and strategy, also measuring performance of actions taken. Sample of balanced scorecard proposed by Kaplan and Norton is illustrated in figure 3. The balanced scorecard is divided into four perspectives covering most important pieces in the organisation, i.e. customers, stakeholders, financial performance and also employees in the organisation.

Besides, the balanced scorecard is used also in communicating and to educate about the strategy. However, scepticism is observed when communicating and educating an entire organisation, the major risk is that information might leak to competitors. It is mentioned earlier that only knowing strategy will not make a company better, the company needs to execute it to be among the leaders in the field. Hence, it is important to act fast with strategy implementation before competitors will make their move. Again, crucial is to involve employees of the company in early phase of strategy planning ensuring faster strategy execution. In other words, to make strategy execution

as everyone's everyday work task. Communication is seen as one of the barriers when implementing strategy. But it is also seen as factor of success if using a communication tool in the right way. (Kaplan & Norton 2008, 69-89; Raps 2004, 2-6; Jones 2008, 2-5.)

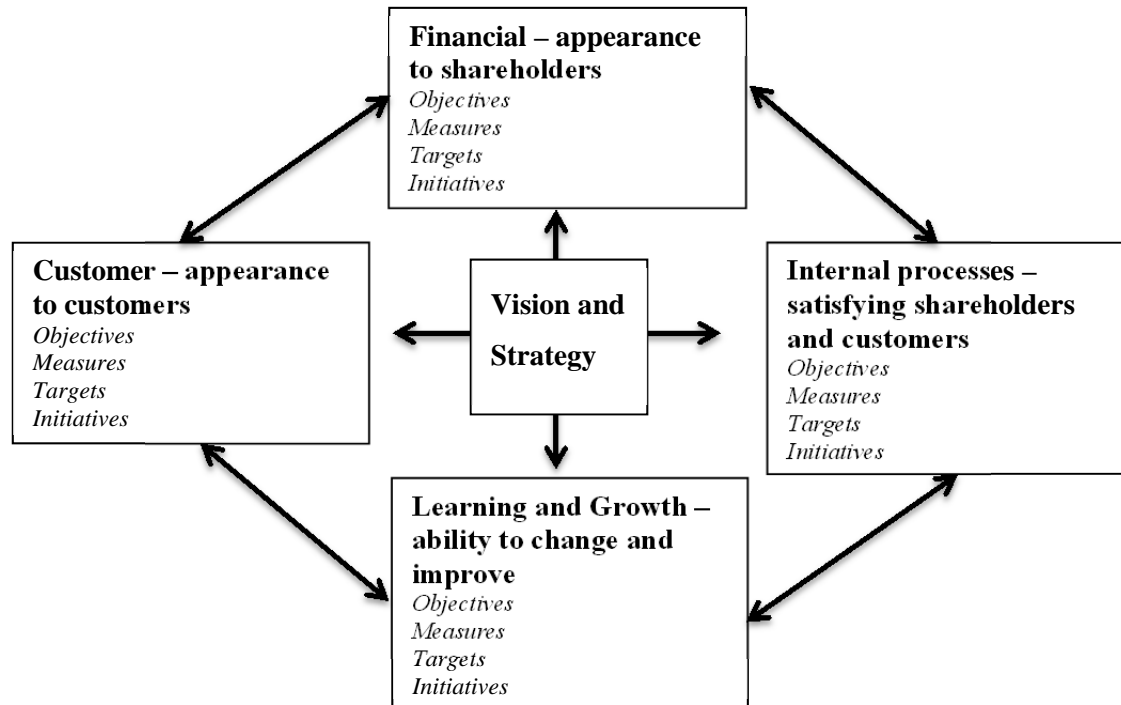


Figure 3 the balanced scorecard links performance measures

Furthermore, Kaplan and Norton (2008, 35-68) proposed six-stage comprehensive, close-loop management system as explained below:

- Develop the strategy: mission, vision and values
- Plan the strategy, i.e. strategy map, measures, initiatives, budget
- Align organisational units and employees with the strategy, i.e. employees, units
- Plan operations by setting priorities for process management and allocating resources that will deliver the strategy: resource capacity plan, key processes; execute strategy
- Monitor and learn from operations and strategy, i.e. strategy and operation reviews
- Test and adapt strategy.

The proposed system than would be a great tool to successful strategy execution in the case organisation: from planning to implementation. I see that a balanced scorecard is a practical tool that the case organisation could use to make clear plans from the existing strategy, use as a control and measurement tool while executing strategy. Therefore, I will choose a balanced scorecard tool to be made in the case organisation, advancing the heat pump test centre development.

4 CASE EVIDENCE

The case organisations operations and practices are analysed here based on literature review, gathered data and its analysis. This chapter provides core understanding on the presented case. Furthermore, Chapter 4 answers on research questions 2 and 3, i.e. How effective is strategy implemented currently in the case organisation? How can the heat pump test centre development strategy implementation be managed in an effective way?

4.1 Strategy development in the case organisation

The analysis of the case organisation starts from understanding the main steps of strategy planning and implementation in Ramk currently. The current RAMK Strategy 2020 was developed in 2008 when Rovaniemi University of Applied Science, Kemi-Tornio University of Applied Science and University of Lapland agreed to establish the Lapland Higher Education Consortium. These three organisations agreed on division of work in accordance with each institution's main field of expertise. Moreover, RAMK strategy not only supports the strategic goals of Lapland Higher Education Consortium, but also linking the Rovaniemi Municipal Federation of Education strategy targeting towards year 2020. Thus, as it was discussed in the introduction part of this thesis, RAMK strategy is on very general level and it is very complex at the moment. Furthermore, today Ramk faces great changes where two Universities of Applied Sciences, i.e. from Kemi-Tornio area and Rovaniemi will join to form one university - Lapland University of Applied Sciences as of January 1, 2014. Currently, the main attention from the organisations' management focuses on new strategy development, which will include both organisations. However, based on my own experience, focus still remains on the current strategy implementation until the new strategy is introduced, accepted for the implementation.

Ramk is a University of Applied Science and the strategy is planned towards close cooperation of education and business field where education alone is not valued. A good example of such a strategy was implemented within past few years, i.e. a strategy called KOTA. The goal and initiative was to bring closer education and business fields. Therefore, RAMK values its local and international cooperation partners in education and in the business field.

As it is mentioned earlier, RAMK's strategy is very general where each department, e.g. tourism, construction, healthcare and wellbeing, and business is obligated to specify its own objectives, actions and resources to be allocated in order to implement RAMK strategy. The main focus of this thesis is on energy efficiency field, which is a part of the construction and technology department in Ramk. One important matter I have kept in my mind is that in the past the university was financially a fully ministry supported institution. Today, as an outcome of the changes, the organisation is facing the fact that financial support from the ministry will decrease noticeably where the missing gap shall be generated by the organisation itself. Therefore, a strong need for external financing rise in order to cover the gap in budget is noted. The answer for solution that RAMK was looking for was possibilities of what services RAMK currently owns, what is in the development phase, which could open the financial income stream for RAMK today. Among the five laboratories heat pump test laboratory is one, which is seen as good source for income. Therefore, strategy to develop heat pump test laboratory turn into certified test center is initiated.

4.2 Heat pump test centre development

In order to understand strategy development and its implementation, it is necessary to know the background and history of the heat pump test laboratory development. From the interviews with the key persons I learned that the heat pump test centre was developed already in 1997. The idea started with a project, which was generated by experts in the field. This is an important fact to keep in mind in that there were two experts who were interested in the idea and had a good background, knowledge and experience to develop it. Furthermore, first, there were two separate departments, i.e. construction and civil engineering in RAMK. When Lapland University consortium started it was decided to move a civil engineering, i.e. technical engineering department to Kemi-Tornio University as a part of the field of expertise work division process. At that time, the heat pump test laboratory was part of the department moved, and therefore the laboratory lost interest for some time in RAMK. Besides, those two experts who started the test laboratory development resigned from RAMK shortly after it was finished to what the laboratory is today. Thus, the heat pump test laboratory was finished in 1999, and the changes happened in the period from 2002-2003 and since then the laboratory was used seldom.

About three years ago the heat pump test centre gained attention after RAMK became a member of the national heat pump association – SULPU. Discussions were kept also in European Heat Pump Association where the main subject was an establishment of the monitoring and control system of the heat pump tests in Europe. One of the main targets that Finland engaged in was the establishment of a fully accredited heat pump test centre in line with EN14511 standard and other related directives. RAMK one of the target organisations to become a heat pump test centre since the test centre was constructed and tests according to EN14511 standard performed. The strategic choice of Finnish and European level stakeholders become responsibility of RAMK because the institution has no direct relation to any specific heat pump production or distribution company. Moreover, RAMK is located in the North where only one companies is found and therefore influential relation could not be easily established. The interviews indicate that it is important that RAMK will remain an independent heat pump test centre. The decision was made to try to develop a heat pump laboratory in RAMK and gain the status of the accredited heat pump test centre, recognised also by the European Heat Pump Association and Quality Label.

First, the decision was made internally in the organisation to develop the heat pump test centre. The decision was made about two years ago when a new project idea was submitted to TEKES – Finnish funds that supports a development of technologies related areas. The plan of the project was to develop a new project and receive financing in order to implement the heat pump test centre certification process. As an outcome of that project, there was an application submitted to Kolarctic ENPI CBC programme, which was not directly linked to test centre development activities. Later RAMK was still to decide on resources and actions to carry on and implement certification process in the test centre. A few meetings took place in spring 2012 in order to discuss the current situation of the test centre and to agree on further steps. In the autumn of the same year, the strategic decision was made to continue the heat pump test centre development.

4.3 Executing Ramk's heat pump test centre development strategy

Before analysis can be started it needs to be pointed out that strategy in Thesis case organisation is the heat pump test centre development - implementing accreditation process. The accreditation process means that the heat pump test laboratory will become heat pump test centre in RAMK in accordance to EHPA and QL suggestions. Analysis

will focus on the case heat pump test center development rather than general implementation of Ramk strategy. However, link to the organisations strategy shall not be excluded.

Due to confidentiality, interviewed persons names are excluded from the analysis. Instead is used common understanding from staff, employee perspective.

4.3.1 Planning process of test centre development strategy

Planning of the heat pump test centre was hectic still a year ago. The information presented in the meetings based on what decisions could be made was incomplete. In each following meeting new information was included which influenced on making the decision. Information used in meetings to support decisions was mainly about the current situation in the heat pump laboratory, brief information on market, companies as potential customers, information presented by one of the experts from EHPA and QL meetings, requirements for accreditation. Furthermore, brief calculation of the financial resources needed in order to develop test centre was presented. Majority of the planning activities were based on economic reasons rather than, i.e. strategy relation, work need to be accomplished, resources available. Additionally, experts feel unnecessary pressure that given promise to have the heat pump test enter in Ramk is not followed.

In October 2012, first the time a more specific plan was made including tasks to accomplish, resources required, persons attached to concrete tasks, requirements for accreditation were specified. However, six month later the situation remained the similar. According to staff involved and from interviews of the key persons it is clear that the majorly of people know what is required from them, and where the heat pump test centre is heading. For instance, below are extracts from two interviews that show gaps in planning:

“We don’t have any strategy how to continue. Current situation is that we are building one thing there and other there, but not systematic development. We should stop, we need to think for ten years or twenty years ahead what we will be and then find the way how to go there. We don’t have that kind of milestones defined. ...”

“I think it’s, we should stop for a while and think again. We should discuss with construction and engineering department what are their ways in the future, what they want to do. And not just one or other specialists, the whole picture must be defined where we should focus on. ...”

“So the way we think about the accreditation, for example, it is for commercial services, not for research purposes. ...”

“So there are two reasons really what I said, that, one it helps us to gain income and it also gives us to upkeep that training environment, and then at the same time we can test those pumps, we can train our students to understand better what type of work are we up to, and to do that type of work. So, it is win-win situation for us that is the main aim and also the reason for this decision. ...”

Hence, for some staff member’s strategy is clear: to develop the heat pump test centre that is accredited according to a standard and is providing the certified heat pump tests. However, one of the members put two questions to consider, i.e. how this test centre will function in the future and besides the economic reasons also education as main functions of organisations shall be considered. However, according to ISO 2005:17025 standards which limits the test centre activities on only the business due to confidentiality, limiting non conformant work and influence on quality of the test results. That means that education, training and research activities in the heat pump test centre cannot be performed after accreditation in a way that the university expects it to be. This factor changes the whole importance of the test centre’s existence. At least it has not been discussed from this perspective. However, the RAMK expects that main functions of the heat pump test center are education and training while income generation is as important. On the other hand, the RAMK’s overall strategy clearly defines that education and business shall work together, not separately.

Thus, understanding on the heat pump testing centre is clear in regards to accreditation, but further discussions are needed in order to include all the important elements in the “big” picture already from the beginning. It means that changes in the current strategy are to be introduced.

Furthermore, according to Kaplan and Norton (2001, 1) and Singh (1998, 146) strategy planning and strategy implementation are both equally important phases. Kaplan and Norton (2001, 1) suggest that execution of the strategy is much more important than quality of the strategy itself.

4.3.2 Execution

Kaplan and Norton (2008, 103-125), Jones (2008, 4-5) and Raps (2004, 2-6) have found and formulated five major barriers to execute strategy effectively. Let's look closer to proposed statements and how strategy execution is performed in the RAMK case. Summary of the analysis is described in table 2.

