Aalto University
School of Business

Micro-level Diffusion of Management Control Systems
Rolling Forecasting in the Finnish Retail Ltd.

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Janne Lupari
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Abstract of master's thesis

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Abstract

This research focused on the implementation and daily operations of rolling forecasting in one Finnish retail trade company. Under the theme of budgeting rolling forecasting's idea has been known for decades among scholars. Nevertheless, it has not drawn much attention in management accounting studies. Only after the turn of the millennium practitioners have shown interest in rolling forecasting, through which it is justifiable to claim that case studies are necessary in order to build up understanding of micro-level diffusion of rolling forecasting.

Management control systems have been researched widely in the diffusion literature from many perspectives. These studies have been bothered by post-positive relationship to innovations, unlimited resources, technology oriented weight and over rationality. Lately research has tried to answer these challenges by pointing interest to complexity, irrationality and humanity of changes. Management accounting research has developed accounting change models, presented future landscapes and discussed the changing role of management accountant.

As for budgeting, its complexity and issues have been known for ages. Different methods such as the zero-base budgeting, the balanced scorecard, the activity based budgeting and the beyond budgeting model have been developed so that among other things the information wave related turbulent business environment challenges can be answered. Rolling forecasting tries to do this by creating a flexible budgeting process, in which a defined future period will be forecasted and in which attention is pointed rather to the future than the past.

The study aimed at enriching the understanding of rolling forecasting by analyzing extensive data, which included seven transcribed and six note interviews, a long period of financial data, unofficial discussions, surveys and other company inside material. Due to the contingency theory, causal relationships and diversities of matters this study strived for describing, illustrating and explaining rolling forecasting as a budgeting method and management control system. The research question could be crystallized followingly: "How does rolling forecasting function?"

In the case company rolling forecasting has both changed reporting and information flow within the company as well as caused issues in producing customary services and in creating the new budgeting process. Furthermore, even after years of implementation it can be seen that rolling forecasting's role is unclear and the process itself is suffering from systematic errors.

Based on the empirical observations, this research suggests additional parts to the existing accounting change models so that change situations can be handled better. This model emphasizes the balance between quality, speed and costs and also recognizes that change can lead to value destroying acts. The study confirmed also in a versatile manner that different organization levels had different conceptions and perspectives on how rolling forecasting functions.

Keywords Rolling Forecasting, Rolling Budgeting, Rolling Planning, Budgeting, Diffusion of Management Controlling Systems, Management Accounting Change

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Tiivistelmä

Tämä tutkimus keskittyi rullaavan suunnittelun käyttöönottoon ja päivittäiseen käyttöön suomalaisessa vähittäiskauppayhtiössä. Budjetoinnin aihepiirissä rullaavan suunnittelun idea on ollut jo vuosikymmeniä kauppatieteilijöiden tietoisuudessa. Tästä huolimatta siihen on kohdistunut sangen vähäinen mielenkiinto johdon laskentatoimen tutkimuksessa. Vasta vuosituhannen vaihteen jälkeen käytännön ammatinharjoittajat ovat ottaneet menetelmän omakseen, minkä seurauksena voidaan perustellusti väittää, että case-tutkimukset rullaavasta suunnittelusta ovat tarpeellisia, jotta rullaavan suunnittelun mikrotason ymmärrys voi kasvaa.

Johdon ohjausjärjestelmiä on tutkittu laajalti innovaatioiden diffuusiokirjallisuudessa monen eri näkökulman puolesta. Näitä tutkimuksia on kuitenkin vaivannut ennakkopositiivinen suhtautuminen innovaatioihin, loputtomiksi tulkitut resurssit, teknologiapainotteisuus ja ylirationaalisuus. Viimeaikainen tutkimus on pyrkinyt vastaamaan näihin haasteisiin kohdistamalla huomiota muutosten monimutkaisuuteen, irrationaalisuuteen ja inhimilliseen luonteeseen. Laskentatoimen tutkimus on kehittänyt laskentatoimen muutoksen malleja ja esittänyt tulevaisuuskuvia sekä havainnut muutoksia laskentatoimen ammattilaisen työssä.

Mitä tulee budjetointiin, sen monimutkaisuus ja ongelmat ovat olleet tiedossa jo pitkään. Erilaisia menetelmiä kuten nollapohjabudjetointi, tasapainotettu tuloskortti, toimintolaskenta ja beyond budgeting –malli on kehitetty, jotta voitaisiin vastata paremmin muun muassa informaatioaikakauden tuomiin turbulentin toimintaympäristön haasteisiin. Rullaava suunnittelu yrittää tehdä tämän luomalla joustavan budjetointiprosessin, jossa määrätty aikaväli ennustetaan tulevaisuuteen ja jossa mielenkiinto kohdistuu pikemmin tulevaisuuteen kuin menneisyyteen.

Tutkimus tähtäsi rullaavaan suunnittelun käsityksen monipuolistamiseen mittavan aineiston avulla, mikä sisälsi seitsemän litteroitua ja kuusi muistiinpanohaastattelua, case-yrityksen pitkäaikaisen talousdatan, epävirallisia keskusteluja, kyselyjä ja muuta yrityksen sisäistä materiaalia. Kontingenssiteorian, asioiden syy-seuraus riippuvuussuhteiden ja monipuolisuuksien takia tämä tutkimus pyrki etupäässä kuvaamaan, havainnollistamaan ja selittämään rullaavaa suunnittelua budjetoinnin ja johdon ohjausjärjestelmän välineenä. Tutkimuksen tutkimuskysymyksen voisi kiteyttää seuraavasti: ”Kuinka rullaava suunnittelu toimii?”

Case-yrityksessä rullaava suunnittelu on muuttanut raportointia ja tiedonkulkua yhtiössä sekä aiheuttanut haasteita totuttujen palveluiden tuottamisen ja uuden prosessin luomisen osalta. Tämän lisäksi yhtiössä on vielä vuosien kuluttuakin havaittavissa, että rullaavan suunnittelun rooli on epäselvä ja itse prosessi sisältää systemaattisia virheitä.

Tämä tutkimus esittää empiiristen havaintojen pohjalta tarvittavia lisäosia laskentatoimen muutosmalliin, jotta muutostilanteita voitaisiin hallita paremmin. Tämä malli korostaa laadun, nopeuden ja kustannusten välistä tasapainoa ja tiedostaa, että muutos voi johtaa myös arvoa tuhoavaan toimintaan. Tutkimus todensi myös monipuolisesti, että eri organisaatiotasoilla on erilaiset käsitykset ja näkökulmat liittyen siihen, kuinka rullaava suunnittelu toimii.

Avainsanat rullaava ennustaminen, rullaava budjetointi, rullaava suunnittelu, budjetointi, johdon ohjausjärjestelmien diffuusio, johdon laskentatoimen muutos

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1. Introduction

1.1 Background of the study

Business environments have been under a turbulent change during the last few decades. This is a consequence from the fact that the business world is coming closer due to a heavy globalization, more integrated legislation and an intensified investor perspective. Therefore also in the field of management accounting, companies have to adapt new ways of reacting to the above-mentioned challenges (Virtanen 2006). Supposedly this leads to a need for new management control systems to be introduced into organizations. For example traditional tools such as budgeting have taken new development paths like rolling forecasting. Thereby the diffusion of management control systems in organizations is the main focus of this thesis, which is specifically researched through the micro-level diffusion of rolling forecasting in the Finnish Retail Ltd. (later FiRe Ltd.).

The phenomenon of diffusion is of particular interest in the field of management accounting, which was slandered as a research field by such critics like Johnson and Kaplan (1987) in the mid 1980's. These authors claimed that at that time the situation had become so acute that management accounting either needed to be abandoned as being inimical with modern management, or else required a radical overhaul and revision. Responsively, as we have seen, management accounting stepped up the challenge and is well-off having developed new modernized tools such as the balanced scorecard, rolling forecasting and the beyond budgeting model. In addition, the Chartered Institute of Management Accountants (CIMA), which is a noteworthy global membership body for management accountants, received its present name in the 1980's and has ever since been a huge success story with its increasing membership basis (www.cimaglobal.com).

In this thesis the environment for diffusion could briefly be described intensely budgeting related, which is why the peculiarities of budgeting in the 21st century are also taken into consideration. Earlier extensive research has concentrated mainly on budgeting's role as a tool for performance evaluation (Jensen 2001; Hope et al. 1997, 2000, 2003) although the multiple uses of budgeting – e.g. operational planning, communication of goals and strategy formation – have also been recognized (Hansen et al. 2004; Horngren et al. 2003). In addition, already in the 1990's and especially in the 21st century there has been a discussion amongst management accounting scholars on whether the annual budget is finally becoming an outdated tool or not (Ekholm et al. 2003; Bartram 2006; Schmidt 1992). As for rolling forecasting, it has been introduced as a remedy for

overcoming the disadvantages that the traditional budgeting methods possess (Myers 2001; Arterian 1998). The leading interest will be pointed to Libby & Lindsay's (2010) finding that there's very little recent evidence regarding on whether and how firms are adapting their budgeting systems.

Further developed the thesis digs deep with the topic of rolling forecasting, which will be surrounded by the subjects of diffusion and budgeting. For some reason, rolling forecasting has not attracted in-depth scholarly research so far. Rather, publications have been more often on managerial level journals which tend to be more like best practices or check lists (Clarke 2007; Clarke et al. 2007; Montgomery 2002). With respect to its appropriateness for being a management control system the research field clearly lacks a thorough examination: how this kind of a system is implemented and how it operates in real life? Particularly, indicating how people perceive the shift from traditional budgeting methods to rolling forecasting remains an area of interest that needs more attention: a micro-like point-of-view from the practitioners of rolling forecasting might reveal more knowledge on how rolling forecasting functions and does it bring what it promises. These observations together with the above-mentioned diffusion and budgeting issues function as a foundation for the demand of this type of a thesis.

For the sake of clarity the thesis setting could be best framed with the figure below, where the arrows point out the scarce combination of substances used for the phenomenon under interest, which in turn is bolded. Noteworthy is that management controlling systems (MCSs) as a broad starting point is not included in the thesis since the idea is to gather insights on three different levels: diffusion of MCSs (1) in the environment of budgeting (2) methods such as rolling forecasting (3). The Finnish Retail Ltd. (4) functions as a stepping stone for testing the theoretical world with the practitioners' world.

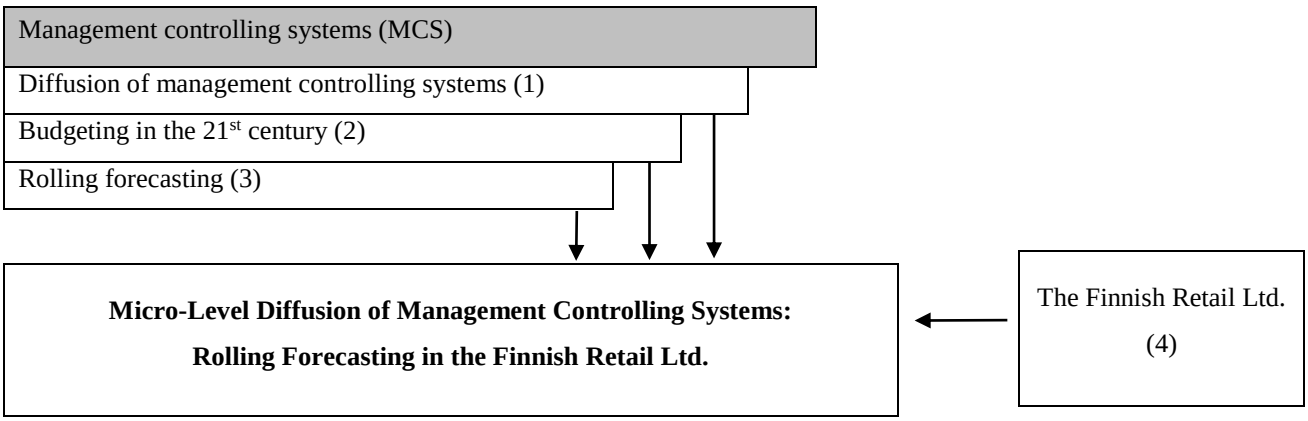


Figure 1: Research composition

1.2 Research question

To maintain the academic honesty throughout this thesis the research problem is stated briefly below in one sentence, which is followed by more precise explanations about the phenomena under special interest. These explanations prove that the research question holds many sequential questions in it. It's worth taking a careful look at almost word-by-word interpretations since they make the initial research question an easier one to approach.

Research question: "How does rolling forecasting function in everyday operations, how does it bring the aimed results,and how are the results viewed in different levels of an organization?"

Here by "how does rolling forecasting function" the thesis solves the essence and core of rolling forecasting. What is actually meant by rolling forecasting or rolling budgeting? Perhaps the basic idea and goal of rolling forecasting might be obvious but is that actually the case also throughout the entire organization? How does it succeed in being a new invention or is it only disguised as something old done just a little bit differently with a new name? How much do the procedures related to rolling forecasting differ in the comparison of the should-be-done and the is-done perspectives? How does it find its role and what kind of a position and authority has it achieved in an organization? What kind of specialties and similarities does rolling forecasting possess when compared to other budgeting methods and management controlling systems? As it can be seen, multiple questions arise with the concept itself. As mentioned in chapter 1.1 with very few academic level writings about rolling forecasting it's about time this challenge gets tackled by examining a case, in which these how questions shall be answered.

The word "everyday" should actually not be interpreted literally since it is used to emphasize the burden, i.e. resource craving or inputs, that rolling forecasting brings about. First of all it would be certainly interesting to know how rolling forecasting is perceived: a burden or a great tool which turns raw matter into gold. On a practical level this thesis gives attention to such questions as how long a process is rolling forecasting, how flexible is the time-table and is it an on-going or a discrete process? Moreover, how everything is organized in terms of turning separate financial figures into a competent business plan?

Here by "operations" it is meant the work of employees that are in any touch with the concept of rolling forecasting. Naturally working consists of planning what needs to be done and by what

means, processing figures with different information systems, communicating through mobile phones, emails, meetings and unofficial discussions. This point of view brings the micro-level diffusion to a closer examination, which is one of the particularities of this research. Like with the human disease, cancer, there are only a few cells that for reason or another start to mutate in a bad way. Likewise this way of thinking can be very fruitful in evaluating new management controlling systems since micro-level findings can explain the how level questions on rolling forecasting.