Lack of vision

The interviews, own observation, and seven years of own experience in the organisation and participation in the process proved that strategy is understood by all involved parties. Even though it is not written as the strategy paper anywhere so that the employees directly involved and other persons related, but not directly involved could use the written document to recall the specific fact or details. When implementing the strategy it is a valuable tool. A written document is used as a tool for monitoring and control, and to remind during implementation too. This way everyone involved has opportunity to be aware, to ask for clarifications and open discussions if something remained unclear.

To my understanding, not all parts in the RAMK's strategy can be found. For instance, strategy to develop the heat pump test centre exists, but interviews show that details are missing, i.e. common understanding on who is our customer, financial gains, internal processes and growth, and critical success factors. These four factors proposed by Kaplan and Norton (2001, 1) has not been discussed previously at all in the RAMK.

People barrier

Kaplan and Norton (2008, 2-8) research results propose that only 25% of incentives are linked to strategy execution is also the case of the heat pump centre in RAMK. Only small steps have been agreed, directly involved employees are generally aware of these steps. Therefore, incentives are occasionally linked to strategy execution. The

implementation work proceeds only when employees are asked to describe the current condition. The reason behind is clearly that employees main activities are linked elsewhere, but not to the heat pump test centre strategy implementation. When employee has time to do something related to the heat pump test center, then work happens to precede, otherwise, required work remains unfinished. However, in the interview with management it is clear that management is not focusing their effort to develop the test centre. Strategy still exists, the implementation work is continued, but with no special emphasis. The operational level employees are aware of this situation which makes them feel discomfort.

Resource barrier

At the moment, according to interview a result, specific budget is not made that would support strategy implementation. Separate staff members have small amount of hours to execute the basic work, which would somehow lead to the test centre development. All interviewees and myself believe that at least two to three persons should be working full time in order to implement the test centre accreditation, to attract companies and the tests would be functioning. However, one of the reasons mentioned in the interviews is that the organisation does not have the required expertise in some of the required tasks. Other very important reasons in the management level is that the long term future is not identified yet and therefore even this strategy is relevant to the organisation, management do not focus on implementing the heat pump test laboratory. That is the managements' decision for the time being while changes in the organisation are taking all time and effort at the moment.

Management barrier

The management is not very actively involved in this strategy implementation as it is pointed out earlier in this chapter. The development and accreditation work is still going on, but at its own speed. Once every few months the team is coming together to discuss the current situation and next steps, but that is not enough to achieve goals set, the management takes no responsibility of the development and implementation process. All four interviewees agreed that the main responsibility, which has not been seen, is in the management level. The reasons for slow strategy implementation identified in interviews are as follows:

- No clear future goals for the organisation due to the organisational changes that are being implemented now - merging two universities, financing plan
- Resource shortage also due to the changes in organisation
- No clear objective set for the test centre, i.e. business and education, and training

Additionally, the gap between strategy planning and the implementation is noticeable. Hrebiniak (2006, 3-16) in two of his proposed six obstacles to effective strategy implementation in table 2 states that the managers are trained to plan and that would be also their task while operational level employees are to execute strategy.

The communication

The communication in this case plays a major role. Throughout the interviews it became clear that not all employees are aware of the same issues discussed in the management or operational level, according to few interviewees:

From the management point of view:

“I think that this closest people, let’s say four, five people, they are aware of, but we should somehow have commitment from management side, they are not informed. And, either they don’t give us input what to do, how to do, don’t give any comments”

“... we need management side and from the construction side, more people to be involved and defined the whole picture. Maybe it is also part of the communication, I don’t think that we have operational team, to expand it, but we have to have some kind of communication to the management side and for the construction curriculum side. And discussion between them, it is somehow strategic management from that side we should have. We have only one expert involved now and, but we should have all group discussing. “

From the operation level point of view:

“Everybody say that you must do so many thing, that test centre work, but I can’t ask anybody how I can make it work.”

The operational level employees have perception that the RAMK is developing the test centre and is going through accreditation, while the management is considering global issues of the organisation existence. In the interviews it was asked if interviewee considers that the team is working together to implement strategy and answer was - yes. But from communication point of view it is clear that the team is implementing operational actions together, but important cooperation between the management and operations is missing. The interviews clearly shows there is difference in the information what the management and operations have in their hands. Additionally, too less time is spent for discussing strategy over and commonly agreeing next steps to be taken.

According to Jones (2008, 11), the communication has two main challenges, i.e. understanding people and failing to introduce strategy out to people. It is not only how the strategy is explained, but also how employees are interested in it, to which level, to what details. For example, one interviewee mentioned in regards to monitoring that person who asks, has no idea of how a heat pump test centre works, no clear picture how it should work. It shows that the communication should work both ways in order to effectively merge the substance with administrative operations. Hence, the initiative is expected from the management level. In a way, the communication is somehow linked also to motivation of the all level employees to their daily work, i.e. if employees are not coming to work only to accomplish their daily jobs, receive the salary and go happily home, but would get satisfaction from the results performed. In this way the employees would be much higher motivated to produce results. The management would be interested to provide the support, share and show effort to explain their expectations and point of views. Through the communication managers the organisation shall ensure integration of the employees daily work towards the strategy implementation according to Jones (2008 14-15), and this is the case where Ramk can improve.

According to Raps (2004, 1-6), the change is part of everyday working life, therefore it is important to involve employees from the very beginning with providing valuable information, make process clear, to describe responsibilities and actions in details. The communication plan could be good base for describing actions, responsibilities, time, aim, tools to be used, and measurements and work plan (Raps 2004, 1-6). Such plan has not been introduced and discussed with employees, thus, the employees might not be prepared for the coming changes.

Analysis of the strategy execution in RAMK is displayed in table 3 according to Kaplan and Norton (2008, 281), Jones (2008, 8-11) and Raps (2004, 1-6). In the table summary of the case organisation is provided.

Table 3 Analysis of strategy execution

4 major Barriers to strategy execution			
<p>Lack of vision Strategic targets are visible, but missing whole picture, long term planning</p>	<p>Resource barrier Budget linked to strategy implementation is missing</p>	<p>Management barrier Top management purposely spends little time to discuss strategy, monitor process due to on-going changes in organisation</p>	<p>People barrier Only about 10 % of incentives are linked to strategy execution in heat pump test centre case. However, strategy execution is a team effort</p>
<p>Communicating the strategy Communication in test centre case is major barrier for work being implemented slowly. Common discussions are not kept enough.</p>			

Kaplan and Norton (2008, 3-6) and Merchant and Van Der Stede (2007, 8-11) suggest that the monitoring and control is very important. Causes of the needs for the control by Merchant and Van Der Stede (2007, 8-11) provides good base to better understand, and perhaps, make the changes in strategic direction when planning and executing the strategy as described below:

a. Lack of direction

Even the employees do understand the main course, missing details or even the whole picture are slowing implementation process down. To some extent, the operational level

employees have built their understanding and set of goals, which are mainly a question of the professional interest and to maintain work place in the future. In interviews the operational level employees have a more detailed picture while the management still is open to global matters in the organisation. In the interview one of the interviewees discussed as follows:

“Accreditation is just what people now want to have, but what are the commercial achievements or benefits for the accreditation, I don’t know yet.”

“If we look in upper level we have some defined ways where to go, but it is too abstract, no concrete. It is upper level defined, but not put in operation.”

Thus, the direction and common understanding of what the heat pump testing centre is for is in the same level for all members of the team. But, the way in which test centre would be and shall be used after the accreditation is not the same for all. It proves that expectations are different in the operational and in the management level.

b. Motivation problems

Here the issue mainly is about everyday task that the employees are engaged with. Due to their professionalism employees would like to work more on the test centre development, however, at the moment organisation needs their skills to be involved in other tasks. However, because of own motivation the centre development is still proceeding, also with some of the support from management. Both, i.e. the operational and management share the opinion that the permanent employees shall be made available to the test centre only. Again, one fact needs to be pointed out is that issues have been somehow explained to the employees. It is that after the changes will apply to the organisation structure and legal status, the management might have more flexibility to support and to motivate employees, according to information from the management side.

c. Personal limitations

Almost in every interview it is mentioned about the fact that the organisation has incomplete essential intelligence, experience, perhaps also stamina to carry on the heat pump test centre effectively. To some level, it may lead to making wrong decisions; at least it was visible at the beginning of the development process. In the implementation

process it becomes clear where and what kind of skills, experience is missing which influence on the development work. For instance, the organisation has only one expert with the specific skills and certification, but the organisation would need at least two experts with the necessary skills to ensure quality in the test work. Thus, the organisation has employees limitations to solve.

4.3.3 Monitoring and control

The core of the view from one of the interviewee is illustrated below:

“You cannot evaluate if you don’t have any measures over operations. Of course, there is that they are quit big steps, now we are following that are we going to have accreditation or not, but it should be somehow split on smaller pieces to see what is going to happen.”

- interviewee

Over the two last years of the test centre development and monitoring system has crystallised itself. Through a set of face to face meetings, discussions over the issue have made a good plan to follow regarding the test centre development. However, these small pieces that could be missing, according to the interviews and own observations, are clear indicators for goal to be achieved. Currently everyone recognises what is to be developed in general, but what for, it is still open. Thus, when planning the strategy and implementing it, awareness is to be paid in explaining the important strategic and technical factors of the planned work. To make common indicators with which performance could be measured is also critical. Also frequent, scheduled meetings would help to keep the implementation of the work on track. Currently, a measuring system is not developed and team is floating on its own speed leading to frustration, loss of motivation, and also face and reputation in front of the local and international partners. As it is pointed out earlier, the decision to have the heat pump test centre in Finland was the best choice for RAMK. Since then not much further the test centre has been developed and persons involved do not feel comfortable in front of international colleagues about the results. Thus, they are afraid to loose reputation for both, individual and organisational.

However, to have the control and monitoring system in place would be ideal case according to Kennerley and Neely (2002, 145-155) and Merchant and Van Der Stede (2007, 8-11). One of the tools used in this Thesis corresponding to Kennerley and Neely (2002, 145-155), Merchant and Van Der Stede (2007, 8-11) and Kaplan and Norton (2008 3-6) is the balanced scorecard to measure and to implement the strategy effectively.

4.4 The Balanced scorecard

Before constructing the sample balanced scorecard for the case organisation, it needs to be pointed out that RAMK has experience on a balanced scorecard. Current the strategy is explained by a balanced scorecard where main initiatives, measures and targets are provided. The first two research questions are discussed in previous chapters of this Thesis while current chapter will focus on third question by providing example of the strategy implementation in the organisation via a balanced scorecard according to Kaplan and Norton (2005, 6-11; 2008, 3-6).

The main data used in following analysis are the interviews. In first part of the interview the barriers and success factors for the effective strategy implementation are identified. The second part of the interview focuses on the balanced scorecard and its development. This way to ensure quality and importance of the data collected, and already involving the key employees into planning process, as proposed by Chan and Mauborgne (2005, 171-176) and Jones (2008, 14-15). The purpose is to develop a simple balanced scorecard example for the heat pump test centre case.

Kaplan and Norton (2008, 174-175) proposed to start with defining the strategic objective, continue with identification of the critical success factors and adding metrics at the end. Same pattern is used to develop the balanced scorecard for the case organisation. The strategic objective will remain original and it is: **to have certified heat pump test centre** according to SFS-EN ISO/IEC 17025-2005 standard.

4.4.1 The critical success factors

In order to understand the important factors of chosen strategy interviewees were asked to identify the critical success factors. According to Kaplan and Norton (2008, 174), the companies identify the critical success factors to do employee's best to achieve strategy

while performing the implementation. The following explanation to the interviewees in order to better understand the issue was given, i.e.

For any business, the limited numbers of areas in which results, if they are satisfactory, will ensure competitive performance for the organisations. They are few key areas where things must go right for the business to flourish.

In the RAMK cases the following critical success factors were identified in its order of importance are illustrated below:

- I. the process quality – approved according to SFS-EN ISO/IEC 17025-2005 standard
- II. the skilled workers – 2-3 full package, full time employees
- III. the customer satisfaction – providing quality based test service
- IV. New products that will satisfy the customer needs – opening other type of heat pump test service than only ground heat pumps, e.g. air-to-air, air-to-water heat pump tests
- V. The new business opportunities – how else we can satisfy our customer.

4.4.2 Balanced scorecard perspectives

Below each of the balanced scorecard perspectives are discussed separately.

The financial perspective

The financial perspective is hard to put in numbers yet. The reason for that is that there is no clear strategy for the use of the heat pump test centre yet. In line with the university vision all services are targeted also for the educational purposes. This way share of the costs of the test centre could be covered by the main financial source, which is still the ministry financing. However, it is not yet clear whether such a test centre can be used for the education purposes, not putting in danger quality, and maintaining confidentiality of the test results. In line with the standard SFS-EN ISO/IEC 17025-2005 the test centres use in education process might be limited or prohibited.

However, according to the expert calculations the test centre will be financially independent and that is the main target that all participants stated. It means that the test centre shall earn a little bit more than it costs, which it is worth to develop and keep. One of the issues to bear in mind is that the price for the certain test services is set by the European Heat Pump Association in cooperation with all the test centres. This is done in order to exclude unnecessary competition and to ensure high level of quality.

The RAMK management has a clear understanding that at the development phase only investments will take place, return on investments will be possible only when the test centre will have accreditation certificate and test service will be possible to sell. Therefore, at the development phase education is very important to take along. Taking into consideration that in Finland such test centres do not exist, the test centre would work in its full capacity. In the long run, new test lines within the same test centre shall be opened in order to satisfy at least the local customers. In addition to the focus that RAMK has identified to focus on capitalisation of the existing customer relations, but also to create new relations. Therefore, the target in the future is set to have positive financial results in the first year of the operation.