The "aimed results" –part of the research problem is very intriguing because the logical and inevitable extension of that question is what the aimed results actually are. One thing is for certain: rolling forecasting exists because it has been equipped with such promises that financial directors (or boards or CEOs) have decided to implement it into their organizations. What have been the reasons behind such decisions? Is it only a bandwagon among others or does it require a proper foundation so that an organization could benefit from it. There are certainly many consultants selling rolling forecasting as an idea relating to information systems. How do they persuade managers to buy the idea of rolling forecasting and how do managers promote rolling forecasting in their own organization? Additionally, how are the results, whatever they might be, viewed, interpreted and benefitted from? Changing a controlling system to another has always its strengths, weaknesses, opportunities and threats like the famous SWOT-analysis. A fascinating question is the following: how have the academic literature and the practitioners taken the SWOT-aspects into consideration?

"In different levels of an organization" symbolizes the interfaces between hierarchies in the company. These borders are under a magnifying glass since in this way the macro-level ideas of rolling forecasting are linked with the micro-level understandings of the management controlling system. Peculiar to this part of the research question is that this subpart is interpreted through all the other parts of the research question. In other words the thesis does not only stick to managerial perceptions of rolling forecasting. Instead, it tries to open up the whole forecasting process by examining the interactions between these levels. In the real world every person develops his or her power in the organization by skills, job position, relationships etc. Here in this thesis, however, the power relations are split into three categories: 1) Management (CEO, board & CFO), 2) Middle-Management (business controllers & team leaders) and 3) Subordinates (business people and controllers). How do these levels work regarding rolling forecasting and how do they see rolling forecasting as a whole in the end?

The following table depicts the research problem in parts: "How does rolling forecasting function in everyday operations, how does it bring the aimed results and how are the results viewed in different levels of an organization?". This table is also presented in the final chapter of this thesis with the here blank boxes filled with findings and results of the study.

	In different levels of an organization? (Macro- vs. micro-level)		
	Management (CEO, board & CFO)	Middle-management (Business controllers, team leaders)	Subordinates (Business people, controllers)
How does rolling forecasting function? (basics of rolling forecasting)			
Work during one round (on average) **Everyday?** (time-span of rolling forecasting and resource burden)			
Operations? (micro-level work)			
Aimed results? (promised results, SWOT and their correspondence to the reality)			

Table 1: Research question posed in a table

While the main research question concentrates on the above stated sentence, it shall not be ignored that the findings should broaden our knowledge of nowadays' budgeting concepts and ideas as well as the knowledge of diffusion of management controlling systems. No matter whether the study should be classified as illustrative, descriptive or explanatory, which shall be discussed in chapter six, this thesis tries to answer humbly how rolling forecasting might be used in a fairly big company in the 21st century, Anno Domini.

1.3 Structure of the study

The thesis proceeds in the following way. The next section brings forth the diffusion aspect of management controlling systems. It opens up briefly the basic theory of diffusion, its revisions and finally the connections to management accounting by introducing what management accounting scholars have found concerning management accounting change and implementation studies.

A logical follow up is section three that introduces the thematic of budgeting in the 21st century. Despite the attempts to answer the fresh and timely dilemmas of the budgeting world the earlier developments are also illustrated because no culture or way of doing things was built in a day. Thus the historical aspect of budgeting is an important inclusion in the thesis. After the rather chronological introduction of budgeting's development the role of budgeting has to be analyzed in the modern world. Undeniably the word budgeting has an old-fashioned connotation but still today's corporations use it. The major shortcomings and challenges that today's budgeting tools possess prepare the readers for section four that deals with rolling forecasting.

In section four rolling forecasting (also rolling budgeting) is divided into three parts: the basics, the implementation phase and continuous usage phase including taking improving measurements. The first part with the rolling forecasting's basics is not only for introducing the foundation that it relies on: it is particularly designed for bringing some solutions to the "hoped for results that it promises" part of the research question. The partition to implementation phase and continuous usage welcome different angles in trying to answer the "how rolling forecasting functions" part of the research question. All in all, the academicians and consultants are given their say about rolling forecasting, which is steadily managerially weighted due to the short supply of academic writings.

In section five a conclusion for theory parts of the thesis are given an emphasis. All findings are combined together to represent a tentative theoretical framework, through which the findings of the

empirical part of the study will be reflected and analyzed, in order to see the theoretical synthesis' explanatory level for rolling forecasting in later chapters.

Once the theoretical discussion concerning diffusion, budgeting, rolling forecasting and the following theory framework has been dealt with, section six takes a step closer to the so-called real world and discusses the chosen research methodology, method and data and analyses their pros and cons. The timeline of the study, the researcher's relationship to the case company as well as other particularities of the study are also clarified.

In section seven the practical context begins with the preparatory part of the Finnish Retail market and the case company, the Finnish Retail Ltd., and finishes with an exact depiction of the shift from a traditional budgeting system to a new system that contains rolling forecasting. From there on the focus will shift to rolling forecasting's present state and the improvement paths the company has chosen or has considered. Thereby the research question parts "everyday" and "operations" are of particular interest even though the employees may likewise have fruitful comments to every aspect of rolling forecasting.

Section eight eventually links this chapter's research question to the theoretical discussion, framework and practical findings. Also an integrated view of the management controlling systems, budgeting thematic and rolling forecasting is reviewed. The discussion part of the thesis introduces a proposed accounting change model and related process that could be derived from the finding between the tentative theoretical framework and the case study. The conclusions of the study both refer to the research question framework for answers that were wanted beforehand and also point out side findings among the research journey. Finally opening up some interesting research paths for the future throws the ball to other scholars, who hopefully gather more knowledge and test the findings of this thesis.

2. Diffusion of Management Controlling Systems in organizations

The theory of diffusion has been used in many sciences but most notably in economics (Wenisch 2004). Out of this observation two comments are necessary. Firstly, theory of diffusion fits this thesis perfectly since it lays a proper ground for the coming chapters of the timely budgeting discussion as one area of management controlling systems and rolling forecasting as one possible method in answering today's business challenges. Secondly, although there are a lot of authors out there with economics related diffusion studies, building the basic picture of the diffusion theory and its renovations serves adequately the purpose of this study, the orientation of which is and should be heavily management accounting related.

Before introducing closer the basic diffusion theory a short introduction to the complex nature of definitions is needed. Kimberly (1981) reminds in his writings about managerial innovations, which rolling forecasting undeniably is, about the disagreements between researchers as to definitions of innovations: firstly some regard innovation as a process while others determine it a discrete product or program, secondly some underline newness as the criterion of the innovation while others emphasize a case-by-case approach following adopting system's perception. He also brings forth that managerial innovations differ from other types of innovations in their nature of involving decision making, i.e. managers who take actions and responsibility. Kimberly also comments that there is discrimination between diffusion and adoption: diffusion is determined to be a process whereby an innovation spreads in a population whereas adoption is a process which results in a decision by a potential adopter to invest resources in an innovation.

The important bottom line for this thesis is the following: the major goal is not to deliver answers to disagreements between academic scholars but to answer to phenomenon of rolling forecasting. However, one can wear only one piece of sun-glasses at a time, i.e. definition paths with the theory are chosen but it will not be forgotten that there might be other "sunglasses" to wear as well.

The contents of this chapter has the following order: it begins with a basic theory setting concerning diffusion, continues with the reforms of the basic theory and finishes with linking the phenomenon of diffusion to management accounting by discussing the concept of change and introducing some of management accounting's key implementation studies.

2.1 Theory of Diffusion (Adoption)

Rogers (2002) stated that there had been as much as 6200 completed diffusion studies by 2002. This works as evidence that one is not dealing with a phenomenon that is something new to the human kind. His book, the fifth edition of a book named Diffusion of Innovations (2003), synthesizes past four decades' development in the theoretical field of diffusion of innovations model. Rogers is a much cited name among the research scholars and thus it can be stated that his views work as a proper foundation for the theory of diffusion. In this research, however, one cannot leave all weight on one man's life work and therefore the findings of others as well as a view of the shortcomings with the dominant theory shall be brought into the light.

A proper starting point for the theory of diffusion is understandably clarifying what is meant by diffusion. This thesis adopts the diffusion definition of Webster (1971): "Diffusion is the social process by which an innovation spreads through a social system over time". In this study, rolling forecasting represents the innovation, which in turn Zaltman et al. (1973) as well as Bradford and Kent (1977) define something new for the adopter. As for social systems, this thesis takes a broad approach with not bounding it to any special form of social relations: i.e. international cooperation, societies, organizations and working teams are all social systems. In other words, rolling forecasting is the innovation under interest and its diffusion and characteristics will be examined carefully in social systems not only on broad macro levels like international popularity and societies' use of rolling forecasting but also on micro levels like the case company (the Finnish Retail Ltd.).

As for the definition of diffusion, Webster (1971) continues by pinpointing some of the key elements, each of them followed by comments that relate them to rolling forecasting.

1) **Decision maker or an adopter**

   There are some defined units that make the decision of adopting an innovation, in this case rolling forecasting. Thus decision making is somehow the term involved in the diffusion process of rolling forecasting. An individual might decide to reject rolling forecasting to the bitter end and end up being positioned elsewhere in the company or plainly fired. Vice versa, there might be such individuals who promote rolling forecasting because they are ordered to or because they have their own interests involved. The company itself is a decision maker but power relations inside the firm decide who and how many there are to make the

decisions for the company. One might imagine that at worst rolling forecasting could be introduced into a company just by the prejudiced decision of a stubborn leader.

2) **Degree of risk**

First time adoption of an innovation, e.g. rolling forecasting, requires change and thus there's risk (alongside possibilities) involved in the process. Here the advantages and benefits of diffusing an innovation are weighed against alternative courses of actions like sticking to the choices of status quo or other innovations. Individuals, for instance, have risks of not being able to learn rolling forecasting, thus losing their relative know-how position inside the company and suffering from the stress stemming from the new way of doing things or simply being forced to abandon their formerly highly developed way of working. On the company level, there might be risks like a total implementation failure that causes a lost or diminished control of the business, employees' lost confidence towards the management, change oppositions causing major conflicts or too excessive dependency on the supplier of rolling forecasting's information system or idea. In the capital investment world risk and reward go hand in hand: what might be the case with rolling forecasting? Is it a win-win situation and a must have solution or a major risk taking situation? Could the company operate successfully without rolling forecasting in nowadays' business world?

3) **Rate of diffusion**

This rate means the percentage rate by which an innovation is adopted among all possible adopters. Webster specifies different categories of adopters in the following way: innovators (first 2½ % to adopt), early adopters (the next 13½ %), early majority (the next 34%), late majority (the next 34%) and the laggards (the last 16%). Company-level interpretation points out how early the company was in adopting rolling forecasting compared to other companies. Inside the firm the rate of diffusion could denote the subparts of the company or adopting rate measuring individual workers inside a firm, cost unit or working team.

The rate of diffusion is explained by a careful glance at a figure of the well-known S-curve of Rogers (2003) who illustrates the diffusion process in a businesslike fashion. A figure speaks sometimes more than one thousand words which is why Rogers' figure is of great use at this point. It shows the proportion of adopters in the Y-axis and the time on the X-axis. Innovations I, II and III, for one, vary in how fast the innovation is adopted among the possible adopters. The "Take-Off" area depicts the phase when the innovation really starts to accelerate as for its popularity.

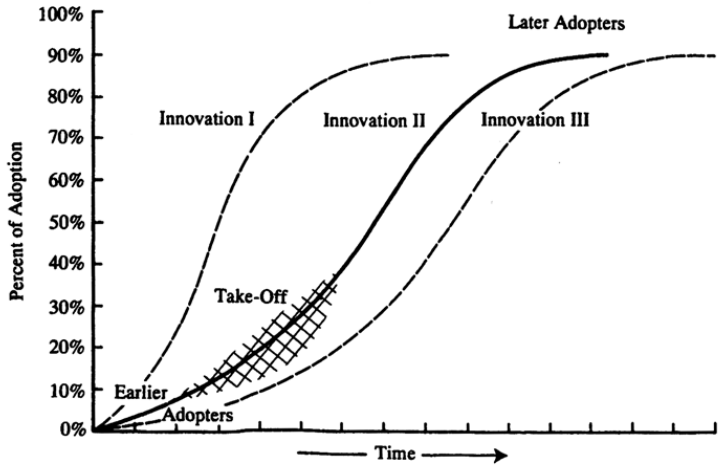


Figure 2: S-curve of the diffusion process (Rogers, 2003)

Rogers (2003) finds five different characteristics of an innovation that help one determine how fast the innovation will be adopted. These are introduced below since they represent useful tools in analyzing rolling forecasting (in parenthesis there is a rolling forecasting related interpretation of Rogers' finding that is followed either by a plus that means the more the faster the adoption or a minus that means the more the slower the adoption):

- relative advantage
  (How much better is rolling forecasting compared to the other budgeting method, +)
- compatibility
  (How compatible is rolling forecasting with the existing culture of doing things, +)
- complexity
  (How difficult rolling forecasting is to understand and use, -)
- trialability
  (How possible it is to test rolling forecasting beforehand, +)
- observability
  (How visible are the results of rolling forecasting, +)

These define the characteristics of the nature of the innovation that is about to be diffused. So they are used for explaining the innovation itself in terms of the easiness of diffusing that particular innovation. In addition, organizations can also obviously pursue different strategies in order to speed up or slow down the pace of the diffusion process. Then one is dealing with the question of "what can one do to affect the diffusion pace of the innovation". For example Rogers (2002) brings forth the following five strategies for speeding up the diffusion process of preventive innovations, which represent a difficult type of an innovation since the rewards of such an innovation are difficult to measure because they only prevent something unwanted from happening (in parenthesis a comment about the possible relation to rolling forecasting as the innovation):

1. Change the perceived attributes of preventive innovations
(With rolling forecasting are there a lot of options to be adjusted to make the diffusion?)

2. Utilize champions to promote preventive innovations
(The appreciated, skilled and liked workers may sell the idea of rolling forecasting to the work community, is there a risk that the champion might turn into an anti-champion in the company?)

3. Change the norms of the system regarding preventive innovations through peer support
(Nourishing the change by supporting a new way of thinking budgeting through rolling forecasting and giving support to peers (or giving them the sack or replacing them to other positions) who find it difficult to adapt to the new budgeting culture of rolling forecasting)

4. Use entertainment – education to promote preventive innovations
(Relating rolling forecasting to positive things through investing in work wellbeing and education along the serious and hard business side of rolling forecasting ➔ giving the workers a little bit slack in order to demand results with rolling forecasting in return)

5. Activate peer networks to diffuse preventive innovations
(Activating talk, both official and unofficial, among workers might help people solve their present problems with rolling forecasting and devoting work-time in general might prove to be fruitful)

Could rolling forecasting then be described as a preventive innovation? Definitely yes because it is designed to help keep the company on the right track and thus prevent the company from crashing into business, financial, logistical, strategic (with its communication to long-term planning) etc. problems. The basic concept of rolling forecasting is a topic that takes more profound attention in chapter four. For now it has to be stated that these relationships to rolling forecasting from Webster's (1971) three basic diffusion elements, Rogers' (2003) five diffusion characteristics that affect the pace of diffusion and Rogers' five strategies for speeding up the diffusion are not be ignored when rolling forecasting finally meets the spotlight in the latter parts of this thesis. These academicians' findings are highly usable for example in the interviews and data analysis for the empirical part of this thesis.