The customer perspective

In order to generate cash flow it is important to understand who our customers are. The main customers identified both, i.e. by the experts and management are producers and importers. The company is developing new product and therefore would like to ensure that the new product is in line with the standards and can be sold in certain climate conditions, and market conditions. The importers again are worried that the imported products apply with regulations for which market the product is planned. Thus, both need a certified test service to receive official certificate that their product is following standard and can be put on sale to the customer.

The RAMK is an independent test service provider to both customer groups. It means that RAMK has general relations with all customers and will not work towards one or other in favour to any customer. It is the main value or importance for RAMK towards its customers. Additional value for the customers is the northern climate zone where RAMK again would be the northernmost heat pump test centre in the Europe with a harsh climate zone. This perspective brings additional interest from producers and importers especially relying to heating devices. Furthermore, time is critical to the

customers while costs are fixed and are the same in all test centres in the Europe, and quality standards are adhered to.

Besides the customer, it is important to understand who our partners are in order to develop the right processes with less effort. In some cases the customers were mentioned to be partners as well, especially when thinking about the research and development.

The main initiatives to reach targets would be to expand partnerships with local and international organisations such as other education institutions, research organisations and other heat pump test centres. Work with companies would be to ensure range of customers for Ramk heat pump test centre; this work should be done already at this stage when the test centre is developed.

The internal processes perspective

The internal process is perhaps most critical of all four factors. If to follow suggestion by Kaplan and Norton (2008, 174) and Palladium Group (2010) that the balanced scorecard looks at the organisation holistically as it is illustrated in figure 4:

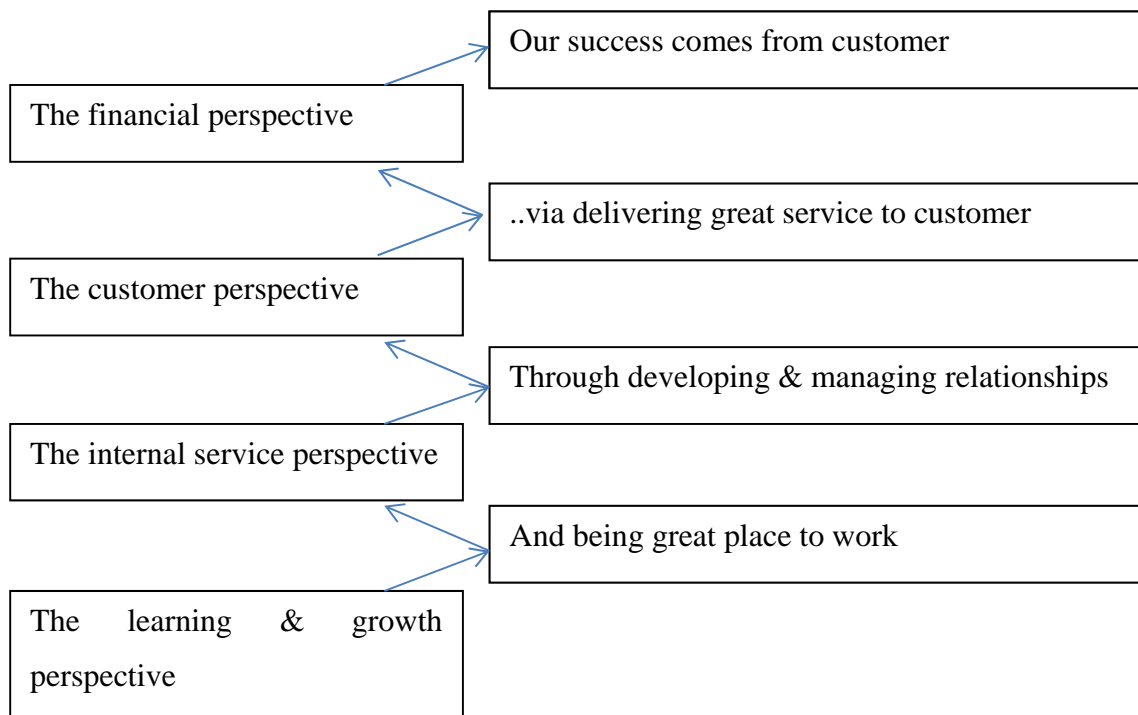


Figure 4 holistic approach of the balanced scorecard

RAMK has identified the main internal processes that need to be taken into consideration in the test centre development phase based on the interviews and own observations and are illustrated below:

- I. The standard based process: SFS-EN ISO/IEC 17025-2005 based test centre quality process and test done according to EN 14511-2 standards
- II. By providing the premium quality service to the customer, e.g. marketing, after sales.
- III. By developing operational communication process – internally and with other stakeholders.
- IV. Maximising quality and efficiency of business process.

Based on these four processes long term relationships with the customers and partners would be established. After all, quality is the key element in the test service field.

The learning and growth perspective

For the employees it is important that this is a place where they want to work. Therefore, the organisation is expected to provide a working environment where employees are willing and able to grow professionally through the education, training, exchange programmes and self-education through motivation. Skilled personnel are a key issue here for the RAMK according to the interviews. Thus, information and working tools shall be maintained to ensure that each member implements the same strategy and is aware of the following actions.

The research shows that the main challenge for RAMK is to have two to three multitasking professionals working full time in the test centre. It means that one person shall hold a certificate as electrician, the heat pump experts, and the heat transfer experts and shall have other important skills. The training and education is the main initiative from the organisation side to organise for employees working in the test centre.

4.4.3 Sample of balanced scorecard for case organisation

Throughout the chapter 3 the barriers and success factors when executing strategy in the organisation is described. In addition to that, in the data collection phase practical

information is gathered. Combination of the theory and practical findings for the interviews will compose the balance scorecard for case organisation. Thus, in table 4 a balanced scorecard for RAMK is described.

Table 4 the RAMK's heat pump test centre development strategy balanced scorecard sample

	Objectives	Measures	Targets	Initiatives
Financial	<ul style="list-style-type: none"> - Test centre certified - Maximise benefits/costs - Combine business & education processes - Gain positive balanced 	<ul style="list-style-type: none"> - Cash flow - Credit point to the students from use of test centre facilities - Number of customers 	<ul style="list-style-type: none"> - Positive financial balanced - Annually 100 ECTS - All Finnish production companies as customers 	<ul style="list-style-type: none"> - Recruit team - Get test centre accredited - Specify education possibilities in test environment - Establish business process - Make required investments
Customer	<ul style="list-style-type: none"> - Market analysis - Build customer relations - Delight the customer 	<ul style="list-style-type: none"> - Number of customers - Overall customer satisfaction (100%) - Time of delivery 	<ul style="list-style-type: none"> - All production and import companies in Finland - 100% customer satisfaction - Test is done and unit for test returned to customer within 2 weeks 	<ul style="list-style-type: none"> - Build and maintain relations with customers - Maintain satisfaction programme according to standard - Effective process execution
Internal processes	<ul style="list-style-type: none"> - Develop standard based process - Provide premium quality service - Develop operational communication process - Maximise quality & efficiency of business process 	<ul style="list-style-type: none"> - SFS-EN ISO/IEC 17025-2005 standard - Customer satisfaction (100%) - Communication records - Ground heat pump test line - In future other heat pump test lines 	<ul style="list-style-type: none"> - SFS-EN ISO/IEC 17025-2005 standard applied - 100% customer and stakeholder satisfaction - Communication plan available - Ready by end of 2013 	<ul style="list-style-type: none"> - Complete required standard process - Develop communication plan - Develop integration plan in line with the possibilities
Learning & Growth	<ul style="list-style-type: none"> - Close skills gap - Enhance information management - Recruit the team - Achieve positive internal climate 	<ul style="list-style-type: none"> - Required training on electrician, heat transfer, heat pump skills - Staff satisfaction indicator 	<ul style="list-style-type: none"> - 2-3 full time skilled personnel - 2 training/education annually - 80% satisfaction 	<ul style="list-style-type: none"> - Develop education and training plan - Recruit skilled staff - Measure and correspond to staff satisfaction with internal work environment

5 CONCLUSIONS

There is no doubt that the strategy implementation takes a key role in an organisations success independent of its size. In this chapter the conclusions on how the case organisation increases effectiveness executing strategy is described. No matter if the given strategy is small or big in size, simple or complex, the goals set are to be implemented. Especially in an organisation such as RAMK with a complex organisational structure, the strategy implementation also is very complex. Each goal set has to be studied from many angles in order to make a right strategy. Execution of goals and strategy in RAMK is a critical prerequisite to sustain and grow in the future. Respectively, the education sector in Finland has been for past few years under reconstruction where both, i.e. academic and universities of applied sciences are merged together, fields of specialities transferred to one campus, left only with some key specialities. Therefore, mapping, planning and implementation the strategy is critical and have to be implemented today, tomorrow might be too late.

To be successful in the future executing the strategy effectively the case organisation should make clear decisions and stick to them. Once the decision is made concerning recourses, allocation of the resources is needed. In a majority of the cases strategy execution is carried out in parallel with everyday tasks and responsibilities. However, it is strongly recommended to have at least a few key persons assigned 100% of their time to the tasks, thus, making a commitment towards the selected goal. In certain cases important factors, i.e. complex decision making, insufficient information sets additional barriers to the strategy implementation. If these barriers are recognised it is recommended to invite an expert for a professional opinion. Currently in the case organisation the challenge has been to find and assign the right persons to the right tasks because of the change process in the organisation, which includes a decrease in employment, change of the strategy, and change in legal status.

Previously, the strategy execution has been a big challenge too, because strategy planning and implementation in the case organisation were two different processes, i.e. the management is to plan and operations to execute the strategy. It was still the case six months ago when in the staff meeting was pointed out that strategy planning is management task. However, in the last two months the approach has been changed

where a new strategy for the merged organisation is developed involving possibly all of the staff members, at least the opportunity to participate is given to all. Hence, in separate cases attention to planning and execution as one process is recommended to apply. In addition, Kaplan and Norton (2001, 1) pointed out that ability to execute strategy is much more important than the quality of the strategy itself. Thus, it has to be one process. Furthermore, from my own observations, in RAMK could be found also an excellent example of effective strategy execution as in the case of KOTA process – integration of education and real life cases. In KOTA case strategy was well discussed with all employees systematically, everyday work included following KOTA process and applying it. Thus, the resources allocated to plan, execute, measure and control KOTA strategy was sufficient.

From the interviews it could be understood that the heat pump laboratory in RAMK is important to the organisation for the education purpose and to earn money. The goal to get the test centre accredited, in the beginning for ground heat pumps, was set. However, the process of the heat pump test center development is still slow. From my own experience, also from previous work places in Latvia, I have learned an important lesson which can be related to the RAMK heat pump laboratory case, i.e. if work is not implemented in management level; work cannot be expected to work in operation level. If RAMK wishes to realise its plans in an effective way, first step would be to commit to the plans in management and operational level.

According to the standard for test centres, confidentiality and limitations are applied. RAMK is an education institution where its priority is education. The changes that the organisation are experiencing now requires to plan where from external financing will be gathered. One of the options discussed is to sell services that RAMK has. From the interviews with management the heat pump test centre is one of the services to sell, increase external financing. However, it need to be mentioned the limitations that are mentioned earlier in this Thesis. On the other hand it was pointed out in the interview that the possibility that the test centre would be purely a business unit was not discussed. Thus, the communication could be improved to ensure the right use of information from the very beginning. Also in this case, commitment from all parties involved is critical where the subject is discussed from different angles, then planned and followed by the implementation. It is strongly recommended to build a transparent communication plan, write all plans on paper which would be available to all employees

or to whom it may concern in and outside of the organisation. Furthermore, to ensure that the employees are aware of latest issues, responsible employees need to communicate to team members frequently.

Besides the good strategy and implementation of those plans, proper attention needs to be turned towards employees. Employees are a key element of every single organisation and its success. Therefore, it is critical to keep the employees highly motivated and professional to what work requires. An excellent expert in the open market may be expensive; therefore, an organisation may decide to train their own experts in the field. It is not a secret that the main motivator for employees proves to be financial benefits; however, there are other instruments available too. From the interviews with the management it could be understood that to have more flexibility to motivate employees through financial benefits may open. However, other motivation streams in the organisation would be beneficial too. The organisation needs to be ready to invest in employees to ensure quality of offered services to the customer.

In addition to process and personnel issues, clear strategy, plans and support processes are critical towards effective execution. This research has analysed mainly strategy implementation barriers and success stories, through which a matching pattern was found for good and effective strategy execution. A balanced scorecard as a good example of effective strategy execution is included in Chapter 4 while many other tools are left purposely behind. However, a balanced scorecard is a good way to start with and it is a written plan which is available to all of involved parties. Hence, it increases possibility to perform measurement and monitoring over the process and results. From table 5 we can learn differences between Kaplan and Norton (2008, 35-68) proposed six-stage comprehensive, close-loop management system and case RAMK practice.

Table 5 RAMK's heat pump test centre development strategy balanced scorecard

Six-stage comprehensive, close-loop management system by Kaplan and Norton (2008, 35-68)	Case RAMK practice
Develop the strategy, i.e. mission, vision and values	Development of the strategy is in line with Kaplan and Norton proposal. However, shall remember to take operations along in addition to only management level involvement

Plan the strategy, i.e. the strategy map, measures, initiatives, budget	In Ramk good examples exists, but in case the heat pump test centre only initiatives were listed and budget made to some level. Measures and strategy map was not discussed.
Align organisation units and employees with the strategy, i.e. employees and units	Discussions were kept where main goal was to go through current situation, present wishful future. An important communication was left out which could be critical in the future.
Plan operations by setting priorities for process management and allocating resources that will deliver the strategy, i.e. resource capacity plan, key processes	Resources were allocated according to availability: only personnel. Capacity of those staff members involved was discussed briefly – no proper planning involved. Financial resources were left open – to be found later. Key processes identified to get the heat pump centre certified, but could be more details added.
Monitor and learn from operations and strategy, i.e. strategy and operation review	Are not visible in the heat pump test centre case
Test and adapt strategy	Has not been applied yet

To conclude, the fact that a well communicated and visible strategy for the heat pump test centre in RAMK does not exist is need to place special attention. Actions taken are reactive consequences of random requests and self-initiatives. From the interviews, theory background, own experience and observations conclusion can be draw that interviewees have a clear picture on strategic plans, however, some details of the puzzle are missing. These missing pieces could be restored by firstly making concrete plans in written form. This way ensuring that every employee directly involved in the action would do the right activities to achieve desired goal. A sample of balanced scorecard might be a good way to start the process.

It is impossible by one single case based Thesis work as this one to cover a complex strategy execution process. The result of this Thesis indicated few topics for future studies. To start with, it would be useful and valuable for RAMK to further study motivation of the employees, i.e. what other than financial benefits would motivate employees of RAMK to implement their work. Such a study in the case organisation, to my knowledge has not been carried out yet, and would actually initiate various ways of how to motivate, resulting in increased positive internal working environment. Furthermore, analysis of empirical data indicated that real life cases are significant for the education process. Thus, further study could include how education and testing environment adds value to the business. The clear gap in communication was observed

while reasons for it were not studied in this Thesis. To find specific reasons for deviation and to overcome them, following study could be performed on presented topic. Moreover, a cross cutting issue was found as outcome of analysis. RAMK is large scale organisation with complex organisational structure. It would be beneficial for the organisation to study effectiveness of such structure effort to strategy execution in the organisation. By that I propose to analyse current effectiveness and propose, if needed, how influence of bureaucracy in the organisation could be minimised in order to increase effectiveness in achieving goals set.

To summarise, through this study I have increased my knowledge about the strategy implementation process, but also gained significant information that I personally missed during the formulation and later in the implementation phase of the heat pump test centre development. This study provided the organisation and I with relevant and valuable conflict zones, i.e. barriers existing that influenced on effective execution of the selected goals. Thus, both organisation and I could find good source in this study to enhance performance. Besides, in this changing environment proper plans needs to be made properly; if no good plans made no changes will take place.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE FOR THE INTERVIEWS

Focus of this questionnaire is on test centre development (its strategic implementation).

Please focus your answers on this phase.

I. Strategy implementation in Ramk related to heat pump test centre development

1. Please tell me history of test centre development
2. Why it is important that Ramk will have heat pump test centre?
3. Now I would like to ask you to describe strategy of the heat pump test centre in Ramk, how you understand it.
4. Who is responsible of current strategy development and implementation?
5. Would you agree that current strategy is good and relevant?
6. Would you agree that implementation of current strategy is good?
7. When implementing strategy, there are three main components
 - a. Objective: your goal to be achieved – are goals clear to you?
 - b. Action: specific arrangements to achieve goal set – are activities well specified?
 - c. Resources: inputs in real measures to perform an action – is resource appropriate to implement set activities e.g. time, human, financial?

How these components have been visible from start of the test centre till present day?

8. What monitoring and control steps are implemented in order to follow process development?
9. Do you know what organisation expect from you towards test centre strategy implementation?
10. In theory, one of the strategy implementation corner stones is communication: do you agree that strategy is well communicated to related staff members in test centre case?
11. Would you agree that team is working together to implement heat pump test centre strategy?

The Balanced Scorecard

Balanced scorecard in this case is tool through which to look on organisation holistically: financial, customer, internal processes and learning and growth in the organisation. Focus again will be in test centre development and its strategy implementation.

Before we are going to four parts, I would like to ask you: what are the **critical success factors** for the test centre?

CRITICAL SUCCESS FACTORS: FOR ANY BUSINESS, THE LIMITED NUMBERS OF AREAS IN WHICH RESULTS, IF THEY ARE SATISFACTORY, WILL ENSURE COMPETITIVE PERFORMANCE FOR THE ORGANISATIONS. THEY ARE FEW KEY AREAS WHERE THINGS MUST GO RIGHT FOR THE BUSINESS TO FLOURISH.

OR: THE ELEMENTS, SUCH AS QUALITY, TIME, COST REDUCTION, INNOVATIVENESS, CUSTOMER SERVICE, OR PRODUCT PERFORMANCE, THAT CREATE LONG-TERM PROFITABILITY FOR THE ORGANISATION.

For instance:

- New products that will/may satisfy customer needs (range of assortment)
- Adjusting products
- Excellent suppliers
- Skilled workers (team)
- Knowledge of the client
- Customer satisfaction (after sale service), (communication with customer)
- Exploit new business opportunities
- Achieve lower delivery costs/time
- Process quality

Financial perspective:

To succeed financially, **HOW SHOULD WE APPEAR TO OUR SHAREHOLDERS?**

Building a Balanced Scorecard should encourage business units to link their financial objectives to organisation strategy. The scorecard is design to tell the story of long run financial objectives and in what way this goal will be achieved, involving customers, employees, internal processes etc. Focus could be on future rather than past. For instance, how new products, markets, relationships could be capitalised for revenue growth in the organisation along with strategy set.

- Has Ramk set any financial target to what test centre would aim at?
- What would be measures, targets and initiatives to reach these mentioned objectives to your opinion?

Objective	Measure	Target	Initiatives

Customer perspective:

To achieve our vision, **HOW SHOULD WE APPEAR TO OUR CUSTOMERS?**

First is to identify the customer and market segment in which organisation is developing its action. Balanced Scorecard should identify the customer objectives in each targeted segment through in-depth market analysis. The customer perspective core measures include market share, customer relations, customer satisfaction, acquisition and customer profitability where main drivers for customer still remain time, quality and price.

- Who are heat pump test centre customers?
- Why Ramk test centre would be important to these customers?

- What are their main values towards heat pump test services that Ramk will offer (e.g. time, quality, and price)?
- Who are our partners?
- What would be initiatives to reach objectives and targets in your opinion?
- How do you see Ramk test centre in international arena?

Objective	Measure	Target	Initiatives

Internal business process perspective:

To satisfy our shareholders, **WHAT BUSINESS PROCESSES MUST WE EXCEL AT?**

Identification of main processes that is critical to achieve customer and stakeholder objectives. The value chain of internal business process includes innovation phase, where identifying customer needs and developing product offer accordingly; operation process in which product is delivered to customer; and post-sale process where follow if customer need is satisfied.

- What internal processes test centre shall excel to provide planned values to the customer?
- What processes would need to be improved in test centre to achieve greater results compare to current situation?
- How quality measures are implemented in test centre today and is there a need for improvement?
- What would be initiatives to reach objectives and targets in your opinion?

Objective	Measure	Target	Initiatives

Learning and Growth perspective

To achieve our vision, **HOW WILL WE SUSTAIN OUR ABILITY TO CHANGE AND IMPROVE?**

Focus on developing objectives and measures to drive organisational learning and growth. This perspective provides infrastructure to facilitate ambitious objectives to be achieved in other three perspectives, delivering excellence. Kaplan and Norton suggested that organisation shall invest in addition to traditional IT and equipment, new product development also in people (capabilities), system (information system) and procedure development (motivation, empowerment and alignment).

- Would you agree that test centre has all necessary capable personnel to implement test in required quality?
- If any, what personnel development events shall take place in the next 1-3 years?
- What would be initiatives to reach objectives and targets in your opinion?

Objective	Measure	Target	Initiatives

Closure

- Is there anything you would like to add in addition to what has been said before?
- Would you like to receive the interview transcripts?
- May I contact you again in order to clarify some issues if unclear from the interview?
- Is this interview classified as confidential or could it be attached to the Thesis, thus, to be publically accessible?

APPENDIX 2: TRANSCRIPTION ON INTERVIEWS: 1

I. Strategy implementation in Ramk related to heat pump test centre development

1. Please tell me history of test centre development

Yaa, as long as, as long, as much as I know, because, it has long history, and it goes way back to that time, when, when it presents civil engineering department. Actually was two different departments: construction and then “kone tekniikka”, it’s actually the, the, the normal engineering. But anyhow, we had two departments. And then, when the Lapland University consortium process was started, then it was agreed that this technical engineering training were, was transferred to Kemi-Tornio. And actually this heat pump unit down there, it was part of that department which was transferred to Kemi-Tornio. And, I don’t know the history why the, the heat pump centre was build earlier, but its, its anyhow related to, to the idea in a way that we have this, these words are in English, actually this is first time when I start to use these technical terms, so much so “talotekniikka”, so it means all these technology we need in modern house, so it means heating, auto, automatisisation etc. So, those belong to that degree programme which took to Kemi and now we have to reorganise things here. And then, somehow this development of that heat pump centre was not so active. But earlier, when it was established, the idea was really to create unit responsible to, to test heat pumps, and actually, they did some few tests there for certain companies. And, then, because in Finland we don’t have proper test centre where either you can do a proper heat pump tests or then anyhow the test centre is operating in a way that, that the companies who are either preparing or importing heat pumps, can test them in a way that they can be sure that these pumps fulfil the requirements and they can be sure in a way that what’s the quality, and, and, and what’s the output of those pumps. So, the idea came in, and actually the request came outside also in the way that if we can further develop that heat pump centre in a way that it fulfil the international standards at this type test centre for heat pumps. And, then, the process was started that we tried upgrade it, and then also do the accreditation for the, for the centre. And, those preliminary, in a way, finding what we had was that it’s much easier than we actually now have realised that what type of and how much work it needs before we can get that type of

accreditation. And so we made a decision that we try to aim up to the point where we have accredited the centre and we have put in that level that we can do a proper heat pump tests.

It has long history and it takes back to that time before this present situation we have. But it is really, really so that this has been the only, in a way, not company owned, or, actually, not those companies owned who are also making heat pumps, that type of test centre. And that is why idea was if we being kind of independent operator, so we can develop that place as also independent test centre so that those, who want to have their pumps tested in Finland, they can send them here. Because, now the situation is that you have to send your pumps either to Sweden or German, or wherever, but of course it means that if you want to have this generally approved test results, you have to have that type of centre where centre itself is accredited.

2. Why it is important that Ramk will have heat pump test centre?

You have already mentioned that we would be independent.

Yes, that is the idea that we will be independent test centre and that gives, of course, creates the situation where the results what we get should be also reliable in the way that don't have connections to any (3x) pump factory or so. But then, why we want to do that is then it's purely business. In a way, that we have to create at present situation we have to try to find ways how we can gain funding from other resources than ministry. It means that we need to create kind of premises that we can sell out. This has seen as one potential service we can sell and we can gain certain type of incomes and in the same time use that centre as a training environment for our students. That is very simple.

So that would be also the strategy?

That is also in a way. So there are two reasons really what I said, that, one it helps us to gain income and it also gives us to upkeep that training environment, and then at the same time we can test those pumps, we can train our students to understand better what type of work are we up to, and to do that type of work. So, it is win-win situation for us that is the main aim and also the reason for this decision.

3. Who is responsible of current strategy development and implementation?

Of course, it is always responsible is the president of the University, but now it depends on our campus, in practical level. First responsible person is me, but of course I can delegate this work, so it is then mainly degree programme, which is somehow responsible that type of training in this institution. But, jaa, it is mainly in that sense. Of

course, we are now in the situation where we are somehow reorganising these laboratories. But now in this present situation is under this civil engineering department and they are responsible that development work directly. And the...

With civil engineering you mean Arctic Power Lab?

No, no. Arctic Power Lab is somehow, it's bit more independent organ, that's for now. That is part of the reorganisation what we are now doing and it's really to find out that what is the best way for us to, to organise these training environments laboratories what we are having. We have here actually four different laboratories in this campus. We have this IT laboratory in A building, then we have p-Lab which is there and those two labs are somehow under the information and communication degree programme. And then we have AP, and then we have this heat pump laboratory or, it's bit wider, but anyhow, that belongs to this civil engineering department. And now, to get this laboratory operational because it's now idling, more or less it's nothing happens there, and we are now trying to find situation how we reorganise these things in a way that we can get things done and we can get this heat pump section. There are also other, other possibilities; one is that there is also special section that we can start to test those wood stoves, to burn wood and, and organise that. And there we are also very active to try to find ways how we start to develop that part of it. But then, it was discussed in a way that we put that laboratory as part of the AP, Arctic Power Laboratory. But somehow it is still under the civil engineering. Ari is now seeing and trying to find how we can organise things. But that is the idea in that sense, so.

4. Would you agree that current strategy is good and relevant?

At present there is, there are mixed signals coming in. So, of course the idea to go for that type of situation where we try to get this laboratory accredited so that it is valid. There will be markets for those products that we have now offering. But, now there are also that type of signals coming that, because our test laboratory is only for, actually we can test there only for one type of heat pumps. And now to really earn those markets it means that we should have possibilities to test actually all of those; from air-to-air, from air-to-water, and then from water-to-air and then from inside, and so on. So it means that it is now bit so and so that should we perhaps reconsider the aim and see that if we only develop laboratory in a way that it is not accredited, but we build it up to that level where it is producing that type of information that we can be sure that it is the same that then at the, the accredited laboratories are producing and then these laboratories only that kind of a place where it is possible for customers that they can check that their

pumps before they send them to be accredited. So that they are, they can be sure that their heat pumps are in that level that it has sense to send them abroad to be tested. Because, that is then expensive. So, it is bit so and so, but anyhow we have not made decisions yet to skip that position. But, as you know, we are also not so much pushing it now in a way that we have to. Because it is really now situation is not really clear what to do.