An important addition to Rogers' and Webster's S-curve interpretation of the diffusion process is that it takes for granted the particular shape of the curve. This thinking can easily be challenged by questioning the automatic expansion of an innovation. What happens with those innovations that at first seem to gain acceptance but later on turn out to be deserted ones? Best (2006) answers this question by his discrimination of innovations and fads. As figure below points out, the central difference between diffusion and fad is that the former achieves a permanent state as to its popularity (the upper curve in the figure) whereas fads fade out after they have reached their peak in popularity (the lower curve in the figure). As for rolling forecasting, which is the precise tool under

examination in this thesis, it is yet unclear whether it turns out to be a real diffusion in the modern business life or if it's going to end up being a fad. During the research period of six years (2008-2014) the author of this thesis, however, did not run into any kind of research papers or any practitioners' observations about companies abandoning rolling forecasting, only indirectly by abandoning budgeting as a whole.

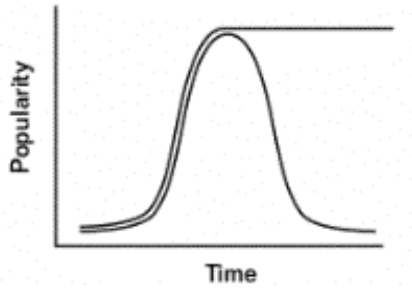


Figure 3: Comparing the dynamics of Diffusion and Fads (Best, 2006)

Moreover, an important comment by Webster states that "diffusion reflects a series of adoption decisions by individual units (persons, farms, households, firms, etc.)". This comment is vital for the perception of diffusion since adoption can indeed occur between very different kinds of units. In the previous chapter the micro-level interest in rolling forecasting's various features was stated which implies that it is the persons that are of special interest in assessing the diffusion rate not only inside the company but also the degree of risk different employees (persons) undergo in their particular positions and also who are the actual decisions makers in the organization when it comes to choosing to adopt or reject an innovation. Although the micro-level is of special interest the macro-level is not forgotten in the later-on empirical part: what ignited the company to adopt rolling forecasting and what were the broader grounds for that decision? Gallivan (2001) wraps up the same discussion of macro- and micro-level diffusion by introducing the ideas of primary and secondary adoption: the former stands for the organization level decision to accept an innovation, which happens first and can be achieved very swiftly, and the latter signifies the acceptance decisions by individual users inside the organization, which happens second and can last a long time. Gallivan emphasizes that the secondary phase often causes the most problems for organizations.

In other words, the concept of diffusion is ultimately closely related to knowledge management and learning. Hope & Hope (1997) point out two different schools of thought with knowledge management: the information school and the behavioral school. They represent very different ends of the knowledge management continuum: information school being at the technical end and

behavioral school being at the humane end. Of course, there are researchers like prof. Baumard (Hope & Hope, 1997), who have brought these schools closer to each other.

The information school believes that information is a resource which needs to be processed in a reasonable manner in order to achieve competitive advantage. The starting points are the information systems and artificial intelligence. The key thing is information using and sharing, which creates value – contrary to the use of such a material resource like timber – and it actually accumulates value the more information is shared inside a company. People learn from each other and tell actively their information to third parties. This school, nonetheless, acknowledges that in real life people are often unwilling to share their knowledge. This stems from several reasons: e.g. from the fear of sharing such information that diminishes other people's perception of one's professionalism, from disrespect of other guilds and from cultural information sharing differences – e.g. in the US the middle management is said to be a heavy burden as for information sharing whereas in Japan information sharing is an intact part of organizational culture.

The behavioral school sees knowledge management as a dynamic development path, where skills and know-how change constantly. The starting point is the human being itself and understanding its behavior. Sociology, anthropology, psychology are the faculties that are heavily linked with the behaviorists' thoughts about knowledge management. The behavioral school divides into three subparts according to how people perceive the world and what are their values; the operator culture believes in people's power and in their collaboration, the engineering culture sees people as problems that prevent organizations from achieving innovative solutions and the executive culture take people for costs that need to be minimized in order to get good financial solutions. For a layman this all seems very understandable since people are unique in their behavior. Also the theory of McGregor about X and Y generations, which is common knowledge, is another way of categorizing people into active and questioning Y people and passive and obeying X people.

The inclusion of these two schools is essential in this thesis since it emphasizes that rolling forecasting is not researched only through technical observations, i.e. through organization charts, manuals, statistics etc. Rolling forecasting is processed through people so it is only logical that also more humane interpretations are not to be put aside in this context. Information is a very important concept and how it is perceived socially is brought up into discussion in this thesis since it is obvious that rolling forecasting or budgeting is a matter of knowledge management and it has a lot to do with how rolling forecasting diffuses within a social system.

The knowledge of the above-mentioned information and learning theories build the understanding that constantly one is dealing with organization cultures as well as cultures, i.e. values and beliefs, of individuals inside a firm. In this thesis both schools' approaches have to be taken into account since supposedly they both exist in an organization involving many individuals. One could open the discussion of learning organizations and social systems in a much more profound way but the emphasized point here is that this thesis takes into account not only the technical features or choices of rolling forecasting but also social environments like power relations and cultures.

Now that the basic definitions, concepts and information school literature connections behind innovations and diffusion have been introduced, it is a proper clarify the basic diffusion theory, more precisely where research has roughly ended up in the late 20th century in a straightforward manner before chapter 2.2 discusses shortcomings and resolutions and what researchers might still have as additions to our understanding of the basic elements of the diffusion theory?

In year 1981, John Kimberly, published a writing "Managerial Innovation" in Nyström & Starbuck's book "Handbook of organizational design". In that writing, Kimberly grounds the development of that time's diffusion theory, how it has been studied and what kind of researches are to be awaited in the future. At that time, he crystallized the understanding of managerial innovations in to the following sentence, originally expressed by Mao Tsê-tung.

"External causes are the condition of change and internal causes are the basis of change,… external causes become operative through internal causes. In a suitable temperature an egg changes into a chicken, but no temperature can change a stone into a chicken, because each has a different basis"

Source: Kimberly (1981)

In addition to the vast discussion and many definitions of what managerial innovations are actually, Kimberly (1981) notes that a lot of scholars have concentrated on innovations from the perspective where it has a natural positive connotation and where attention is given to how adoption and implementation can be facilitated and how resistance can be minimized. In his inspection of Kelly's and Kranzberg's studies (1978), where over 4000 items on literature on technological innovation Kimberly saw that there is a preoccupation of innovation meaning something good and worth striving for. Another observation was that the research field had awakened in the late 1970's and early 1980's to the myth of unlimited resources, which had enjoyed from ascendancy so far. Kimberly also discussed that managerial innovations should provide an appealing topic for

researches because it has been generally acknowledged that the need for spreading new skills, techniques and approaches in management is evident. Despite of that all, it has been the studies on technological innovations that have attracted much more research than the managerial innovations. That may be due to the fact that technological innovations have a track-record of profitability measurements whereas managerial innovations suffer much severely from the difficulty of measuring performance rates.

Kimberly brings (1981) a remarkable topic to discussion when he's considering different outcomes of what happens to innovations once they're adopted. The innovation itself can be narrowly or widely used and it can survive well or die soon and young. Much more research has been pointed out to the adoption itself: originally managerial innovations are adopted by organizations even though causalities have difficulties in being found because subunits and certain individuals are needed before adoption. Thus the latter, people, cannot be overlooked when researching managerial innovations. This is exactly what makes managerial innovations tough ones to grasp. Generally and traditionally, according to Kimberly, researchers have focused on three things as independent variables in their studies: characteristics of administrators and other organizational members, attributes of organizational structures and patterns of interorganizational relations. Conceptually there's also a fourth one: environmental constraints, which has been acknowledged but not so much empirically studied.

As for personal characteristics of administrators and other members, wide research has shown that it cannot be ignored. Things, such as professionalism, leadership style and cosmopolitanism played a positive effect in innovation adoptions the more they were present (Kaplan 1967 and Mytinger 1968). Other studies Kimberly highlighted, were Becker's (1970) finding that types of innovations that were adopted related to the characteristics of administrators, Kaluzny et al.'s (1970) results that the more cosmopolitan the administrator was, the more high-risk innovations were adopted, Hage and Dewar's (1973) findings of elite values better predicting innovations than structural characteristics of organizations and Kazlow's (1977) finding that committed administrators make a difference and that organizational stature rather than personality is a key factor. Kimberly reminds that organizational size most probably plays a major role when drawing conclusions about administrator's characteristics and their effects in adoptions of managerial innovations.

Things such as centralization, formalization, size, organizational slack, visibility of consequences, and information seeking behavior, i.e. organizational structures have been studied with inconsistent

findings. Some studies have found out that formalization and centralization reduce the probability of adoption of the innovation, whereas the situation is vice versa on organic form of organization, stocked with minimum procedural specification, minimum routinization of behavior and widespread internal communication (Aiken and Hage, 1971; Burns and Stalker, 1961; Crozier, 1964; Gordon et al., 1974; Hage and Aiken, 1967; Palumbo, 1969; Rosner, 1968). Other studies (Corwin, 1972; Evan and Black, 1967; Wilson, 1966) found totally different findings where formalization and centralization would foster adoptions. Inconsistency vaporizes if one encounters the issue through contingency theorists' goggles (Lawrence and Lorsch, 1967; Thompson, 1967): whenever the environment is stable and predictable, the formalization and centralization should facilitate the adoption while in unstable and unpredictable situations these characteristics impede the adoption. Regarding size, findings have been quite ambiguous, which has been commented by Kimberly (1976b) that it might be due to problems of measurement. If size is measured by organizational resources, then size accelerated adoptions (Carroll, 1967; Kaluzny et al., 1974; Mytinger, 1968). Many researchers found out, however, that size played no role in adoption speeds (Mohr, 1969; Utterback, 1974). Kimberly himself (1978), observed that large organizations with prior resource commitment in the operational area for which a particular innovation is relevant had enhanced rates of adoption whereas no such commitment existed the large size downplayed the probability of adoption. Hage and Dewar (1973) pinpointed that it could be more the growth pace than the size that explained adoptions. All in all, effects of size are very difficult to interpret, whereas visibility of consequences seems to give more profound results with positive correlations over adoptions of innovations (Rosner, 1968; Gordon et al., 1974, 1975). Information thirsty organizations are naturally more eagerly adopting innovations (Kimberly 1978) and there might be tools for managers to design such information channels that open the possibility to see many options which could be picked as suitable for the organization.

Patterns of interorganizational relations have been proven to exist (Van de Ven, 1976; Aiken and Hage, 1968; Milo, 1971; Caplow, 1964; Levine and White, 1961) as to adoption of innovations. In situations where organizations had interorganizational relations, e.g. attended joint programs, had competition on scarce resources and were ordered to prestige hierarchies adoptions seemed to more probable than in situations where competition was sluggish, monopolistic or oligopolistic. As for the studies of organizational environments there is not much to be underlined since that concept has been under a lot of discussion about how it should be taken into account.

Kimberly presents also studies that have been done concerning what happens to innovations once they have been implemented. Successful innovations have often been boosted by users participation of designing (Ackoff, 1967), by the actual innovation itself meeting the needs of managers (Gorry and Morton, 1971) and by new roles that arise for innovation's integration's sake (Quinn,1973), by assuring that the new position keepers have a background that is compatible with the existing staff (Hebden, 1971). For failures, it is naturally easier to find causes, e.g. Frank and Hackman (1975) reported that lack of theoretical guidelines, inadequate diagnosis of the entire system, absence of contingency plans for spin-off problems and insufficient flexibility in implementation were the factors that explained failures.

Particularly for this thesis, there was an interesting comment of Kimberly (1981). He pointed out that relatively little research has been done on the spread of innovation inside organizations, e.g. Walton (1975) found out that managerial innovations that were successful in organization's subunit tended to encapsulate and not spread very easily. In addition, if a fiat is used, then there might easily be resistance (Thorsrud, 1976) and if a subunit can independently decide how to best utilize an innovation in it environment then there is a more fertile ground for the innovation's implementation to succeed (Walton, 1977). The utilization of an innovation could be highly dependable on one individual; old ways of doing work might easily return once the individual has changed position or employer (Pressman and Wildawsky, 1973). The effect of the latter could be also the other way round: an individual might be transferred in order to spread an innovation (Allen and Cohen, 1976; Galbraith and Edström, 1976).

To wrap up the basic diffusion theory of adoption of innovations, Kimberly reminds that most of the studies have been done as case studies, which implies that generalizations are hard to make. The methodology part of this thesis, however, chapter six, suggests that it is not necessarily so difficult to draw generalizations from case studies. At least these case studies can show what kind of causalities can be possible. Kimberly also concludes his overview of managerial innovations in Nyström & Starbuck's book "Handbook of organizational design" (1981) by commenting that there is often a considerable gap between the rhetoric and the reality, which means various organizations have brokerage roles and that they have stakes in many situations. He exemplifies his point by pointing out "organization development" in the 1960's, which was a two-word term that spread wildly among consultants, business life, managers and business life and picks a funny finding of Weisbord (1974) about the whole hype: "What is organization development anyway? The longer I do it, and the more I read about it, the less I understand it". That wants to say that it pays off for

buyers of innovations to be sensitive to the difference between rhetoric and reality, i.e. to develop a skill of noticing the distinction between cheaters with uncovered cheques and real innovations.

2.2 Major shortcomings of the basic theory and its replenishments

Shortcomings of the dominant diffusion theory

On a theoretical note the academic field provides often an extremely rational view on the research subject. That is a very stiff way of depicting the reality, which yet has a very flexible and complex nature. Fortunately, others have also observed this kind of imperfection. For example Abrahamson (1991) brings forth that traditionally within the diffusion theory it is taken for granted that rational adopters make independent and technically efficient choices. Without dispute this sounds naïve, which is why Abrahamson supposedly develops his own typology which includes four different theoretical perspectives for explaining the diffusion and rejection of administrative technologies. His typology provides a wider ground for the theory of diffusion, raises a lot of useful questions and therefore it is next brought under the spotlight.

Abrahamson's (1991) starting point argues that it is also possible for organizations to diffuse technically inefficient innovations or quite on the contrary reject technically efficient innovations. A good practical example is provided by Mitroff and Mohrman (1987) who analyzed the US and its lost competency in the world economy in the 1970's and 1980's: according to them the American business world refused to recognize how the world economy changed and they either stuck to old ways of doing business or adopted keep-it-simple ways of turning things around. Simply put, Mitroff and Mohrman state that "simple formulas cannot cope with complexity" and that "complexity is what today's world is all about".

Abrahamson (1991) addresses that the dominant thinking of the efficient-choice perspective points out that the diffusion theory deserts these opportunities of "doing wrong choices" and plainly expects organizations to benefit from innovations when they're diffused. Similarly, innovations should disappear if they don't benefit the organization. Kimberly (1981) defines such thinking as proinnovation biases, which mean the presumptions that innovations benefit organizations. Among the innovation scholars there is a unanimous understanding that these proinnovation biases do exist (e.g. Downs & Mohr, 1976; Rogers & Schoemaker, 1971; Van de Ven, 1986). There's no need for proving these cons of the dominant diffusion theory. In order to understand better the subsequent

typology of Abrahamson it is useful at this point to take a peek at the ideas of March (1978), who sorts out the assumptions that are included in the efficient-choice perspective.

Assumptions in the efficient-choice perspective:

a) Organizations within a group can freely and independently choose to adopt an administrative technology
b) Organizations are relatively certain about their goals and their assessments of how efficient technologies will be in attaining these goals

Source: March, 1978

On the way to developing other approaches than that of the efficient-choice perspective Abrahamson neglects these two above-mentioned assumptions. Naturally then one has to find out environments, where one or both of these assumptions can be rejected. Thus Abrahamson's counter assumption for assumption a) states that organizations outside a group influence the choices made by organizations within the original group. According to him this outside group's role could practically be played by regulatory bodies or consultant companies. The point of bringing this matter forth here is that the phenomenon of outsourcing company's different functions cannot be ignored. This is because nowadays outsourcing influences not only the manufacturing companies, which is common knowledge, but also increasingly change management (Caldwell, 1998).

A logical consequence has been the exploding growth of the Finnish juridicial and consulting services branch. According to Statistics Finland, from 1995 to 2012 this branch has almost quadrupled whereas for comparison the GDP has roughly doubled and the consumer price index has grown only 34%. What remains important after these notations is definitely not that the consulting branch has had an obvious and blooming success but the support for the reader's ability to raise questions out of this background that corporations do not function as closed entities when it comes to diffusing new innovations. It can be claimed that freedom and independency rates can be pointed out anywhere along a continuum since it's not a matter of the extremes, i.e. that there exists only freedom or not and similarly independency or not.

For March's assumption b) the counter assumption is naturally that organizations have unclear goals and high uncertainty about the technical efficiency of administrative technologies. It is clear that in those circumstances the choosing of efficient methods is really difficult because the destination is unknown. Proverbial, it would be clearly impossible to steer a ship to its destination even for a top captain who knows all the controlling levers and their functions in the cabin, if the

destination is missing. Here once again it's good to notice how the continuum question steps up as a company, more precisely the group within the organization, can clearly have an inaccurate picture of its goals and assessment characteristics of different technical innovations but still it might have some kind of a picture of what should be the right direction. This interpretation lies also between the extremes of having clear or unclear goals.

The observation of freedom and independency rates as well as goal clearness and technology assessment rates in choosing administrative technologies proves to be productive when analyzing Abrahamson's typology since it opens up thinking for the "what does the typology does not take into account" question. This is actually analogical with Abrahamson's conclusions: although his typology explains situations where the underlying assumptions match closely the explanations there are surely situations where the assumptions could not be met, because of the above-mentioned continuums. For instance an outside group might have only a moderate impact on the choosing decision of innovations and its influence may vary at different stages of the diffusion process.
All in all, now that the obvious shortcomings with the assumptions of the dominant diffusion theory have been presented and how the typology of Abrahamson lacks thorough explanations of the real world, it's logical to step forward and introduce the referred diffusion typology of Abrahamson.

Abrahamson's typology for the diffusion and rejection of innovations

Abrahamson presents four different perspectives for the diffusion and rejection of innovations, namely the efficient-choice perspective, the forced-selection perspective, the fashion perspective and the fad perspective. All of these are introduced briefly in the above-mentioned order. Before that it is profitable to take a look at figure four which categorizes all perspectives and shows their relations to the outside-influence and imitation-focus dimensions.

		Imitation-Focus Dimension	
		Imitation Processes Do Not Impel the Diffusion or Rejection	Imitation Processes Impel the Diffusion or Rejection
Outside-Influence Dimension	Organizations Within a Group Determine the Diffusion and Rejection Within This Group	**Efficient-Choice Perspective**	**Fad Perspective**
	Organizations Outside a Group Determine the Diffusion and Rejection Within This Group	**Forced-Selection Perspective**	**Fashion Perspective**

Figure 4: Theoretical Perspectives Explaining the Diffusion and Rejection of Administrative Technologies (Abrahamson, 1991)

The efficient-choice perspective

The efficient-choice perspective takes for granted that organizations, often top-management teams, know where they're heading to and that innovations are rather easily measurable with inputs and outputs. It is possible to react in a very rational manner, choosing or rejecting innovations just on the basis of efficiency. This perspective or theoretical orientation has the ability to explain diffusion processes very precisely. The performance gap in the organization as for what goals should be achievable and what goals are achievable should be closed down by adopting suitable innovations.

Within the efficient-choice perspective there are two types of theorists: the demand-pull ones who claim that the world changes and that way performance gaps are created and the supply-push ones who argue that innovations for instance from the academic world reveal the existing performance gaps. Simply put: organizations that encounter such performance gaps adopt efficient technologies and organizations without such gaps do not adopt any kind of technologies because there aren't any rational-based reasons. In vice versa situations, old technologies are abandoned because of changes in the business environment or because of new and more efficient technologies are born.

The forced-selection perspective

In some circumstances powerful outside organizations could prevent efficient technologies from being adopted or, quite on the contrary, force the diffusion of inefficient technologies. Naturally for such an outsider there has to be an incentive to guide the destinies of administrative technologies. A fact worth emphasizing with this perspective is that the diffusion or rejection of administrative technologies has an adverse direction compared to organizations' own will.

Abrahamson (1991) exemplifies those kinds of organizations with denoting labor unions, war-labor boards and associations of managers in his research. Practically, he likes to bring forth with other theorists (e.g. Carroll et al., 1988; DiMaggio, 1987) the political aspects of societies in business environments. This supports the preceding interpretation that companies do not function as closed entities and they have to interact with the surrounding world. Particularly interesting examples include situations, where powerful organizations have conflicting interests, like Cole (1985) discovered with the American labor unions and national associations of managers during the 1960's and 1970's when the diverging views by these organizations caused an imminent drop in the popularity of participative management technologies.

The fashion perspective

The fashion perspective's starting point is dealing with the problem of rather choosing an organization to follow and not a technology to follow. The outside influence of "fashion setting organizations", as Hirsch (1972) puts it, is remarkable and they indeed have their own interest in selling their ideas since that's their business. This imitation effect tends to turn on when organizations lack clear goals and can't find proper technologies on their own.

What fashion setting organizations are there actually? Abrahamson (1991) answers this by denoting consulting companies, business schools, business mass media and publishers of business books. The two former have the expertise power and the two latter have large audiences backing up their influence. How straightforwardly the different technologies are then adopted: definitely not in a direct manner. The fashion setting organizations pick the most suitable technologies from many choices. Then they need to be actively modified, developed and adjusted to the requirements of the user companies. Fashion setting is not based on coercive power like with the forced-selection perspective. Instead, the fashion setters rely on their capacity to inspire organizations.

The major observation with the fashion perspective is that it illustrates the humane aspects of diffusion processes with respect to outside fashion organizations. A company that sticks to old technologies, even if they were efficient, may suffer from severe boredom inside the company and a great image loss occurred in not showing any innovativeness. Abrahamson (1991) mentions the symbolic and emotional effectiveness of fashionable administrative technologies and hints that it's only normal that companies change their technologies in order to keep the running fresh.

The fad perspective

The humane aspects of diffusion processes expand as Abrahamson (1991) pays attention to the fad perspective. The main difference between the fad perspective and the fashion perspective lies with the outside-influence dimension. This time the impelling power of imitation stems rather from inside: organizations or companies reason themselves that they have to do what others have done.

There are different paths for following these fads. Communication channels may provide information that a technology has proved to be successful in other companies or competitors. This in turn may ignite the decision to diffuse or reject the particular technology because the risk level with the innovation in question diminishes. Social interactions, for one, may be one reason for

accepting or rejecting an innovation since in that way an organization can actively seek social legitimacy in its environment. Economic interest sounds like a category that should belong to the efficient-choice perspective but here the relative competition position is what matters: a company might adopt even a technology that has a negative expectation value only because it knows that the competitor might hit the jackpot if it remains to be the only one that diffused the technology.

All the perspectives put together

Are all of the perspectives mutually exclusive? Most definitely not, as Abrahamson (1991) presents numerous propositions, which show how there are numerous phenomena that can be approached through multiple perspectives. He underlines two different resolutions to the multiperspective problem. Firstly, the contingency resolution deals with various diffusion contexts and innovations and points out a perspective that has significantly more explanatory power on the diffusion of innovation over the other perspectives. The stumbling stone of this resolution is the complexity of the world: there are often moderate levels of uncertainty with the assumptions of the innovation's technical efficiency. Therefore there will be situations where the perspectives only partly fit the examined diffusion processes.

Secondly, the paradox resolution tackles this problem of complexity by exploiting paradoxes between different perspectives. In other words, raising interesting tensions, oppositions, and contradictions between theories by a) clarifying levels of analysis, b) taking time into account and c) introducing new terms proves to be fruitful. This resolution is of a flexible kind since it does not assume that different perspectives simply apply to certain innovations and not to others. Instead it is based on the idea that each perspective covers some aspect of every innovation and diffusion context. An important inclusion for this thesis is to emphasize Abrahamson's finding that the paradox resolution is also suitable for studying non-administrative innovations, such as production technologies, strategic actions, R&D projects etc. in different diffusion contexts like in not-for-profit companies or for-profit companies, in different branches, in different countries and in different world economy situations.

In order to bring practicality into the picture this section brings forth some examples by Abrahamson (1991) and some post-questions concerning the main research interest in this thesis, rolling forecasting. For example during the war time and depressions the contingency theory's straightforward answers could prove to be useful as for making conclusions about the forced-

selection perspective because of strict and obliged-to-obey rules. During this research (2008-2014) the world encountered the financial crisis so it will be interesting to see what kind of alleged effects it had on rolling forecasting.

Both Baron, Dobbin and Jennings (1986) and Carroll, Delacroix and Goodstein (1988) have found proof that the forced-selection perspective, namely the government, does indeed explain the diffusion of innovations occurring during crises. How about then consultants' and academicians' power as an outsider group to influence the decisions made by organizations? Abrahamson (1991) discusses that they may influence fashions used by organizations when the organizations under interest simply afford services offered to them. Also during good times companies famously spend more resources to hiring fresh talents from business schools and universities. Hybrid situations, e.g. where it is irrational to adopt an innovation (efficient-choice perspective) but at the same time where political costs (forced-selection) of not obeying some innovation seem too high because of possible legal proceedings, play a remarkable role in real life according to Abrahamson (1991). He pinpoints another example of conflicting perspectives by bringing forth a situation where fashion setting organizations deem it economically fruitful to promote faddish diffusion of innovations.

As for rolling forecasting it would be interesting to analyze whether rolling forecasting related consulting firms or system providers have actively promoted the diffusion of this innovation in order to push their own agenda forwards. How about imitation skills that are very important when closing the gap to competitors when they achieve some competitive edge in the business? Imitation is, according to Abrahamson (1991), more likely to occur in an environment that is uncertain, e.g. with administrative technologies (vs. production technologies) and with not-for-profit sectors (vs. for-profit). However, it is not a binary variant since uncertainty can occur to some extent. For example inside a for-profit there are many stakeholders inside the organization: employees, labor union, employer, owners, outsourced functions, each of which consists of individuals who think their own minds with different personal goals. Abrahamson clarifies the complexity by presenting the studies of Rumelt (1974), Chandler (1962), Tolbert and Zucker (1984), Baron, Dobbin and Jennings (1986), Meyer, Stevenson and Webster (1985), where it can be found out that extent of diffusion, company structures, city size, percentage of foreign-born population and period of years played a role in explaining the imitation-perspective dimension.

In the last couple paragraphs it has become evident that researchers need to be cautious before making any straightforward conclusions. One important and ultimately a very decisive inclusion to

diffusion theory is the willingness of companies to fail at times in order to finally succeed at some point of time. Analogical with the investment theory, innovations build up an entire portfolio of projects, which balances out the risk level of being left behind by competitors and finds as good pareto optimality level for profits as possible. Abrahamson (1991) puts it: "the cost of adopting and rejecting multiple fads or fashions in order to find a technically efficient innovation may be much lower than the returns from using this innovation."

2.3 Diffusion in Management Accounting

Laitinen (2001) pinpoints many new management tools such as just-in-time (JIT), flexible manufacturing systems (FMS), computer-integrated manufacture (CIM), total quality management (TQM), time-based management (TBM) and business process re-engineering (BPR) to keep in mind the change environment we're living in. According to him management accounting (MA) systems are followingly also under pressures to change, which has led to the rise of activity-based cost management (ABCM), life-cycle accounting (LCA) and balanced scorecard (BC). In an ever-changing and complex world the role of a management accountant has to bend to the environment.

In this chapter some of the key studies done within the field of management accounting change will be presented. Concentration is given to balanced scorecard and activity-based costing since those are the two topics that seem to have gathered most of the attention when considering newer MA innovations. Alongside other discussion that is generally dealing with management accounting change will also be considered.

Balanced Scorecard (BSC) studies

At the turn of the millennium, Kasurinen studied management accounting change in the balanced scorecard context. He published three different papers: first concentrating on the context of change (2002), second on the process of implementation (2001) and third on the process of implementation in a more detailed manner and how a new rule is encoded within the change context (2002).

On the context of change Kasurinen (2002) points out that in theory strategies and management accounting projects are consciously formulated and step-by-step accomplishments. However, in reality many kinds of contradictions emerge, which has led to an evolution of management accounting change model, originating from Innes and Mitchell's (1990) division of change factors into motivators, catalysts and facilitators. Motivators, e.g. a competitive market, have to do with the

change in general manner whereas catalysts, poor financial performance for example, can be directly associated with the change. Facilitators such as accounting staff and systems, in turn, play a hygienic and not an executor role in management accounting changes.