5. When implementing strategy, there are three main components

a. Objective: your goal to be achieved – are goals clear to you?

I think so that our goals are really clear, that is not a problem. And it is very simple in a way, we should set this laboratory to be accredited and we know also why we should do it. That has been very clear. And, we've been working towards that, we have used own money, and we have used project money for that and if we have done that based on that information we have had at that time. But, of course, time is running and things are changing and also there is a lot of development of heat pump sector. And now it seems to be that should we reconsider. But anyhow, it's been clear, and we know at that sense what we are doing.

b. Action: specific arrangements to achieve goal set – are activities well specified?

Also those are specified in a way that, that we have worked, we have done, we have in a way checked that what have to be done before it is accredited. And, of course, we get more and more information and also we have realised that it is not that simple. Perhaps the first information indicated, and that is also now, perhaps, little bit, in a way, guiding us, perhaps, little bit different direction so, because it's, it is complicated and demanding and now we have only this one type of heat pump somehow that we can test. So, is it worth to do it now? And then it has been also under consideration that if we

should move this laboratory to another place and that has also created some doubts that what to do now in this situation. Now, today we are going to be if we are not moving, because we can organise things now in this present situation so that they can stay there. But, anyhow, it's in that sense somehow up to this moment things have been very clear and we know the steps what we have to do, but should we take those steps or not, that is now bit open.

c. Resources: inputs in real measures to perform an action – is resource appropriate to implement set activities e.g. time, human, financial?

No, no. That's very simple answer for that at present we don't have, that also one reason why it is very difficult to continue now, because, if we want to do accreditation, we have to have names and we have to have skills. Because it is not laboratory if you don't have workers. We don't have now those, let's say, nominated permanent workers who have needed skills, and that's now in present situation we can't even start to employ them. So, that is one reason why, why we are now waiting also in a way then, it depends quit a lot about the new established university – what is going to be policy in new University, so that is very simple: no.

How these components have been visible from start of the test centre till present day?

You have already mentioned above how these components have been visible from start.

6. What monitoring and control steps are implemented in order to follow process development?

Since you have mentioned that resources have not been set or allocated, then the question is irrelevant.

Somehow, it is funny situation, of course, in a way that we can somehow find the resources in a way to push through this accreditation process, to do that work. We have pumps there; we have this physical environment available. But this human power, that we don't have. And it's also in a way that we have human power ready even to put there, but we don't have all that skills they need. Either we have to hire that type of people who already have needed skills or than we have to train our people further before they can take over the responsibility of that type of centre. So, in that sense the situation is so that we can do the accreditation, but already know that we don't pass the accreditation, because we don't have proper, properly qualified personnel, in a way who are our case centre.

7. Do you know what organisation expect from you towards test centre strategy implementation?

Yes, that we know. That we know because it is actually the need and also the request to establish the centre those companies from outside of the university and the heat pump centre association, and heat pump manufacturers. So, the request came from there, so we know what they need, but it's again in a way that it's fairly outdated the request, and

(3x) also the centre in that sense, so, either we have to expand or than we have to reconsider. That is.

8. In theory, one of the strategy implementation corner stones is communication: do you agree that strategy is well communicated to related staff members in test centre case?

I think so that it's well communicated among those, those members of the staff who are really related to that or connected somehow to that, that test centre. So they know the situation and well, it is not that big number of staff who are somehow connected and I am sure that they know. Of course, it's always in a way that we should, let's say that people perhaps expecting more information, but it's than also that information is just simply not available and might be of course in this situation we should make clear decisions either postpone or just to inform that we are now idling and wait for more information. But, I am sure that everyone understands situation where we are somehow waiting for new University and also perhaps new decision makers. So, but I think so those who are involved they know what is the situation.

9. Would you agree that team is working together to implement heat pump test centre strategy?

I think so yes, that there is not so many of you, and we lost even one at the end of last year, so, there are not so many. So, but it's really idling now.

II. The Balanced Scorecard

Before we are going to four parts, I would like to ask you: what are the critical success factors for the test centre?

So, in other words, what are those success factors which would lead to successful accreditation process?

Jaa, actually, somehow we already discussed. One is in the lists is skilful personnel. This is actually the main aim and the main thing. And it is actually that goes hand in hand with the economy, or actually availability of funds to employ this staff. And, that goes hand in hand with the possible incomes or the foreseen incomes from those operations what we the centre will sell. And the, from the beginning of course that was done in a way that there is no information what we have in the way that how much money it may gain, how much test per year we need so that employing perhaps two or three persons. That type calculation was done in a way and that is actually how it rotates than around and in a way, it's starts from there and, of course, it's always in a way that when you establish something new it means that you have to have money to run it certain time before you start to gain income and that is now the difficult part in our situation in a way that we don't have that much capacity, we don't have that much resources in a way to at first employ people and then get it running, and then we are little bit balanced, but those are actually the really the critical issues. Actually we should get people to get it accredited and so that we can start that work and it's very difficult to get those people in before you have started to get incomes. In a way that you can, you can, pay the salaries. And, that's the critical issue for the whole system.

That is of course in a way that all those, everything is based on the information we have collected. Let's say two-three years ago and now as we discuss the development has been quit fast and it might be so that centre is not that lucrative for those customers who are with us in the beginning. If we can't test any other type of heat pumps, but those. So it's also in a way that even if we continue is it so that we can attract customers still to come here, because we only have this one options. And most of those manufacturers they have different type of heat pumps and we should be able to test also them.

That means to me that we do care also about the customer satisfaction?

Jaa, and it's really, it's of course, one really we think about those critical issues so that, when everything is done is the centre really giving that type of services at that time so that it is still good for those customers and they get those services they really need.

Financial perspective:

To succeed financially, HOW SHOULD WE APPEAR TO OUR SHAREHOLDERS

- Has Ramk set any financial target to what test centre would aim at?

Ramk has set some targets. We have to understand bit further, jaa. It's in a way that Ramk has given certain targets for every unit, so, for example, for our campus to earn money other than the financing which is coming from the Ministry. For example, last year, where are those numbers, I can't remember, for example, last year our target was to earn through different type of services 550 000 EUR. And that was our campus target. And so, it means that we have to develop that type of services where we can get incomes. And now the heat pump centre has been selected as one possibility for us to start to get funds. We have not made any final targets or decision in a way that how much just a heat pump centre itself have to produce, how much they have to gain money. But, based on those estimates what we have done it has been realised that we can make positive results. And, now it's just in a way that, of course, in the beginning it's not as much as it's consuming, but it might be that it is in a balanced and then later on might be that tests might give profit, But it is also in a way, because it is a learning environment, so we can combine both: the educational part and the (3x) selling those services out. So there is no exact in a way targets defined yet how much they should make. But, really, also the reason why we have decided to start to develop that part is making positive.

One of the objectives I have found when doing study on balanced scorecard is to be financially independent and strong.

Yes, it is actually for that laboratory, but it is so that all of these our learning environments who have possibilities to create that type of products which have value for markets in a way that they can sell those products, they can sell these services and in that way gain incomes for the campus. And it means like AP for example, that you earn as much as you consume and perhaps little bit extra so that it keeps good for all of us. Otherwise you are somehow burning in that sense. Of course, always the educations have to have been counted in a way that this is also some kind of income if you produce good results for education. But, that has been the aim for, also for that that it earns as much as the personnel needs for their salaries and little bit more. And also, in a way that money is enough so we can further develop this centre.

Financially independent and strong is good objective for this part of the balanced scorecard.

Do you have any suggestions for the measurement of this objective?

Perhaps that is in a way that cash flow itself it's one and perhaps most important. But now, when this is a university in a way and every single laboratory is also part of the university, they are not only making money in that sense. So the cash flow is not the only measurable thing, but it's also the educational side. So it's, it's another one is for us important is how many credit points they are producing. So problem in a way that if the laboratory is so independent that it only makes money, so that it's not really part of the university and also contribute to the education side, then that is not also good. So, it have to be acting in a way that first the income- the cash flow, but then also they operate in a way that our students can be part of that operations and they can gain credit points. The way how we measure the laboratory, how we follow that what are the results of the laboratory it's not only money itself, but also how money, how much the laboratory contributes to the educational side. Because that is the, it's really important for us, because, if the laboratory is so independent that is just operates there, perhaps it there is certain cash flow and we can get money. But then it is like private company. But it's not our work, it's not, than it should be private company and we should, see that, perhaps as independent operator, and it should be independent operator, not part of the University operations. So we have to keep all of these our operations, all of our laboratories even cash flow itself is so important, but not only that. And, than it's the educational results are also important, exactly the same way as cash flow.

- Can you raise any target that we could have, so that we can see where we are aiming at both: financially and with credit points?

I can only say that of course our target is that there is positive trend what should be going on there in a way that we keep it running so that both: financially and also from the educational point of view it's developing positively. But then it specific targets right now how many credit units it can be and what is the cash flow, it is not possible to say. It depends, of course also what size of the persons we need there, so that how much money we have to earn before the salaries are even covered.

- What would be initiatives to reach these mentioned objectives and targets in your opinion?

At the present situation we have to get some clarity about the about the future just in a way that we can somehow make or, so that we know is it possible to make that type of decision. So that we can get all of those critical issues resolved. That would be actually the main situation now. So that is it possible for us to recruit people, in that sense. And not necessarily to recruit but create the situation where we can somehow allocate, nominate people to work there. And find them the proper work for them. And then nominate them as permanent people who will operate and stay there in long run. To make that kind of situation that they are permanent staff. And then it makes to us possible to start to invest in their trainings and so on. Also to plan, but it means that we have to have kind of a stable situation. Before that, everything is open.

Customer perspective

To achieve our vision, HOW SHOULD WE APPEAR TO OUR CUSTOMERS?

- Who are heat pump test centre customers?

There are actually two main customers I see: those who are perhaps making those heat pumps or either developing new solutions from different components and so on, or than who have the products they want to test. And then there are that type of customers who are importing heat pumps and they are not so sure if they are operating in these kinds of climate situations where we are. So if you don't trust the results than they can test their pumps here. Or then there are really some new solutions how to use heat pumps and to test them, that type of circumstances, so mainly importers, resellers, manufacturers and so on.

- Why Ramk test centre would be important to these customers?

Well, we are independent operator and also reliable that way.

- What are their main values towards heat pump test services that Ramk will offer (e.g. time, quality, and price)?

Well, I think so that it is time, quality, price, and also so that it's independent operator who is producing those results.

- Who are our partners?

I think that one of the, one partner or course id LAO (Lapin Ammattiopisto) should be involved also in this laboratory. They have similar kind of training and so we should somehow try to see what type of cooperation we can have in this sector. But, then of course, it's always so that customers are also partners. But not in a way that they can effect on laboratory itself, it have to be independent so that it is seen as, so we can't take any big manufacturers as main partner. Otherwise, its, perhaps, downsizing the reliability and independence of the laboratory.

- What would be initiatives to reach objectives and targets in your opinion?

We should try to develop not only to give just a printout of those results, but also proper reporting. In a way that the quality of the reporting is good. That is, in a way, that's really, how to say, some kind of pre-estimation and valuation of those results is done.

- What could be the targets we could aim at?

If we are selling our services we have to measure our time, customer "tyytyväisyys", the customer satisfaction. That is the normal procedure how this type of service provider is operating. Just like of course the private company of whatever. It's of course here that we have to operate in a way what we are now developing in Arctic Power. So that, if customers looking if heat pump laboratory from outside, it looks like private service provider, so that it's as easy to operate that laboratory as the private service provider. So it should look like private company. And for us there is then two results what we are expecting. So that is in a way, and of course, we should serve our customers exactly in a same way than responsible private operator, in the same manner.

- How do you see Ramk test centre in international arena?

Thank you have this international arena, that in a situation where we have accredited the centre we can be part of these international centres and through that in a way it is possible to rationalise and somehow be part of the network with these test centres: through quality label.

Internal business process perspective:

To satisfy our shareholders, WHAT BUSINESS PROCESSES MUST WE EXCEL AT

- What internal processes test centre shall excel to provide planned values to the customer?

What do you mean with this one?

From examples I have found are quality processes of our system, than increased customer values, developing other types of heat pumps tests.

Internal processes...

I think so that it's when it is this type of centre and if we think about heat pump centres or whatever test centres, one of the most important internal questions will be that the centre itself is operating all the time in the same way. So that really the results are always reliable. So, it means that you have to have, jaa, of course, that quality manual and the exact borders and rules how you do your work and how you operate. So it means that the management side of the centre have to be properly set and in that way the working culture if we really important how you do your work. So, for example, if we go now to the laboratory or any laboratory at this university it is very difficult to think that whatever these guys are doing so the results are reliable, because it is not really looking like that. So it is kind of a way how you work, they have to be really you have to learn really kind of a laboratory way to work so that things are in order, every. And that is then also how you show, because it is always the first impression customers get, it's quite a lot in a way. And if you have laboratory who supposed to make precise measure and tests so it have to look like that.

- How quality measures are implemented in test centre today and is there a need for improvement?

I think so that I have answered on this question. And of course, now it is idling. We have done actually, we have now put that lets say, technical point of view, it is on that level where it can be, so we have all necessary there. But then, the personnel is missing who can operate this laboratory properly, so not much is missing.

Learning and Growth perspective

To achieve our vision, HOW WILL WE SUSTAIN OUR ABILITY TO CHANGE AND IMPROVE

- Would you agree that test centre has all necessary capable personnel to implement test in required quality?