Cobb et al. (1995) developed the accounting change model further with bringing in leaders, who had a role as individuals in change situations, momentum as the state of expectation for continuing change and barriers that hinder the change as additional factors. Kasurinen synthesized studies accomplished in the 1990's and concentrated on change studies' findings regarding barriers of change, among which cultural, organizational, power distribution, internal commitment, perspective, education and sponsorship related problems existed. Therefore, in his longitudinal case study he categorized these barriers as confusers, frustrators and delayers, which can be seen in figure five.

Kasurinen's revised change model (2002)

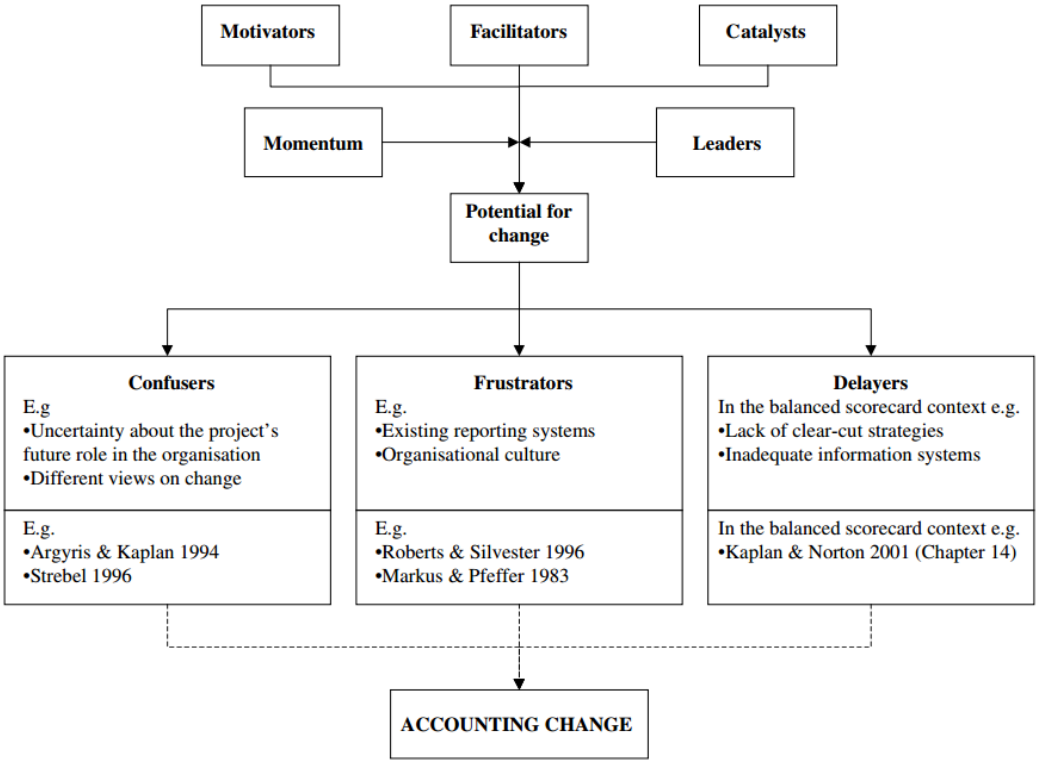


Figure 5: Revised accounting change model (Kasurinen, 2002)

As stated, the Kasurinen's model originated through a longitudinal case study in a strategic business unit of a multinational Finnish based metals group. Even though Kasurinen examined carefully the theory of accounting change and managed fruitfully to deepen Cobb et al.'s model from barriers' point of view, the results of that study should be interpreted with caution since it can be claimed that the approximately 100 hours spent on interviewing, discussing, and attending meetings in the

case organization during the empirical study is far too little an amount of time to be convinced of the study's empirical depth. 100 hours is practically less than three working weeks.

Specific findings concerning the barriers of the BSC project Kasurinen found were the following. Firstly as confusers the researcher pin-pointed the complexity of the project environment and an uncertain role of the balanced scorecard project. Secondly as frustrators there were things such as the significance of engineering culture and a financially sound situation both of which were directing the goals of the business unit managers. Thirdly as delayers there was a finding of difficulty in specifying the business unit strategy. For a layman this categorization of barriers of change seems a bit shallow: why was the financially sound situation categorized as a frustrator and not as a delayer and why was the difficulty in specifying the business unit strategy defined as a delayer and not as a confuser?

The analysis of the advancing forces uncovered that there were mismatches in the alignments of the case goals and advancing forces. Furthermore, the originals goals of the division management and the goals of business unit management perpetuated the management accounting change process. Again, a layman might think that the advancing forces had in effect turned into barriers of change. In nowadays' hectic business environments one might think why such a categorization is needed at all since accounting innovations might have multidimensional goals, directors operate with different backgrounds and personal goals, key personnel might be either barriers or advancing forces depending on how they're treated, IT system change might be a huge frustrator and a barrier but in the right hands a powerful tool for accomplishing things. Wouldn't a much more hands-on approach suffice with humane, technical, cultural, environmental et cetera aspects taken into account?

In Kasurinen' s case study of Balanced Scorecard, he found out that balanced scorecard building process by Kaplan and Norton (1996) did not pay enough attention to the context of change implementation. Another interesting finding is that accounting changes might be unsuccessful no matter how well they're managed (see Malmi 1997 and Anderson & Young 1999 in Kasurinen 2003). The revised accounting change model provides a framework that can be used when analyzing potential barriers that might hinder the change, which in itself, would be interesting to study further in other management accounting change situations, especially because of the inadequacy of the empirical part plaguing Kasurinen' s study. In addition, some advancing forces of the change might, according to Kasurinen (2003), work towards undesired directions, particularly in

situations where there are many different organizational levels involved. Therefore it should be decided early, what is really desired as for the role of innovations such as the balanced scorecard.

The second paper of Kasurinen (2001) concentrated on the process of implementation of balanced scorecard in three business units of a Finnish marketing and logistics company. The framework of process institutionalization by Burns and Scapens (2000) was used as a basis for the study, which means there were four sub-processes that depicted the institutionalization: namely encoding, enacting, reproducing and institutionalizing. Particular interest in Kasurinen's study was given to the change process, in which a new rule is introduced and a new routine is established in an organization. With this study, only 40 hours were spent interviewing, discussing and attending meetings in the case organization.

Kasurinen (2001) found out that the introduction of the balanced scorecard led only to a modification of the existing system rather than fundamentally change the way the organization was managed. The encoding phase revealed that the business unit managers were much more action oriented than strategy or deep business knowledge oriented in their way of working. Followingly the enactment process did not support fully the common idea of balanced scorecard and reproduction process focused on changing the planning system and not the management system. It seems that the study's conclusions were drafted somewhat hastily: it is a little bit naïve to think that a new management accounting system would change the deep thinking of existing management in such a short time, i.e. during the active research period from September 1999 to October 2000.

It can be argued that a management system can be planted as a seed and it starts growing, which lasts many years until the yield can be continuously harvested. Along the journey there might be managers who reject with the new system, managers who benefit from it, managers who use it in order to blow their relative power in the organization sky-high and managers who understand the developing process of big organizations to be a matter of many years. Kasurinen (2001), however, takes this into account by reminding us about evolution is likely in these kind of processes and that only the particular characteristics of new management accounting tools which suit the organization, will be implemented. This leads to a situation where a new management accounting idea does not reach its original goals and modifies the existing system instead.

The third paper of Kasurinen (2002) aimed at conceptualizing the encoding process related to institutionalization in organizations. In this research Kasurinen made a comeback to the second

paper's organization and its balanced scorecard implementation with a longitudinal case study. The active part of the empirical research lasted from May 2001 to January 2002 and this time Kasurinen really tackled the earlier two papers' shortcomings of too little empirical evidence; a further 125 hours were spent interviewing, discussing and attending meetings in the case organization in addition to training sessions and study of written material.

The encoding process was decomposed into four sub-processes: situational analysis, internationalization process, change realization phase and organizational memory. Practically situational analysis means pointing out routines needing a change, internationalization pointing out the factors influencing the change, change realization phase pointing out the causalities in the form of a strategy map and organizational memory documenting the tacit knowledge into explicit form. The bottom line of the third paper of Kasurinen implicates that it is worth trying to influence the institutionalization process in organizations already in the beginning within the encoding process.

Deeper observations found out that situational analysis could already include the initial intention of guiding the change process into desired direction, internationalization phase could be either speeded up with emphasizing tight connections between analysis and actual change or built upon a good level of commitment by using a more general approach. In addition, using too strong structures might hinder the provoking of tacit knowledge and management control should be strongest in the realization phase, which should lead to increased commitment and ensured alignment of the new rule with the management's views. Organizational learning was the key element found out be linked with the whole encoding process.

After the three articles of Kasurinen (2001-2002), he comments interestingly on the advantages and disadvantages of piloting and total implementation in the following way: piloting in one business unit may be analyzed originally in a more thorough way and later on the idea may be an easier one to sell further. Also the costs caused by mistakes are less costly and resources allocated to the project might be targeted in an efficient way. The cons of having a pilot include a situation where the piloting project has to compete with other projects and sometimes having too many ongoing projects might destroy the motivation and focus needed for successful implementation. Kasurinen also talks about the "net" of projects and connections between projects and emphasizes the knowledge concerning the entirety of projects, which might be more difficult in a piloting situation. Speaking for the total implementation is the idea of "being in the same boat", which boosts the motivation level. Moreover, sometimes abandoning the old systems with a sudden strike possesses

the greatest savings potential and earnings scenario for the organization. The total implementation is usually led by some central unit which diminishes business units' devotion to the new system. Also the drafting of all units' relationships might be too difficult which leads to a situation where the whole change bypass the target severely.

Wrapping up Kasurinen's extensive research, it can be said that the management accounting change model of Cobb et al. (1995) was further developed by extending the focus on barriers of change, which was followed by the usefulness of analyzing the institutionalization process especially during the early phase of management accounting change, i.e. during the encoding process. Lastly the organizational learning elements were highlighted within the encoding process. All in all, one has a conceptualized way of encountering management change process situations, which might be criticized or acknowledged like every model.

Any way it may be, one thing is for sure: understanding change processes from many different perspectives and at many different points of time will definitely be fruitful. The ultimate remarks of Kasurinen (2002), however, leave the reader bewildered. For example, Kasurinen states that "organizational structures and the competitive sphere seem to be in the continuous process of change, employees are moving in, out and within organizations, and timely information is seldom available." He continues:"Accordingly, in the future it may not anymore be appropriate to investigate management accounting change in terms of projects. Instead, accounting practices could be considered to be in a continuous state of change. In this process, new tools will emerge and be dropped out in a way, hopefully, best supporting other organizational purposes." Finally, Kasurinen pinpoints that "the learning process taking place during the change will often become at least equally important as the outcome" and that "borderline between management accounting and other organizational systems will probably vanish. In addition to changing the role of management accounting in organizations, these developments will undoubtedly open up new and interesting avenues for future management accounting researchers". Clearly the ideology of the "rolling stone gathers no moss" has been put a lot of value in itself.

Many organisms in the world, from human body to team sport tactics, need pauses in order to achieve developments. A layman could ask Kasurinen: "Isn't that the case with organizations as well? Do they not need to stop the stone every now and then and look for the direction where to throw the stone in the next suitable moment?" The point of this thesis' researcher is not to question the wise points, conceptualizations and factors Kasurinen has brought into light. The point is the

possibility of such a factor being present that plays the role of a value destroyer, who destroys value by either implementing new changes too hastily or disturbing ongoing changes with new overlapping changes. In other words, there is a black hole when it comes down to the discussion of organizations finding the right pace for management accounting changes. Isn't the brake pedal as important as the gas pedal in an organization and wouldn't it be optimal to find the shift pedal as well in order to optimally react to slow, quick, long-lasting or brief turns of the road?

Teemu Malmi (2002) has also studied the balanced scorecard, which belongs, just like rolling forecasting, to the portfolio of management accounting innovations. In his article "Balanced Scorecard – Mieti mitä haluat" (2002) (translated "Balanced Scorecard – Think what you want") he emphasizes the way of thinking that gives weight to the future in determining business indicators or measurements – not only gazing at what has happened in the history. Economical measurements show usually only the past, which means that use of only historical indicators lead to weakened decision making and management of the business. According to Malmi, it is really important already at the early stage of adoption of new systems to determine precisely what the desired end products the system produces are. He crystallizes his ideas for implementing balanced scorecard through the idea that instead of aiming attention to measurement problems first priority should be carrying out the strategy and making sure achieving those goals is always the starting point.

"What do we want" has a profound node also to rolling forecasting and its implementation: the top management has to clarify, what rolling forecasting brings to the company and how the system ultimately supports strategic targets. Toivanen (2002) conducted a survey amongst 500 biggest corporations in Finland about their balanced scorecard projects. The results proved that the top management commitment to the project was the most important factor for succession. Specific results can be seen in figure six below. As for rolling forecasting, a big trap might be indeed in the early stages of implementation, if it is interpreted only as a technical advancement of budgeting. It might seem as a not-so-huge leap into producing the budget in another way. In that case a new way of thinking might not be achieved and the new budgeting system might not serve the firm's strategy any better.

		Average
1.	Top management commitment	4,86
2.	Indicators connection to strategy	4,61
3.	Clarity of the indicators	4,60
4.	Both financial and non-financial indicators	4,41
5.	Realistic and challenging goals	4,31
6.	Personnel commitment to the project	4,20
7.	Training and informing	4,20
8.	Both proactive and following indicators	4,16
9.	Rewarding	3,92
10.	Project team line-up	3,89
11.	Wide participation in the organization	3,74
12.	Linking to team work	3,39
13.	Speedy accomplishment of the project	3,31
14.	IT-based reporting and support system	3,30

* (n = 143). (1 = no influence, 2 = less important,
3 = somewhat important, 4 = important, 5 = really important).

Figure 6: Balanced Scorecard – Rakenna ja sovella tehokkaasti (Malmi, Peltola, Toivanen, 2002), table revised and translated from Finnish into English

Regarding the balanced scorecard, Malmi et al. (2002) name one of its biggest advantages as the possibility of lightening or giving up budgeting. Interestingly, they compare BSC and budgeting in that way, that the balanced scorecard can replace budgeting's traditional tasks of goal setting and follow-up, but it cannot substitute operative planning and resource distribution within an organization. They pinpoint also two phases of the balanced scorecard project: first part is determining the role of the system inside the organization. Here the researchers denote two areas, namely the diagnostic part, which is supporting decision making, and the interactive part, which is supporting the operational actions. Ultimately they underline that top management might have many simultaneous and overlapping tools such as Shareholder Value –thinking, activity based costing, quality and environmental systems as well as process management. Different issues need a proper tool and it is not profitable to rely on one specific tool is what Malmi et al. found out. This discussion relates to rolling forecasting's fundamental role in the organization. Is it used for operational, goal-setting, decision making or other purposes?

Olve et al. (2003) found out that SAS tried an experimental phase before shifting into real implementation phase of BSC. They bring into light the idea that when people get encouraged to play with ideas and experiment things; the implementation phase gets softer and easier. As for rolling forecasting's implementation, one surely is wise to recognize there is a huge amount of tacit knowledge among those who have done budgeting. This leads to a very important question of what

is actually the optimal pace for such a change and how big a composition of people should be involved; a factor Kasurinen did not give great emphasis in his studies.

Olve et al. (2004) also commented on six topics that were dealt with when considering the successful balanced scorecard projects they had encountered. First starting point was giving the balanced scorecard an appropriate strategy map. Successful practitioners emphasized the map being a snapshot of strategy and that success cannot be measured only through financial reports. Visualizing the company's strategy and underlining those views that were easily agreed by employees were suggestible over a perspective in which surveillance and monitoring play major roles. Secondly the dialogue used inside a company has to be in line with the balanced scorecard concept; i.e. what issues are those that are tackled with the scorecard and with what level of depth and frequency. Thirdly, as early as possible, the roles of departments and individuals in relation to balanced scorecards should be well thought through; which persons are KPI owners, which overall performance owners, which objective owners and which business initiatives owners.

The fourth important point that Olve et al. (2004) focus on are the interfaces between the main scorecard and sub-scorecards, a context in which the understanding of relationships of those scorecards is much more important than performance indicators and financial outcomes being aggregated in an intact way. Moving on to the fifth point reveals the importance of personal incentives concerned with scorecard. People will not act towards desired directions if they do not understand what's in it for them. Bonus systems, rewards, personal growth and career ladder are all important pieces in this puzzle. The last, sixth point of the issues Olve et al. present is the IT solutions feasibility with balanced scorecard. At simplest, the data is retrieved into excel and from there on transformed into ready-to-read scorecards. The big notation here is that whatever the system is, it should serve the needs of balanced scorecard and not be thought as something that most definitely needs significant investment amounts in order to enable scorecard usage.

Activity-Based Costing studies

Malmi (1997) describes an example case project of a Finnish company that successfully implemented activity based costing in the early 1990's. After a ten months' project the company finished an ABC-model that did not cause any changes in the business operations: new and more precise cost information proved some of the products to be more profitable or unprofitable. Malmi discusses a major ideology here: does the success rate of a new accounting system depend on direct

influences on decision making or some other way? The case company deemed the project as a success because it diluted the uncertainty of the old system and pointed out that decisions made earlier were right. Respectively with rolling forecasting, it should not be taken for granted that rolling forecasting brings wonderful results and new business opportunities. Risk and uncertainty controlling are things worth mentioning when examining what results it is actually producing. In the society we have the police so do we measure its work only by how many burglars they caught?

Another case, this time an unsuccessful ABC-project, brings also things into consideration for rolling forecasting. Malmi discovered that one big company failed in ABC-project due to parallel project's burden and a personnel change, where the father of ABC-model left the company. Through this we have another issue to think about: what is the perfect timing for bringing in rolling forecasting into the company and how it should be resourced without spending too much?

Conclusion of other management accounting implementation studies

Laitinen (2001) studied the future of management accounting through a systematic approach in which he stated 48 different propositions under 12 different topics and conducted a survey among four different groups: Finnish polytechnic accounting students, Finnish university staff, Finnish managers, business controllers and consultants and foreign university staff. The agreement rates of these groups were measured on the 5-point Likert scale (1=totally agree, 5=totally disagree).

The most agreeing and highest level of consensus was achieved with the proposition "Need for employment development and education (learning) will remarkably rise". Other employee related propositions that marked high degree of agreeing were "employees will become the most important production factor" and "requirements of many-sided (versatile) know-how set for employees will increase". Other results that showed results below 1,5 were one strategy proposition, which stated "flexibility and rapidity will become primary objects for accounting measurement", and one value chain proposition, which stated "supplier performance and customer satisfaction ( ) become more important in performance measurement (Supplier and Customer Accounting, SCA)". The lowest levels of agreement were related to change management. Laitinen (2001) constructed the following brief description of the future company according to most agreed fifteen propositions:

"Uncertainty in the environment of the company will increase and rapid changes will emerge all the time. Products and technologies will go rapidly out of date. Competition will continuously increase. Flexibility and rapidity will become primary objects for accounting measurement. The timespan for strategic planning will significantly shorten. Systematic investment on research and development activities (R&D) will significantly increase in all industries. Need for accounting methods associated with R&D will remarkably increase.Employees will become the most important production factor.Need for employment development and education (learning) will remarkably increase. Requirements of many-sided (versatile) know-how set for employees will increase. The role of team work will become larger all the time.Need for new accounting methods to measure and improve wide-ranging business performance will significantly increase.Wide-ranging activity and process cost management will become significantly more important as a management tool.Supplier performance and customer satisfaction (quality) become more important in performance measurement.Networking of companies will become more and more popular."

Source: Laitinen (2001)

Some differences between the research groups arose; students disagreed that annual budgeting will be replaced with rolling and iterative planning whereas Finnish university staff clearly disagreed on propositions that promoted more weight in the future for networking and project type of management. Practitioners' group of managers, business controllers and consultants mainly agreed with the propositions more often than other groups, especially and interestingly with annual budgeting being replaced by rolling and iterative planning and project type of management, which is a controversial result to Finnish students' and university staff's opinions. The group of foreign university staff disagreed more often with many topics, the strongest objection pointed to a target proposition which suggested that "cost minimization through innovations will become the primary target". Yet, they approved more than others, that "wide ranging continuous improvement and associated benchmarking will become more and more popular".

As a conclusion of other MA studies one has many interesting questions at hand: What kind of features affect the decisions made when one is facing structural shift to a new kind of budgeting system? Of special interest to the researcher are questions like how political a decision making process is, how the change process is managed and monitored, what is done with the old control system, how much time is needed, how the older professionals in management accounting perceive the new systems and how capable they are to these changes.

3. Thematic of Budgetary Control in the 21st Century

In section three the modern budgetary control is discussed from a theoretical point of view. The idea naturally, though, is not to present the very basics of budgeting. However, in order to understand what today's budgeting is all about we need to comprehend two major things before digging deeper: firstly, the complexity of budgeting and secondly what kind of systems precede the cutting-edge systems and how they have succeeded. Roughly said, the general idea is that budgeting is a topic that needs to be understood further than just putting financial figures into a business plan, from which the interpretations of rolling forecasting will benefit in the later part of this thesis. This section will also provide support to the main research problem and painstakingly evaluate what kind of business world's problems budgeting is trying to tackle. Prior to these topics some traditional beliefs about budgeting have to be straightened out.

3.1 Complexity of Budgeting

Two major things about budgeting shall not be forgotten: (a) ultimately it is not an easy concept, not least because of its complex nature, and (b) it possesses so many weaknesses for nowadays' business use that many practitioners have looked and are constantly looking for other options in planning their businesses (Jyrkkiö and Riistama, 1996) . The first part (a) has more to do with the nature of inputs, which can take more forms than one might thing, and the latter part (b) with the problematic world of outputs in budgeting. One might call the a-part as an explanation for why budgeting can be so difficult and the b-part for what undesired results do we get with budgeting.

a) Budgeting is not an easy concept, not least because of its complex nature

In the first place financial figures and mechanical calculation rules occur to one's mind when it comes to budgeting. At this point of the thesis this narrow picture of budgeting needs to be addressed and broadened a little bit. E.g. Jyrkkiö and Riistama (1996) emphasize the humane nature of budgeting. They remind that budgeting works as a means for setting goals and ultimately for planning the actions that would lead to achieving these goals. They particularly point out that the attitudes of the people that are under the influence of the budget are the utmost important factors in developing successful budgeting methods. Secondly they state that budgeting doesn't exist only for cost control, it is also a tool for monitoring profits and costs and comparing them to the set goals.
Jyrkkiö and Riistama (1996) are surely not the only ones who express their findings about budgeting's complex nature. Also Hansen and Van der Stede (2004) exemplify budgeting's

multiformity with regard to its purposes in their article in Management Accounting Research. In their research they concentrated on four different roles – or facets as they say it – of budgeting: the short-term weighted operational planning and performance evaluation and the long-term oriented communication of goals and strategy formation. According to them, prior research has most often isolated these reasons and thus has not taken into account their coexistent use (there are exceptions, see e.g. Fisher et al. 2002). They also bring up the antecedents, i.e. different factors in the budgeting environment that generate the demand for budgeting, and used regression analysis to draw conclusions about their relations to these four reasons for budgeting. Same kind of an approach was used for measuring the performance of budget for various reasons. In between data was also gathered on several budget characteristics. In short, their study can be put in to a frame with figure 7.

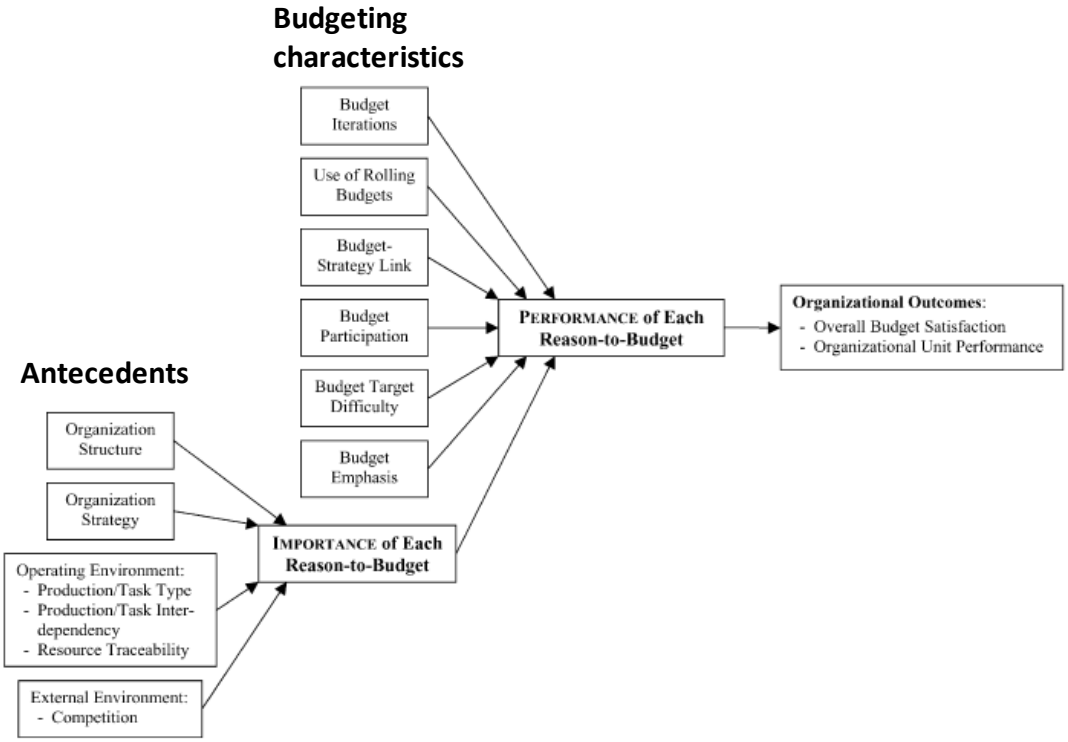


Figure 7: Hansen & Van der Stede's research "Multiple facets of budgeting: an exploratory analysis" (2004)

As it can be seen, Hansen and Van der Stede (2004) build up a continuum of several regression analysis (2SLS method) with the following findings and relationships between the antecedents, reasons to budget, budget characteristics and budgeting performance: Firstly, there is statistically significant coexistent use of several reasons to budget, only the operational planning and the communication of goals did not correlate (measured with Pearson correlation) adequately to draw that kind of a conclusion about their simultaneous use. Also all of these reasons were unique enough (i.e. the opposite for too identical) to support findings about each reason on its own.

Secondly, the perceived importance for four budgeting reasons have interestingly quite different antecedents: operational planning is more likely to be supported by the job shop production type whereas a very tough competition leads to an improved importance in budgeting's use for communication of goals and the diminished importance of performance evaluation, which in turn is supported by an environment where resources are more easily traceable. Interdependent operating environments and job shop production type also promote the need for communication of goals through budgeting. Strategy formation is supported in those organizations which are divisionalized, that pursue a differentiation strategy and that operate in competitive and job shop type environments.

Thirdly, the importance levels of these four budgeting reasons all have a positive effect on the performance of budgeting (budgeting satisfaction and organizational unit performance). I.e. the higher the perceived importance level was the higher the performance level was. As for operational planning, the performance increases with the use of rolling budgets and decreases through numerous budget iterations. Performance evaluation's budgeting performance tends to rise with participative target setting and with a big emphasis on meeting the budget. Logically rolling budgeting and numerous budget iterations decrease the performance of this reason for budgeting; rolling forecasting builds up uncertainty among managers. The performance increases for both communication of goals and strategy formation through a tightly link between budgeting and strategy and with an emphasis on meeting the budgets. The opposite effect can be found with budget target difficulty which is not surprising.

Finally, Hansen and Van der Stede (2004) discover that an improved performance on all of the reasons for budgeting increase budgeting satisfaction while an improved performance on almost all (except for communication of goals) reasons have a positive effect on organizational performance.

There is more to it by Lukka (1988), who stated already in the 1980's how budgetary biasing is indeed an important part of organizational life. In order to get a full picture of variations between budgets and actual results he reminds of the three different kinds of budgeting errors: 1) Estimation error, 2) Budgetary bias and 3) Real inefficiency and ineffectiveness. The first and last error types are normal since no one of us knows the future and no one of us is perfect. The second error type, budgetary bias, is very interesting because it adds a very humane feature to budgeting: budgeting figures are intentionally twisted to serve other needs than predicting the realistic outcomes in the future. Lukka's paper's clarifies budgeting's complex and humane nature in the following figures.