No, we don't have. We have these people available in this university; they are not working at that laboratory at present. That is the problem. And, of course, it's then

means in a way, let's say that we have people with the skills, but I am not so sure that those people are then right people who could run the laboratory. So it means that when and if we put it running, it means that we have to very carefully see that who can, who are those people who will take over that one. There is still one possibility and one option to look also towards the "ammattipisto" to see if we can find some people there or we can create our own from those who are willing and capable.

- So first objective is that we have a prepared workforce?

Yes, that would be.

- Second would be that we train ones?

Yes.

- From the examples I have looked for there is also something about the motivation. Do we want to keep these proposed categories?

Well, let's see, that this or under the new university we have better possibilities to motivate people. At present situation we are, this is kind of municipal federation managed organisation and it means that it is very difficult and there are really no possibilities to, to motivate quality personnel in a way that you do results, if you really work hard and, and gain good results, so, no way. If you don't do well, so, if you do well – good. But no personal gains at this sense. And, I really hope that that will change now, because the owners will be changed and it will be operated more like a private company. So it is much more flexible and also these salary structures can be made in a different way. And if some organisation, some part of the university really making good results, so it's then possible to, to see also that those who are doing results, they will gain something. So, I am sure that is possible to show them in the future. Also, in a way, if we set certain targets, we can also agree if you can do this and this, then it means that this type of bonuses are available.

- If any, what personnel development events shall take place in the next 1-3 years?

Of course, in a way that we know what type of skills are needed, and of course, then it depends on the people available. One possibility is that we try to recruit from open markets people who already have that type of basic skills and, most probably, we need electric engineer who has electrician background in a way that he can do all these electrical work needed. Then we need a proper heat pump engineer or person who can do all those heat pump settings and connections and so on, in a way that they have proper licencing to do this type of work. And then we also need proper test engineer, so it can be that some people have perhaps all of these qualifications, but most probably

not. So, we know what we need and it means, for example for the electrician, it is long training. I think so this might be, because we have only Petri who has all those qualifications you need and it's, it's not enough. So we can employ, we can perhaps try to employ directly that type of person. That type of training is given in Kemi-Tornio and they might have suitable candidates also. We will be in same organisation and then things might be easier. But, if we have to start to train our own people than someone of us have some kind of basic education and it might be that we just upgrade it. This electrician question is bigger.

- What would be initiatives to reach objectives and targets in your opinion?

I think so that we have discussed them.

III. Closure

1. Is there anything you would like to add in addition to what has been said before?

No, I think so this is what we have gone through. No.

2. Would you like to receive the interview transcripts?

Yes, that would be nice. When you have done it, I could read it and then I can add and discuss more.

3. May I contact you again in order to clarify some issues if unclear from the interview?

And you, of course can contact me if you have some need to clarify something.

4. Is this interview classified as confidential, or can it be add as attachment to master thesis?

Yes, why not, there is nothing secret. Let's come back to that when it is done. I just thinking do we have that type of competitors that might be interested in this work and who is dealing with the same issue. But, if they are faster than us than so what. It really has taken so long time to develop our laboratory.

I thank you for your time and I will come back to you with the results.

APPENDIX 2: TRANSCRIPTION ON INTERVIEWS: 2

Strategy implementation in Ramk related to heat pump test centre development

1. Please tell me history of test centre development

What I know about it; I know that the current test set up has been done over 5, or let's say, over 5 years ago, and idea for the setup was that we will test the heat pumps. But, the problem has been that there has been people who have been interested to develop it, but I don't know has it been in management side or where that it has not really started real selling the services and such, but facilities are good, I suppose that. And, we have had quite good experts for the past years, but some of them has gone. And, I think the problem has been that there has not been enough commitment for testing those heat pumps, and, commitment comes from the director and management side. If they decide something than it will happen, that is the main thing in the process. So, I think that they have to somehow promote to do that, than it will happen.

2. Why it is important that Ramk will have heat pump test centre?

Especially for the Ramk, why it is important? Well, if you choose one way as we have done, in some point, we should continue, but, of course, we have to not just continue that direction, but we have to evaluate is this correct direction or not. But, the problem of Ramk has been that we have been interested on different things on following years and we do not focus on one, what we have chosen. We go this year there, and next year there, and so it is very difficult to have continuity for the operation. And, companies are not interested on such partners that don't keep on one focus. I mean, if one company comes to work with us, they have to rely that partner will be with them for several, maybe, for tens of years. So they do not have to find new one to develop their facilities or equipment's. I think for Ramk it is very important that when we choose something, we have to continue it step by step on forward, of course, discussing with the industry. I think that is the reason why heat pump is important, because we have promised for many years to do something like that and energy and heat pumps are still very important energy source for different houses or construction side.

I mean that, heat pumps, especially ground heat pumps are not some special thing for this area; so we don't have any advantage on competition on this area. It is just what we have started and then we have to follow that.

3. Now I would like to ask you to describe strategy of the heat pump test centre in Ramk, how you understand it.

We don't have it now. We don't have any strategy how to continue. Current situation is that we are building one thing there and other there, but not systematic development. We should stop we think for 10 years or 20 years ahead what we will be and then find the way how to go there. We don't have that kind of milestones defined.

Accreditation is just what people now want to have, but what are the commercial achievements or benefits for the accreditation, I don't know yet. I have one specialist report, which I will send to you right away after this, so in this report is said that accreditation is not key issue, just starting to develop things with the companies is what we should start to do, and I don't know why it does not happen now. We could start with this, but now it is nobody is responsible for that station, people have changed and, as we discussed in first question, there is no commitment on management level.

4. Who is responsible of current strategy development and implementation?

Well, responsible, of course, is management to develop the strategy. They have to demand, they have to say to the people that we have to develop some kind of way we will follow. But, if they don't do it, then it is these kinds of things we do there and there, and there. It would be for them, also, for me also, easier to manage things if we should have good way where to go defined.

5. Would you agree that implementation of current strategy is good?

I think it's, we should stop for a while and think again. We should discuss with construction and engineering department what are their ways in the future, what they want to do. And not just one or other specialists, the whole picture must be defined where we should focus on. We have quit many things now on our table and we shall exclude some of them at this phase. We can put those others which are not suitable for us now, we shall put them in the future pipeline, implementing in five years, but first we should focus on that, because we don't have resources for all of them.

6. When implementing strategy, there are three main components

- a. Objective: your goal to be achieved – are goals clear to you?

No.

- b. Action: specific arrangements to achieve goal set – are activities well specified?

If the goals are not set, activities are not relevant.

- c. Resources: inputs in real measures to perform an action – is resource appropriate to implement set activities e.g. time, human, financial?

We are lacking of resources now; of course we are lacking, because we are doing everything now, so we are lacking resources definitely.

7. What monitoring and control steps are implemented in order to follow process development?

Of course, measure somehow. You cannot evaluate if you don't have any measures over operations.

Of course, there is that they are quite big steps, now we are following that are we going to have accreditation or not, but it should be somehow split on smaller pieces to see what is going to happen. For example, this consultant report, we should evaluate it, what is said on that and make decision based on real information. Because, now we make decision on what, of course, it is important what our specialist say, but, sometimes the specialist doesn't think what the commercial points are. They think more from the scientist point of view, research point of view. So the way we think about the accreditation, for example, it is for commercial services, not for research purposes. That is somehow, if we get external evaluation what the need for accreditation of the laboratory is. As told yesterday, the guy said that in Finland we will maybe happen maybe in 5 years. So we have plenty of time for accreditation. But, before that we can start developing equipment with the companies, they do not need accreditation on testing their equipment here. It is just for accepting the system for the markets. In Finland it is not needed, for abroad it is needed. In countries, where certification is needed, they have testing facilities there. For example, if Germans coming to Finland they don't need accreditation, not yet, but maybe in five years. So, I think the guy who made this report gave us external information, not just our scientist or specialist who said: we have to have it now. It is coming. But, this guy is realistic and from different companies who says: oh no, not for several years to come. Of course it is some kind of competition is good to have, but we have to think ourselves where we put the money, to control and monitor by whom, when and why shall we invest. Because money, is not, is limited, therefore we have to use it in proper way.

If we coming back to the development process we have now, does organisation has any monitoring and control steps to follow?

If we look in upper level we have some defined ways where to go, but it is too abstract, no concrete. It is upper level defined, but not put in operation.

8. Do you know what organisation expect from you towards test centre strategy implementation?

I have, yes I think I know what they want, but it's not so clear defined, there is some unclear. As you know that our organisation is now changing, so that is the bit influencing.

9. In theory, one of the strategy implementation corner stones is communication: do you agree that strategy is well communicated to related staff members in test centre case?

I think that this closest people, let's say four, five people, they are aware of, but we should somehow have commitment from management side, they are not informed. And, either they don't give us input what to do, how to do, don't give any comments. There is so lot of things happening now, people doesn't have time. So that is now our problem, and if we think to the past for couple years, everything has been changes for these few years, so, I hope, after we have this Lapland University of Applied Sciences, after that it will somehow go into steady, somehow steady. Of course we are changing all the time, but now there has been so much organisational changes.

10. Would you agree that team is working together to implement heat pump test centre strategy?

No, we need management side and from the construction side, more people to be involved and defined the whole picture. Maybe it is also part of the communication, I don't think that we have operational team, to expand it, but we have to have some kind of communication to the management side and for the construction curriculum side. And discussion between them, it is somehow strategic management from that side we should have. We have only one expert involved now and, but we should have all group discussing. We have now this kind of problem that we are not, we are confused on that are we going to go through this or not, and how far. We have this consultant report now, what you think about this report, do you think that we have to slow down and think about accreditation for after two years and start, of course we can define our processes. We don't need accreditation now, we are using accreditation for improve our processes

and that is enough, maybe. Just define and be more confident for the companies who are cooperating. That is one focus for these courses.

But, I don't know exactly if current team works well together. For example, if you think about expert's role, how much do you do together with expert? I think you and other expert doing well together, other employee is working in AP laboratory about ten kilometres away and it is very difficult to cooperate. There is one more guy, but also he is there and, roles and core people are not well defined. It is also from my point, I should make these experts work plan to work with heat pump, but I have not done that. He is working with project managers in AP lab and with machinery, but from that point there is no management actually present. So, expert's problem is that he has good management side from AP lab, but no management on construction lab or heat pump accreditation.

I. The Balanced Scorecard

Before we are going to four parts, I would like to ask you: what are the **critical success factors** for the test centre?

Last one is the first one, process quality. I try to find these and this is first what came to my mind. Process quality and defining the processes, this is the first thing what we should have. Then workers, I suppose should be skilled workers. Of course, these are basic thing from commercial point of view what we should have too, there is in the list customer satisfaction, but I will put it on whole commercialisation process should be defined: marketing, sales, service defining, making some kind of proper definition of the products that we are selling and pricing should be clear, and all those things should be done also. Not just thinking from the technical point of view. That is mostly our problem on engineers, we forget it. If we think about services that we, actually these three points are ok, processes are ok and skilled people and this commercial side. Those three are from my point of view that are critical factors. Customer satisfaction is part of whole commercialisation, it is larger cause of marketing, sales, defining all the products, price, clear pricing. Of course marketing is related to customers easily can find us.

Financial perspective:

To succeed financially, HOW SHOULD WE APPEAR TO OUR SHAREHOLDERS

- Has Ramk set any financial target to what test centre would aim at?

No. No, there is any targets, we have been discussing on other cases of that. It's just, the idea is to increase on services and demand on earning money, external funding. But there is no numbers mentioned anywhere on how much, what are our targets.

What would be the objective?

We could make some measure on how much money would like to earn in that. For example, do we have to earn that money what this set up costs. It depends what shareholders want, that should be defined. That's the measure what is the income what we want to have. It must be defined. I can't say how much it is. I think, that is one measure. Target could be that we are in balanced, because, if we think about accreditation, that it should be that way, because, when it is accredited, you cannot use

this facility for education purposes anymore, but if we forget accreditation, than the setup can be used for services and for teaching. Then there is no such demand to be on plus side, because teaching also is covering expenses. Basically, in order to set objectives, strategy should be clear, defined. But, you are doing that and hopefully it will lead to that point that our management have to do that decision. And then they say, for example, ok, let's do that accreditation, and then it leads to other process which they have to commit also. Earlier was made decision to implement accreditation, but this decision was based on what? Decision maker do not know what he said, based on what he decided it. I think that what happened. Understanding that if we make accreditation means that we cannot use the facilities for teaching purposes, he doesn't understand that. I did not either. Further in the process we understood that. We shall open what it means to us. At least we should understand what it means; accreditation is ok if we decide to do that. But, how many companies we have here? One! What is this company market share? Quit small.

- What would be initiatives to reach these mentioned objectives and targets in your opinion?

We have to find out what is need for the teaching part, what is the need for, than what it could be for the commercial part. Because, teaching part you can discuss with teachers how much they will do in these facilities. And the other part would be for commercial purposes. And. from there we can calculate what are the costs for commercial side.

I want to add one more thing, that student integration, teaching integration keeping in your mind, when you discuss with construction side. We should also, maybe, discuss with wider not just to construction side. Because, there might be some possibilities for IT sector, from Kemi-Tornio also.

Customer perspective:

To achieve our vision, HOW SHOULD WE APPEAR TO OUR CUSTOMERS

- Who are heat pump test centre customers?

Of course those companies which we have, which are making equipment's: producers. But, also the public so we can use the facilities for testing different equipment's and make comparisons of different equipment's on how they are operating.

- Why Ramk test centre would be important to these customers?

Well, for the customers, of course, they have possibility to their equipment's on independent laboratory. I know that all of, the, those producers have their own test setups also, but just for comparison reasons they want to test here. So that is one thing that the producers want to have some kind of different situation, how their equipment is working.