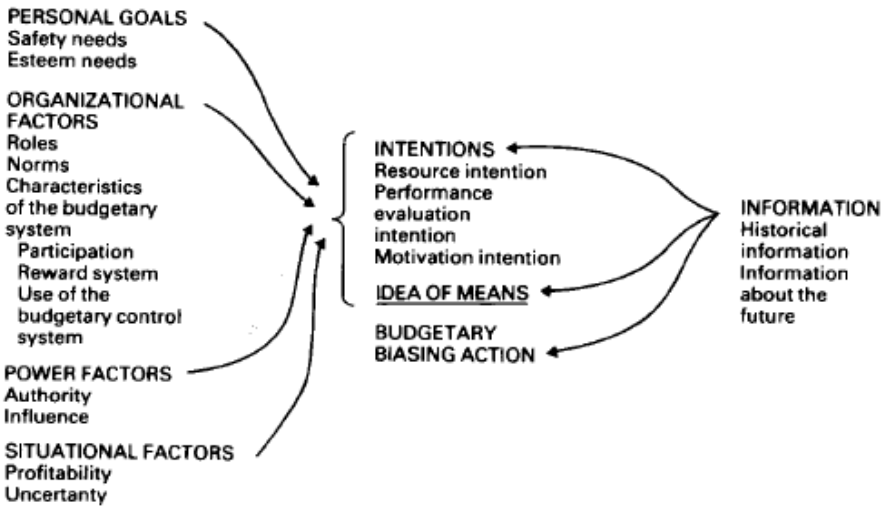


Figure 8: Intentions and determinants of budgetary biasing (Lukka, 1988)

The complexity of budgeting can be broadened a little wider through a research report by Neely et al. (2001). According to them budgeting and planning support shareholder value in three ways: 1) improved management, 2) improved market perceptions managing and 3) improved company performance. The major point here is that even this kind of a straightforward board game type theoretical setting with its starting point (budgeting and planning) and finish line (shareholder value) there are many intermediate stopping points that have influences on each other, which is depicted in figure 9. How might rolling forecasting actually fit into this picture?

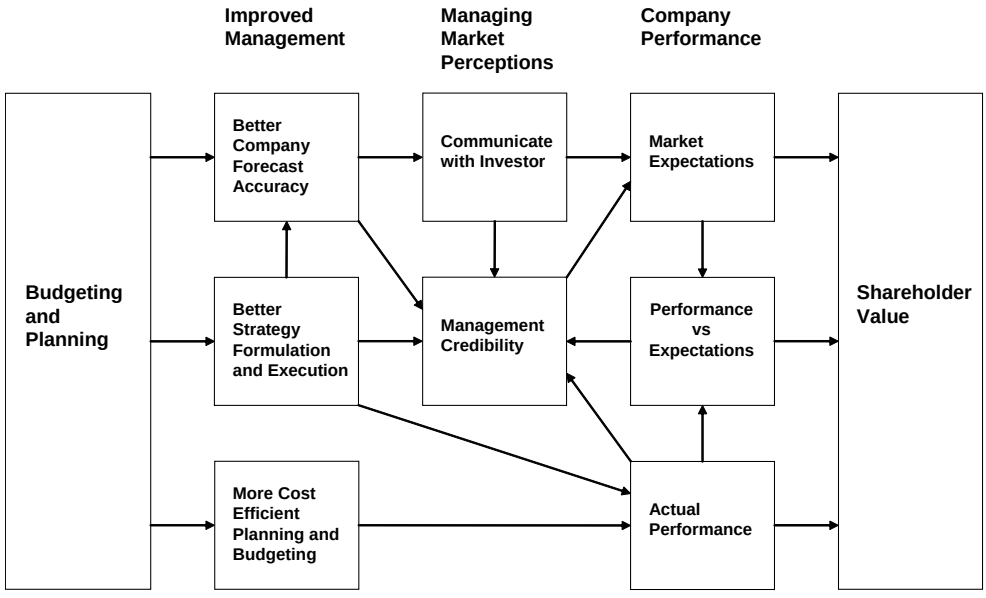


Figure 9: Theoretical link for planning and budgeting and shareholder value (Neely et al. 2001)

How might rolling forecasting behave in terms of these peculiar humane characteristics of budgeting, is an enticing question, to which the empirical part of this research provides an answer.

b) Budgeting possesses so many weaknesses for nowadays' business use that many practitioners have looked and are constantly looking for other options in planning their businesses

Bourne et al. (2002) emphasize the dramatic downfall of traditional budgeting as a concept through a presentation of a survey by the Economist Intelligence Unit: as much as 80 percent of companies are dissatisfied with their planning and budgeting processes. Similar findings are not few: e.g. Hansen et al. (2003) pinpoint Comshare's survey in 2000 with 154 financial executives, out of which as much as 130 identified 332 frustrations with their organizations' budgeting processes. Also flaming quotes that depict the dissatisfaction with the present budgeting methods have been said: the former CEO of General Electric, Jack Welch, condemns budgeting as "the bane of corporate America" while the former CEO of German discount chain Aldi North, Dieter Brandes, finds budgeting completely superfluous (Rickards, 2006).

Not only the practitioners but also many researchers have called into question if budgets are needed at all in today's business life. For example Wallander (1999) suggests an outright abandonment of the traditional annual budgeting, which he condemns staggeringly expensive and still living only because of "the budget bureaucratic system", which means all those people who are afraid of losing their power and weakening their positions if budgeting is abolished. Hope and Fraser (1999) call budgeting a severe handicap in circumstances where customer loyalty is fickle, product life cycles are shortening, competitors can spring from anywhere at any time, and the best people are attracted to organizations that promote managerial freedom and responsibility. Further interesting remarks from Hope and Fraser state that for large corporations budgeting is a barrier both to change and innovations and that several big companies such as Volvo Cars, IKEA, Borealis and Handelsbanken are all managing successfully without budgeting. These critics are not few: Schmidt (1992), Newing (1994), Gurton (1999), Vuorinen (1998) all bring in the same major message about budgeting just like Arterian (1998) does; budgeting is inefficient, ineffective and incomprehensible.

Not every researcher, however, has attacked present budgeting methods in such a straightforward manner like Wallander (1999) or Hope and Fraser (1999). For example Ekholm and Wallin (2000) adopt a milder approach to budgeting in their article "Is the annual budget really dead?". They suppose that part of the vast criticism towards traditional budgeting could be classified as a hyperbola because of the interest that management accounting consultants possess in this setting. Still, as they also note, something concrete, more than just talk, has happened in the real business life for this phenomenon to be condemned only consultant hype. Accordingly, they also bring forth

some Swedish companies just like Hope and Fraser (1999) did. Their survey with large Finnish companies implies that budgeting in its traditional form is far from becoming extinct since few companies are planning to abandon it. Still they find that a lot of criticism has a very firm ground even in those firms that are likely to stick to budgeting.

Now that the boiling dissatisfaction of traditional budgeting methods has been unveiled, it is suitable to list more precisely the hard work of both practitioners and researchers. Here by traditional it is meant all the budgeting systems that organizations have used for some time; i.e. they can be newer or older methods as long as they are or have been an intact part of the organizations budgeting system. The following list presents a compilation of many authors' findings (Durfee 2006, Rickards 2008, Neely et al. 2003, Hope & Fraser 1999, Libby & Lindsay 2007 and 2010).

- Budgets are unrealistic and lack trust.
- Budgeting is political.
- Budgets are out-of-date when they finally got approval.
- Budgets add little value.
- Budgets emphasize costs, not value creation.
- Budgets have a weak link to strategy.
- Budgeting misguides managers.
- Budgeting encourages managers to budget gaming.
- Budgeting is time-consuming and thus costly.
- Budgeting is processed in a too detailed manner.
- Budgets support hierarchy and strict control relationships.
- Budgets make people feel undervalued.
- Budgeting is a barrier to change.

All of these accusations will be mirrored to rolling forecasting in the empirical part of this study. Stemming from this discussion for this thesis it would be very useful to gather some information about whether rolling forecasting should be introduced as a stand-alone solution or would it be better off if it's strongly linked to the traditional way of budgeting in an organization. Should it even be called budgeting or something else?

Be that as it may, all of the above evidence taken into account, it is no wonder that companies are either trying to improve their budgeting processes or totally striving for the option of abandoning budgeting totally. After this section it is only rightful and logical that one's interest turns to the evolution of the budgeting process. Surely improvements are always welcome but what has already been done and with what success? The following chapters provide answers to these questions.

3.2 Evolutionary steps to present State

In this chapter the short history – one can say so with human kind living less than one hundred years with the concept being really used all around – of budgeting is introduced analogically with how the business environment has changed during the last century. Later emphasis will be given on individual budgeting tools and what the research field and practitioners have found about them.

For the sake of this thesis it is not so important to find the foundation year of budgeting or exact dates in the history for different tools since this is not an accounting history thesis. Broadly one can say that the first budgets were crafted during the time when human being majorly concentrated on agricultural matters as a key driver for economic and population growth. Hope and Hope (1997) present the history of budgeting with a glimpse of an eye in figure 10 below.

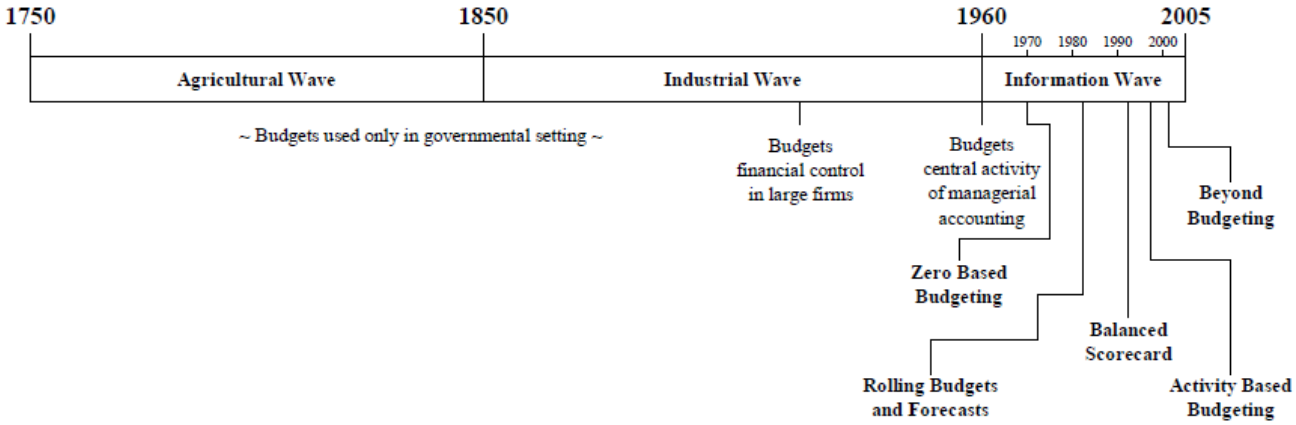


Figure 10: History of budgeting (Hope and Hope, 1997)

As it can be seen, budgeting has converged to its annual type of form in corporation type of setting somewhere during the industrial revolution from the late part of the 19th century to first half of the 20th century. It was around the 1960's, at the dawn of the information age, when the traditional type of budgeting had achieved a central role in companies' accounting activities and thus a role in how organizations were managed. Various tries to improve the budgeting process, like zero-base budgeting and activity-based budgeting, have taken place, without success or offering answers only to some sub parts of the total picture according to some scholars (Hope et al. 1999).

3.3 Attempts to answer the Information Wave's Needs

In the next subsections the study brings forth different starting points of organizing a company's budgeting process, giving further answers to the evolutionary steps. Where do all these and why

many of them have been labeled nowadays as inefficient in facing the today's business challenges? To understand the concept of rolling forecasting utterly, this background needs to be examined so that special characteristics of rolling forecasting can be discussed later on in section four.

1) Zero-base Budgeting (ZBB)

The basic idea of zero-base budgeting is budgeting from the ground up, as if the budget was being prepared for the first time and that no expenditure escapes the careful examination. Of course that kind of an idea has been invented much earlier (Bastable, 1892; Higgs, 1914; Young, 1915) than what figure 10 proposed for evolution for budgeting but it was during the latter half of the 20th century, during the information wave, when scholars increasingly nominated this kind of budgeting behavior as "zero-base" (Pyhrr, 1973; Wildawsky and Hammond, 1962; Anthony and Reece 1989).

According to Burrows and Syme (2000) the ZBB can be distinguished between a strong form and a weak form of the concept; the strong form starts from base zero and involves some mechanism for assessing costs and benefits whereas weak form involves critical approach to earlier expenditure levels combined with some review process. They underline that the weaker form of ZBB has taken the dominant position of what nowadays' is understood with zero base budgeting.

Peter A. Pyhrr (1973) can be nominated as the modern age father for ZBB. Even though a budgeting system has to be implemented in a case-by-case manner, Pyhrr identifies that these basic steps are always included in the process: 1) identifying decision units, 2) describing each decision unit as a decision package, 3) evaluating and ranking all these packages by cost/benefit analysis to develop a budget request and profit and loss account and 4) allocating resources accordingly. According to Pyhrr, decision packages are either mutually exclusive or incremental. How a decision package, a key factor of ZBB, can then be practically formulized? This can be seen in Pyhrr's (1970) figure 11 below. The decision packages are specific activities that have goals, plans for realizing these goals, tie the unit to certain costs and have some consequences if not realized. Suver and Brown (1977) point out a budget director at Southern California Edison who defined decision packages followingly: "Called a "decision package", this summary (operational plan) usually includes a statement of the expected business result or purpose of the activity, its costs, personnel required, measures of performance, alternative courses of action, and an evaluation from a corporate or organization-wide perspective of the benefits of performance and consequences of nonperformance".