- What are their main values towards heat pump test services that Ramk will offer (e.g. time, quality, and price)?

I don't know exactly, what the value could be. Is there any special, because we are the first one on the market, so, that is one of that we are located away from a producer that is what I have heard. That is one advantage, so we don't have very strong commitment on one producer now. They are at the same level because for the other places, what we have discussed or been planning this kind of a facilities in other places, they have quit close connection to one producer. Of course, it's that related to that we are public organisation. Of course, one is that we are located in cold region, colder than, for example, southern part of Finland and to compare to abroad stations.

We don't compete on price neither we want to do it. Anyway, when you are public, or, when it is company, then you set different price, but for us is so that we don't want to earn more and more money, but just to cover our expenses.

- Who are our partners?

Of course this Finnish association, and also it could be partners of those manufacturers. Maybe the partner for this, I don't know what is the construction side associations, not meaning SULPU, but other. And, if we go abroad, some of other testing stations and, of course, European level via SULPU because we are partners of SULPU.

What then objectives toward customers would be?

Of course, market share. I meant that what could be our share of test markets in Finland. If there is no other test centres than we are having quit big share of them markets, some of those would propably go abroad, but, I think in Finland we don't make such statement on, if we approve this, but they should be tested before use. We do not exclude if they are tested abroad. Anyway, at least we should measure that what is the reality. But objective is to have some share; measure is to measure the share, report. When we will be accredited that we should have 100%. Let's say that, what is this, usage level should have 100% target.

Limit of that could be the 100% use of our test facilities. Vacations doesn't effect on testing process because it is to plan staff properly.

- What would be initiatives to reach objectives and targets in your opinion?

How to achieve that objective? We have to do sales initiatives. To achieve this level, is it some kind of circle. Of course it's somehow related to sales, marketing communication with the customer, after sales, and quality as we discussed.

Internal business process perspective:

To satisfy our shareholders, WHAT BUSINESS PROCESSES MUST WE EXCEL AT

- What internal processes test centre shall excel to provide planned values to the customer?

There is many, quit many things related to the service, related to marketing, sales, pricing. So, the objective is to develop internal processes based on standard. And, that is one thing which is related to test, but we still have processes which are related to business. Measures are done by documentation and this is also our target: to make quality procedures, quality manual.

- How quality measures are implemented in test centre today and is there a need for improvement?

We have to make these processes.

- What would be initiatives to reach objectives and targets in your opinion?

We have to do that!

Learning and Growth perspective:

To achieve our vision, HOW WILL WE SUSTAIN OUR ABILITY TO CHANGE AND IMPROVE

- Would you agree that test centre has all necessary capable personnel to implement test in required quality?

No

- If any, what personnel development events shall take place in the next 1-3 years?
The objective would be to develop employees' capabilities. Measures: % of developed capabilities. One of the important issue is that, for example, we have now separate electrician, heat system specialist, heat transfer specialist and so on. What we should do is to have 2-3 persons that have all these skills and would work permanently in the test centre.

- What would be initiatives to reach objectives and targets in your opinion?
To train and educate them.

II. Closure

- Is there anything you would like to add in addition to what has been said before?
No

- Would you like to receive the interview transcripts?
Yes, that would be good.

- May I contact you again in order to clarify some issues if unclear from the interview?
That is ok.

- Is this interview classified, or could be published as attachment to the thesis?
Yes, but no names should be mentioned.

APPENDIX 2: TRANSCRIPTION ON INTERVIEWS: 3

Strategy implementation in Ramk related to heat pump test centre development

1. Please tell me history of test centre development

Yes, yes, it is end of 1990 when we made application to the EAKR, and so we make, make application and we got money from European community. And after that we will start construct new kind of heat pump test laboratory. And, and it was been now for almost fifteen years in this campus. Maybe this is shortly.

– *Ok, so it is started as project and now it is developing as business here?*

Yes

2. Why it is important that Ramk will have heat pump test centre?

We here in Finland, we have not any heat pump test laboratory, but only heat pump company, they have own test laboratory, but they cannot test other companies heat pumps, so we here in Finland we have only one heat pump test laboratory who can test, which can test every heat pumps in, for instance, in here Finland.

– *So once again, why it is important that Ramk is seen as good destination?*

We think about fifteen years ago that maybe energy price will raise so will raise, so we think people they will think what is the cheapest energy and so we think that maybe heat pumps is one possibility. Today Finland, Finnish heat pump association they are say that Ramk it is so far from middle and south part of Finland. So it maybe test laboratory, maybe it is in western part of Finland and eastern part companies thinks that it is not good idea. But, now, if heat pump test laboratory is here in north part of Finland we have no any heat pumps company, only one – Ecowell, but it is very small one. Yes, we are independent.

3. Now I would like to ask you to describe strategy of the heat pump test centre in Ramk, how you understand it.

Yes, this is very interesting question, because I want that heat pumps it is very important for us, it is very important strategy, heat pump strategy, it, maybe it will be very important for us, but, for instance, in construction department we have young students and they want to learn construction technology. And, and infra technology and heat air and ventilation system. So we have not enough resource for, resource for the heat pumps to study. But we try to, we have one lecture, it is about 5 credit points today.

But, maybe if we can accreditate our heat pump test laboratory so maybe other people understand how important is for us, because our university need money and this is very good source to bring money. I think so that the strategy is to develop that heat pump test centre. I think after that situation it will change.

4. Who is responsible of current strategy development and implementation?

I think so main responsibility maybe now it is our construction department, but as we know the responsible is people who are interesting to develop this heat pump test laboratory. Of course team, but I think so that this team which work now for heat pump they have so much to other projects all the time. About fifteen year ago we have two people in this heat pump laboratory. They don't do anything else; they only work in heat pumps. Now we make very much cooperation, for instance, with European Heat Pimp Association and also Ramk is the first institute who want, who say that we must be here in Finnish heat pump association so Ramk was playing important role about fifteen years ago that we have in Finland heat pump association.

5. Would you agree that current strategy is good and relevant?

Yes, I think this is good way that we will make this kind, we have strategy that we will do accreditate and after that we can make business, I think so that today it is very good strategy.

6. Would you agree that implementation of current strategy is good?

Yes, it is good, this work what we do now for the accreditation, it will affect very much to the strategy. Of course very much of what kind of heat pumps strategy now and in the future. Now it is good, but after fifteen years ago it is very good. Now it is good.

7. When implementing strategy, there are three main components

a. Objective: your goal to be achieved – are goals clear to you?

Yes, I think that it is clear to me. Yes.

b. Action: specific arrangements to achieve goal set – are activities well specified?

I think so that the heat pump technology I think so that it is not very, it is quite difficult to the students and so on, but this specific I think so that as you ask to me, I think I understand it well.

Well, just to clarify, question is implementation of the strategy, not how technologies are working.

Yes, it is clear to me. I think so that I have to, I have know this for fifteen years, but I think we don't have resource to do that.

- c. Resources: inputs in real measures to perform an action – is resource appropriate to implement set activities e.g. time, human, financial?

Yes, this is, maybe, this is one step good now what we do and we have time human and financial. But, I think so that when will start testing so we need people who work all the time in this heat pump test laboratory, not what is today. So, I think so we don't have enough resources to do that.

- How these components have been visible from start of the test centre till present day?

When we started, everybody knows that we have laboratory, test centre, but, I think so that today everybody knows that we have Finnish testing heat pump. We have not test laboratory, because we have not, it must be so much market to test laboratory and we have to be all the time in a company and make cooperation, but we in today we don't do that.

8. What monitoring and control steps are implemented in order to follow process development?

I think so, now we have good possibility to find right place in heat pump sector in Finland and when we do steps by steps what we do today, so after that we start market to the companies, so it will be very easy to find us.

But, what steps in monitoring are done to ensure development of the test centre in right way?

Yes, I think do that this heat pump steps, heat pump laboratory not effect much to other maybe, for instance, ICT or Business department what they do and so on. Because, when we do testing it takes so much time that today in lectures we have not enough hours to do this work, because we have not enough project learning, and project, project learning and so on. But, maybe if we planning in that way, but I think so that, if we can here in energy technology and energy technology students and teachers, if we can little raise heat pump lectures and so everybody can learn what heat pump do and so on. I don't know exactly.

9. Do you know what organisation expect from you towards test centre strategy implementation?

I think so that maybe I can, maybe in my lectures we can make some kind very short pilot project in my lectures, but I think so I can supervise that what happen heat pump test laboratory, and I can compare that all heat pump laboratory to the other laboratories do that in Europe. So I can, maybe checking, that we do the same kind testing, hoe the other laboratories, for instance in Sweden and other Europe test laboratories. Yes, I can myself in expert role, maybe.

10. In theory, one of the strategy implementation corner stones is communication: do you agree that strategy is well communicated to related staff members in test centre case?

Yes, I think so that it is very good now, everybody know what is the next step and what is the final, because our final point is to accreditate and so on. Si everybody know that what we must do.

11. Would you agree that team is working together to implement heat pump test centre strategy?

Yes.

The Balanced Scorecard

Before we are going to four parts, I would like to ask you: what are the **critical success factors** for the test centre?

Maybe this first one: may satisfy customer needs. It will be very interesting, important, because, as I said that in Finland we have not official heat pump test laboratory. So we have now so everybody will come to us. I think, also skilled workers are. Of course: exploit new business opportunities. Because in the future government gives less money to the school, so this will be one, one possibility to earn money to the school. I think so that today we can test only one heat pumps after that when we will accreditate, after that, I think so we need maybe two or three new place where we can test heat pumps. And now we test only ground heat pumps, but after that we will test air-to-water, air-to-air and exhaust heat pumps and so on. So we need workers and of course after that we will earn money, this is good business. Of course: process quality, because Finland belong to European Heat Pump Quality Label, so this is very important for us.

Financial perspective:

To succeed financially, HOW SHOULD WE APPEAR TO OUR SHAREHOLDERS

- Has Ramk set any financial target to what test centre would aim at?

Yes, I have seen number how much heat pumps we can test after accreditation, but I don't remember now. As we know here is a VTT, NIBE these companies in Finland.

To earn the money is maybe one objective. We calculate money.

- What would be the target that we would aim at?

Of course there are Finnish companies, but there are heat pump production companies in Finland and Sweden. They sent, for instance from Overtornio heat pump to Buro, Buro is quite near to the Geteborg, it is very far from Overtornio, but we are much more, too far to Rovaniemi, it is not long way. So, the company save money if they come to us. So I think so this is good for us. The reality maybe, because of the holidays is to 35 or maybe 40 per years. But, as I say now we can test only one heat pump, but as we know how much test, how much heat pump we must test so I think so we must do more test place to the heat pump, maybe three, Germany, for instance, Germany they have, when they begin testing they have only one heat pump test laboratory, but now

they have five heat pump test laboratory. And for instance Stuttgart, they can test five heat pumps at the same time and there were now fifty people in this Stuttgart heat pump test laboratory. And workers number raise all the time, because European Heat Pump Association they want very good quality and so on, so heat pump test laboratory need resource, new workers.

- What would be initiatives to reach these mentioned objectives and targets in your opinion?

Yes, of course, first we need to accreditate our heat pump laboratory and I know that Finland heat pump association and heat pump association Quality Committee they want to come to Rovaniemi to see that what is situation now, but I think so that first we must first, we must do what we can do for accreditation and so on. But this test laboratory is also very important in Finland heat pumps association. Reason is that, because Finland promise to European Committee and now Finland heat pump association belong to European heat pump association and every country which belong to European Heat Pump Association, so every country must have also heat pump test laboratory where they can test heat pumps and so on. Now it is important that we start to test ground heat pumps in our laboratory. And it is objective this quality is important, because everybody know that we can test very quality every heat pump and when we send papers to the European Heat Pump Association Quality Label Committee where they check that what king test results we can get. Because, why the quality is important, because European Quality Label Committee compare every heat pump test laboratory results and if happens so that in our test laboratory we can't get better results than the other heat pump test laboratory, so it is not good quality, so we must check that what is mistake and what we do wrong or. So it is very important to make cooperation with, to other heat pump test laboratory.

- What would be initiatives to do that work?

I think that so after that when we can, when we get accreditation so we must do as we do fifteen years ago very much cooperation with other heat pump test laboratory in Europe and of course we must cooperation here in Finland, heat pump companies and, so it needs so much workers, because you have to marketing all the time. And of course, when we make heat pump test laboratory I think so, that will be very important if companies will know that when they test heat pumps to all test laboratory and they can get very good results. So, the companies will make much more in the region develop for us after that and they have maybe some kind of pilot heat pumps and they want to test

that. Because it is very hard get to the market and everybody heat pump company want to be the best and so on.

Customer perspective:

To achieve our vision, HOW SHOULD WE APPEAR TO OUR CUSTOMERS

- Who are heat pump test centre customers?

I think so they are heat pump companies, heat pump companies, mainly in Finland.

- Why Ramk test centre would be important to these customers?

Because we we are not heat pump company, we are University of Applied Science and so we can't say that, and we can get right test results so that we don't think that one company is better than other company. So, we are independent "riipumaton", what is English word, independent.

- What are their main values towards heat pump test services that Ramk will offer (e.g. time, quality, and price)?

Of course, quality, but I think so that not price, because, because we belong to European Heat Pump Association and in European Heat Pump Association Quality Labels Committee they will say what is price and price will be same in whole Europe. But quality, I think so this is very important. I think so that it is important, because we will know, of course, time is important. How fast we can test, it means that we can test much more heat pumps. But maybe first is quality. I think so, if we test too fast it will happen so that quality is not so good and so on.

- Who are our partners?

Finnish, Finland's Heat Pump Association, and Finnish, Finland's heat pump companies and maybe University and University of Applied Science because we will start to make cooperation with them.

- What would be the target?

I think so it must be 100%. We must construct our quality so good.

- What would be initiatives to reach objectives and targets in your opinion?

To construct quality system, so we can show to everybody that our test laboratory is good and, yes.

Internal business process perspective:

To satisfy our shareholders, WHAT BUSINESS PROCESSES MUST WE EXCEL AT

- What internal processes test centre shall excel to provide planned values to the customer?

Yes, we must test our standards what European Heat Pump Association will say, because they mainly check and say what we must do to the right standard, it is 14511, for example. We have test programme in our test laboratory computer so we can make some kind time programme so we can find right temperature and so on. We must documentation, it will be very important when we do test. Because we have to test our documentation in Finnish Heat Pump Association Quality Label association nationally and of course to European Heat Pump Association Quality Label, this is the European Quality Label who check all the time how test laboratories operate and so on. To Rank this international cooperation, I think so that this will raise very fast when we want to make students mobility. Because, I know, for instance, Germans in Stuttgart they have many students from Finland. They work there and testing and so on. And they make some kind practical exercise and student's mobility. Because we have now test centre and it is very easy to send students.

- How quality measures are implemented in test centre today and is there a need for improvement?

Yes, I think so that we must improve that very much, because I think so today it is not as I hope, this quality of test laboratory.

- What would be initiatives to reach objectives and targets in your opinion?

I think so that in this test laboratory we must clean, because you know when we were visiting there is tools and little bottle, so everybody must clean, because people and company who wants to test their heat pumps and other, ground heat pumps and other heat pumps they will check that what kind of surrounds there is and if there is dirty and so on. I have say many times that we must clean first. As I say fifteen years we have two people working all the day, I think so it must be show that there is people who only do test work, not other work. Maybe somebody call that can I visiting heat pump test laboratory so that they can show how heat pump operates and so on. But, if happens so

that we have not enough heat pumps so these people must be in the heat pump companies and make cooperation, some kind business that, marketing as we do fifteen years ago.

Learning and Growth perspective:

To achieve our vision, HOW WILL WE SUSTAIN OUR ABILITY TO CHANGE AND IMPROVE

- Would you agree that test centre has all necessary capable personnel to implement test in required quality?

Yes, motivation I think so, if people have motivation and know what he want. We have, but as I say, we have people but we need motivation.

- If any, what personnel development events shall take place in the next 1-3 years?

Yes, we need. Because, I think so this is very good idea, it is, what is the name.. what AMIEDU do, they give to the people who install heat pumps, they organise some kind certificate training and education. After that you have test and you have say, you will get some kind licence and so on. I will be also this education here one and a half years ago, but I was only in this theoretical part, but not in a practical where they put pipe together and put liquid inside heat pumps and so on. I was only in theoretical because I want to see how they education in Finland, this AMIEDU, it was very good education. I think so that this kind of education it must be people who will work with heat pumps. And this will be also give possibility to make service to the customers. For instance to some kind single family house they install in the house and they some kind of service, but if people who go to the service they want service to the heat pumps so these workers need some kind of licence. So we can also make business if we have not here heat pumps in test laboratory.

Very important, of course as you know we don't write to the newspapers, for instance what we will do. People don't know what we do and I think so that people who know that we test heat pumps and so on, they are very interested, because people they have their own, for instance air-to-air heat pumps so we must write much more and so communication will be very important. And, I think so that we have end of this month construction exhibition in Lappi Arena and I think so that, because they have asked that, as say that, I think so that, maybe it is very interesting to make some kind of "mainos, mikä se on mainos" .. marketing to this newspaper in English language. Because we have many people who speak only English language, so if we have marketing in English

language they are, maybe they can call to us and ask help and so on. But now they think so that everybody here in Finland in technical, they want to ask technical, it must be in Finnish language. I have never seen English language marketing, for instance in "rakentaja2 newspaper and so on.

- What would be initiatives to reach objectives and targets in your opinion?

Yes, I think so that maybe in this time is not very good because we have situation in our institute so that many people afraid if they will become unemployed and so on. So we have not enough resource and we have not enough time. And many people do many works now, but if we can say to some people this is your, you must now testing heat pumps or doing anything else, I think so this will be the right way.

Closure

- Is there anything you would like to add in addition to what has been said before?

Maybe, one point it is very important to heat pump strategy, we must do much more cooperation with secondary level, because I know they have interesting people and they do all the time with heat pumps and we do cooperation with them. But I think so that we must do much more. Today they unit in heat pumps is in Kairatie but in the future it will be neighbour with us, so it will be much more easy. It help us very much to make laboratories work, because I am now teaching heat pumps here in Ramk, after that we will do cooperation we will do in their laboratories and we will see how heat pumps operates in practical and we can, I think so we will do much more cooperation with them.

- Would you like to receive the interview transcripts?

Yes.

- May I contact you again in order to clarify some issues if unclear from the interview?

Yes, of course.

- Is this interview confidential or I can include this interview to the thesis work?

Yes, that is ok.

Thank you for your time and information.

APPENDIX 2: TRANSCRIPTION ON INTERVIEWS: 4

Strategy implementation in Ramk related to heat pump test centre development

1. Please tell me history of test centre development

Yea, I think it's project started 1997 first planning, about it's start to build 1999 and it's start to work December 1999. There is one or two papers where is all development system and other staff, there is all meetings and what they are doing and what they are planning to use that test centre. And it's works about four - five years pretty well, but somehow after that key persons have left the Ramk and after that it's no use, only students or somebody has try to test something, but not so much. After three years we try to start again this testing system and other staff, but time is what it is.

2. Why it is important that Ramk will have heat pump test centre?

What I heard about the field they say, because there is no big heat pumps manufacturer and this is education facility, it's no connection, no connection to other heat pump manufacturer, it's independence, so that is the main key.

– *But why it is important to Ramk to have that centre?*

I think our focus is cold research and, research and, what they say in the Ramk, development and other staff. What they say in Ramk strategy. So in that case it's very near to our main strategy.

3. Now I would like to ask you to describe strategy of the heat pump test centre in Ramk, how you understand it.

We can make some EN 14511 standard test and that, I think that is the main reason to have the heat pump laboratory.

– *Why do we develop, what is the aim of this laboratory?*

Nu, because this is the only and oldest test centre we maybe have some kind experience how to make test and other staff, but, I try to figure out, I think it's pretty , if we have working test centre it's pretty fine. One of the parts of our strategy. Current strategy is to have that test centre, something like that.

4. Who is responsible of current strategy development and implementation?

Now, there is nobody. But, because, of course there is persons who knows about everything for the heat pumps and how they works and other staff. They have made

some strategy and after that, when they have left the company nobody knows what is the strategy, what they have, what is the main goal what have planned to do.

- *It is not question about those who left company what they wanted to do, but rather what we are and who is responsible for what we are doing now?*

Somebody who has to do that work, I don't know who, but somebody has to do something. So we have the strategy to accreditation, somebody.

5. Would you agree that current strategy is good and relevant?

Yes, I think that is good.

6. Would you agree that implementation of current strategy is good?

No, that is not so good, because its need man power to do that work about eight hours a day, because it is not so easy. Because you must figure all picture what you are doing and how are doing that.

7. When implementing strategy, there are three main components

- a. Objective: your goal to be achieved – are goals clear to you?

Yes, we are trying to work test centre that is the goal.

- b. Action: specific arrangements to achieve goal set – are activities well specified?

Yes, I think yes.

- c. Resources: inputs in real measures to perform an action – is resource appropriate to implement set activities e.g. time, human, financial?

No. because, I said we need somebody who has time and to make some test and other staff, meaning strategy and other. But in our case no money.

- *How these components have been visible from start of the test centre till present day?*

When they started the test enter, first five years, they have very clear goal, but after that little bit disappeared.

8. What monitoring and control steps are implemented in order to follow process development?

Nobody. Somebody ask what you are doing, but nobody wants to know exactly how we are doing and what we are doing. So it is nobody.

9. Do you know what organisation expect from you towards test centre strategy implementation?

No. Everybody say that you must do so many thing, that test centre work, but I can't ask anybody how I can make it works, so

– *What do you mean by that?*

But, that who ask has no idea how it works and how it should work or, no clear picture how it should be.

10. In theory, one of the strategy implementation corner stones is communication: do you agree that strategy is well communicated to related staff members in test centre case?

It depends. I think it's not so well, because that test what we make last year there little bit problem with communication.

– *But, when you think about now, the implementation of the testing centre?*

Now it is pretty good. I think it is pretty good, somebody ask what we are doing and somebody monitoring or, watching or asking what we are doing, so it is well.

11. Would you agree that team is working together to implement heat pump test centre strategy?

Yes.

The Balanced Scorecard

Before we are going to four parts, I would like to ask you: what are the **critical success factors** for the test centre?

I think first it is skilled workers, because that is the base what we are doing and process quality, because we need to make some paper and after that this is the process for the strategy, and, and, I think third is customer satisfaction. After that when we have satisfaction customers, after that we have new business opportunities, because we have some cases what we can show, what have been companies and other staff. I think this is not so our main product, adjusting product because it's product development. I think there are four or five of them in the list.

Financial perspective:

To succeed financially, HOW SHOULD WE APPEAR TO OUR SHAREHOLDERS

- *What would be initiatives to reach these mentioned objectives and targets in your opinion?*

I think it is how we run it all. Its, what they are, how much we spend money and we must get that money from customer or somehow back.

- *So, what you mean is that test centre would be financially independent?*

Yes, something like that.

It is little bit difficult, because we must first get some cases, so I think it is realistic to test 2 or 3..

- *Per year?*

About year, because you must do some work so we get some.. Because, for example, Niibe has own test centre near Helsinki. But it depends how you get marketing to our customers so, I think that is the biggest problem hot to marketing our test centre. Marketing is very big issue.

Customer perspective:

To achieve our vision, HOW SHOULD WE APPEAR TO OUR CUSTOMERS

- Who are heat pump test centre customers?

Manufacturers and company who has some kind distribution. Who has incoming, different kind of heat pumps "maantutajat ja valmistelijat".

- Why Ramk test centre would be important to these customers?

Because we have the quality label. Ramk is also independent from companies, nobody can make suspicious towards us.

- What are their main values towards heat pump test services that Ramk will offer (e.g. time, quality, and price)?

I think quality, and.. When you make quality price is not so important because it cost what it cost. And time is also, we plan it takes about two weeks, but you never know. So we can make some promises that takes about two weeks, but you never know.

- Who are our partners?

I think independent organisation, for example SULPU, and what is that European Heat Pump Association, I think. What is another countries test centre.

- Any local partners?

No, because we must make independent work, so we can trust for example any manufacturing company or other staff, because they, yes. I think it's only, what I said before - test centre and other things.

- What would be initiatives to reach objectives and targets in your opinion?

We ask customer feedback.

Lots of work. Ok, we must get test centre working, and reliable test centre results so when customer ask anything, we can always say something, make some documents on so, this and this kind procedure, I think.

- What would be the target for customer satisfaction in %?

I think so over 75% where three out of four is satisfied, but if we go for quality then perhaps we go for hundred, but hundred is not possible, because some customers always will be something.

- How do you see Ramk test centre in international arena?

I think it is not so important because we live in European side and there is, we are not so big. For example, Germany has 3 test centres, only Germany, so we don't have any. Let's see how it is works, never say never because you don't know what happens after few years.

Internal business process perspective::

To satisfy our shareholders, WHAT BUSINESS PROCESSES MUST WE EXCEL AT

- What internal processes test centre shall excel to provide planned values to the customer?

I think that is that test standard, quality manual, because I think that is the closest key.

- What processes would need to be improved in test centre to achieve greater results compare to current situation?

Whole system have to be very good, documentation, for example is there any interesting measurement result, so we can check what I the problem – is it our test centre or customer device or something. So I think, when we make test and make test and make test then it is going faster and faster. Something like that.

- How quality measures are implemented in test centre today and is there a need for improvement?

There is little problem, because we don't have whole measurement system quality papers, something, so we have little problem with that. So lots of work again.

- What would be initiatives to reach objectives and targets in your opinion?

Lots of work.

Learning and Growth perspective:

To achieve our vision, HOW WILL WE SUSTAIN OUR ABILITY TO CHANGE AND IMPROVE

- Would you agree that test centre has all necessary capable personnel to implement test in required quality?

No.

- If any, what personnel development events shall take place in the next 1-3 years?

We must take some courses or education, how that heat pumps theoretically working, so we know exactly what's happening. So testing personnel education main part and after that maybe new testing centre somewhere, new equipment's and so it's, but we don't must to change every year whole system, because when it's working you don't broke it. But personnel is the key, because you must know exactly how it works, so.

- What would be measure and initiatives to reach objectives and targets in your opinion?

Number of trainings, certificates and, jee, quality. We need 5 persons, because it's says somewhere in standard you must be big boss and so on. But need two test staff and two working with standard, so it is about three to four, because you always must back up.

We need time and money, because you must sit in the test centre all the time, run the test and then check if there is a problem and what is the problem. Then make some modification and test again. And because you are sitting there you need cash, pay for your salary.

Closure

- Is there anything you would like to add in addition to what has been said before?

No, I think that is it.

- Would you like to receive the interview transcripts?

Ok, that fine.

- May I contact you again in order to clarify some issues if unclear from the interview?

Yes.

- Last question which is not here, but I am going to ask you: is this interview classified or is it confidential?

I think it is open.