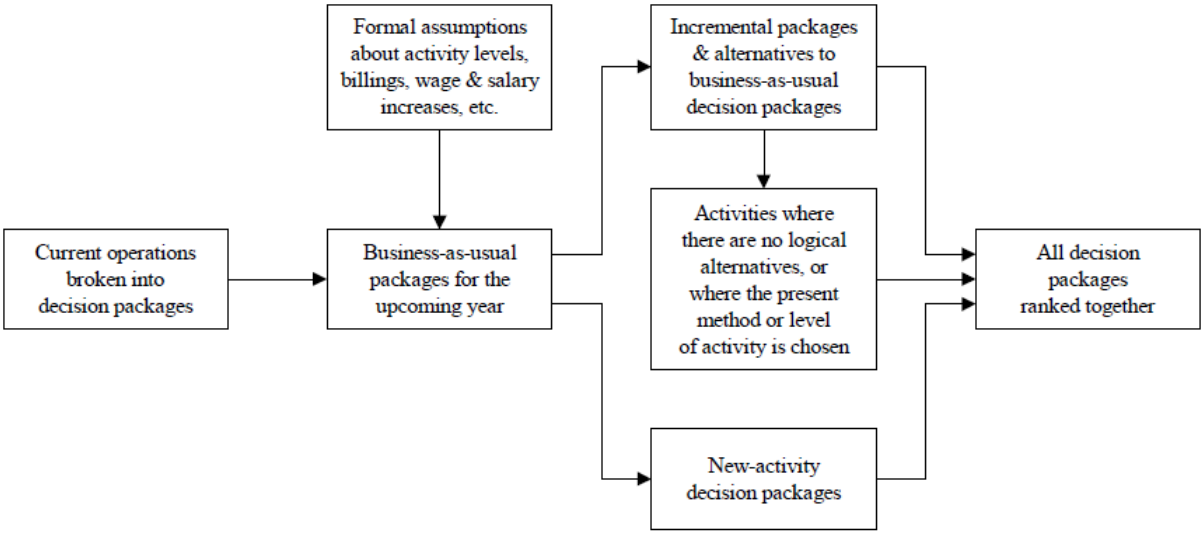


Figure 11: Formulation of decision packages (Pyhrr, 1970)

In actual life how widely used and with what pros and cons ZBB is packed with? In the research field there have been quite mixed results of how well ZBB manages in its task of handling organizations' budgeting processes. Jimmy Carter, once governor of the state of Georgia and president of the US, was an early adopter of ZBB and said: "Zero-base budgeting requires every agency in state government to identify each function it performs and the personnel and cost to taxpayers for performing that function". The father of ZBB, Pyhrr, claimed there were 100 users of ZBB. Also other writers pointed out at least tens of users and that many articles, books and parts of books had been published. The major advantages can be summarized from what was found out in the survey of state of Georgia's usage of ZBB: 1) Establishment of financial planning phase prior to budget preparation, 2) improvement in the quality of management information and 3) increase in budget involvement of personnel at the activity level. Similarly, the major disadvantages were the next: 1) increase in time and effort required for budget preparation, 2) contention that the new system had not significantly affected the allocation of funds and 3) ineffectiveness of the decision-package ranking approach to meet changes in the level of funding. (Suver and Brown, 1977)

The usefulness of ZBB might be debatable since at the time of this thesis, in the 2010's, no recent discussion is going on as to ZBB and so far the working life of this thesis' researcher and discussions with colleagues and peer network have not had a slightest sign of ZBB. The hype phase of ZBB has been passed but surely it has not disappeared totally since many school and university books are having dedicated ZBB sections. Dean and Cowen (1979) concluded that in some situations corporations are using ZBB selectively when there is a special need for cost stabilization or budgeting process problems, however the tremendous resource craving and the skills needed

from top management set the bar very high since in nowadays' organizations training budgets and number of personnel in support functions are squeezed towards minimum levels. Suver and Brown (1977) emphasize that it is up to each organization to analyze whether it has adequately top management support, talent, resources and suitable operational environment for ZBB program.

2) Balanced Scorecard (BSC)

A more concrete step towards Kasurinen's comment discussed already in chapter 2.3, which stated that "borderline between management accounting and other organizational systems will probably vanish", was taken by Kaplan and Norton already at the beginning of the 1990's. They introduced the balanced scorecard, the key idea of which is linking financial targets to operational targets, which consist of customer and internal business process point of views. Learning and growth are behind achieving these operational targets so this management accounting tool seems quite humane in its nature. The metrics, therefore, used in this tool are both financial and non-financial and they should consist of only limited number of measurements that are considered vital. At the center of this, of course, are the company's strategy and vision. Kaplan and Norton state that "the balanced scorecard is well suited to the kind of organization many companies are trying to become. The scorecard puts strategy and vision, not control, at the center." (Kaplan and Norton, 1992)

The fathers of BSC developed their scorecard during the 1990's to make the concept more graspable. In 1996 they published the following figure in their book "The Balanced Scorecard".

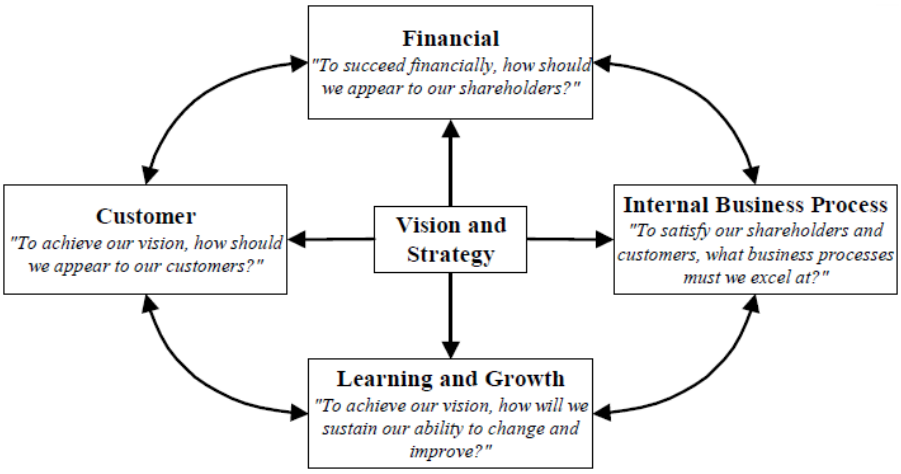


Figure 12: The Balanced Scorecard as a strategic framework for action (Kaplan and Norton, 1996)

The early problem of BSC was related to the fact that BSC was understood to be a tool that rather explains the company's strategy and vision and throws a glimpse of what is needed and is really missing out on the managing aspects of the company's day-to-day living and giving practical

guidance in implementing the tool successfully. The connections between strategy, operations and the yearly budget and short-term measurements seemed to be on a quite fickle level. In order to alleviate this issue the authors (Kaplan and Norton, 2001) introduced a step-down procedure for ensuring linking strategy to budgets. Figure 13 below clarifies this procedure with four action points.

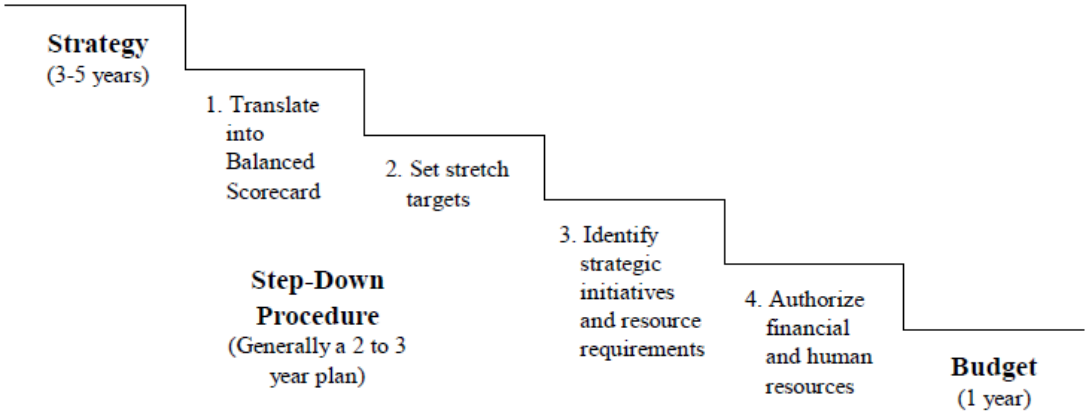


Figure 13: Linking strategy to budgets in a step-down procedure (Kaplan and Norton, 2001)

Kasurinen (2001 and 2002) criticized that the BSC implementation process can be dampened by difficulties in defining business unit strategies or by business people being too much action oriented rather than strategy oriented. Of course Kaplan and Norton should recuse themselves from testifying how their model works but it can be stated that they agree with the claim of BSC functioning best and most often in organizations that are driving the process of organizational change due to unprofitable and unsuccessful status of current situation.

3) Activity-Based Budgeting (ABB)

Activity-based budgeting, like the name suggests, concentrates on linking real causalities between organization's outputs, activities and resources. According to Cooper et al. (1998) ABB is activity-based costing in reverse. In activity-based costing the organization recognizes firstly resources and resource drivers, then what activities are performed with the resources that were used and lastly activity cost drivers allocate the activity costs to outputs, e.g. products, product lines, customers, chains or projects. In ABB the outputs are the beginning point and costs are traced through activities all the way to resources, i.e. how much resources are needed to produce the needed activities which ensure certain output level. Links between strategy, planning and control and budgeting process' more precise nature can be seen in Brimson and Fraser's (1991) depiction below.

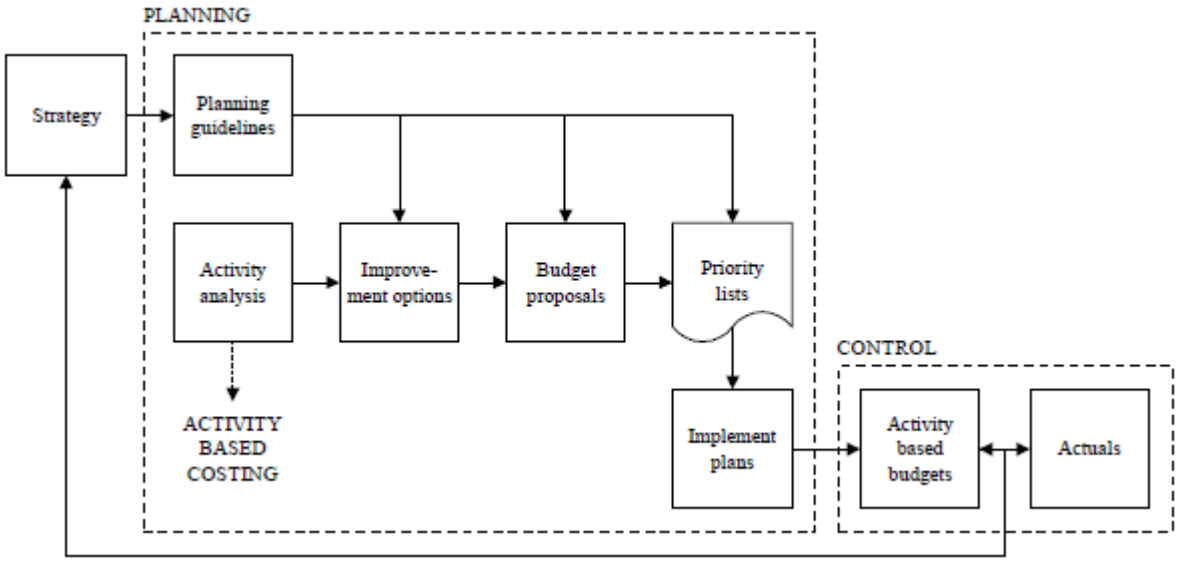


Figure 14: the Activity-Based Budgeting process (Brimson and Fraser, 1991)

At the turn of the millennium a refined model, the so-called Closed-Loop model, of ABB has been provided by the Consortium for Advanced Manufacturing International (CAM-I). This model has a better matching with operational and financial planning, which are staged into two steps in the budgeting process. Organization's strategy is the beginning point, which determines some levels of demand, some activities that are used in order to be able to answer that demand and lastly some resources are used in order to keep the activities running. That is called operational balance. (Sandison et al., 2004)

In the latter stage, achieving the financial balance, the needed resources are attached with some cost levels, non-activity related costs are taken into account and finally some formal budget is created with all the knowledge combined. There are five different levers the organization can adjust when needed: 1) demand quantities, 2) activity and resource consumption, 3) resource capacity, 4) resource cost unit and 5) product/service prices. (Sandison et al., 2004) Here opens the possibility for doing some ceteris-paribus analysis as for these five levers, which in itself is very valuable to an organization. Hansen et al. (2003) demonstrates this followingly in figure 15.

Again, like with many models, in theory they sound more than reasonable and that is the case with ABB also: who would not be interested in understanding causalities between resources, activities and thus profitability of certain areas of interest? Avoiding infeasible plans and pointing resources to more effective uses might be lucrative promises of ABB as well as promoting departments' cooperation through the horizontal weight of the process.

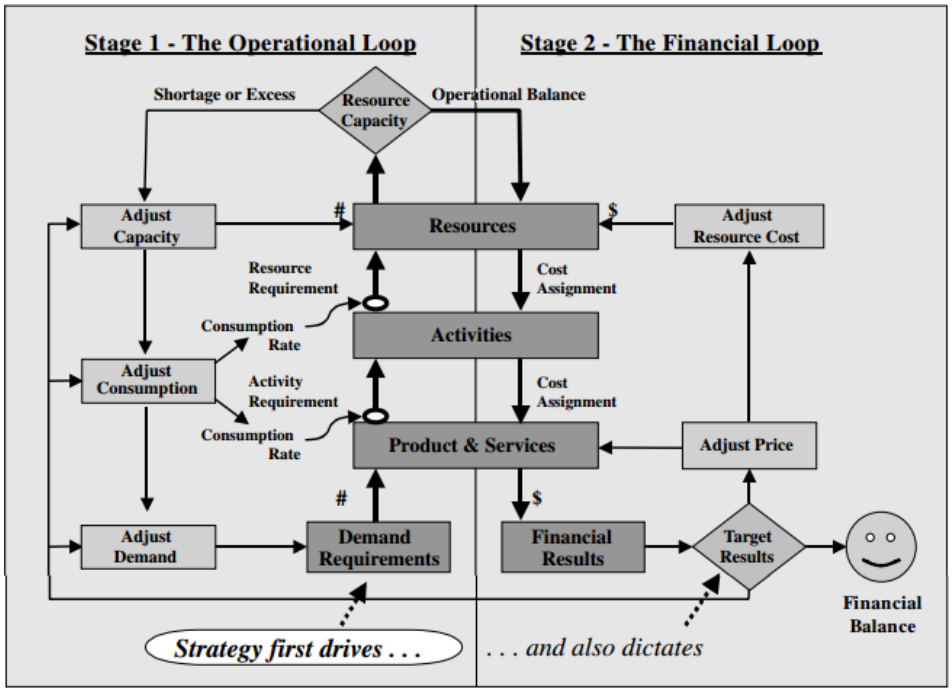


Figure 15: Implementing the CAM-I Activity Based Budgeting Closed-Loop Model (Hansen et al., 2003)

There are danger zones in achieving all these upsides of ABB: driver information availability might be insufficient or false and real causalities might be of debatable nature or very cumbersome to achieve. Also situation where the organization does not have an existing activity cost accounting system does not provide a very firm ground for ABB. With scarce staff resources the company might end up calculating superficial information for activities and drivers. The end-result is something the business people nor accounting people really do not assimilate, especially when top management falls short in supporting ABB as a planning and budgeting process.

4) Beyond Budgeting

At the turn of the millennium, all of those downfalls and the problematic nature of nowadays' existing budgeting methods, those that were partly introduced in earlier part of this chapter, functioned as a breeding ground for something new: the beyond budgeting model. This model has its backgrounds from such authors as Hope and Fraser (1999), who, through the CAM-I (Consortium for Advanced Management, International) Europe, initiated the Beyond Budgeting Round Table research project. The project studied organizations that had abandoned budgeting, developed and refined the model for managing without budgets and prepared a list of lessons learned for understanding the vital points of implementation. In comparison to traditional budgeting, Hope and Fraser (2000) present the following figure that clarifies the major differences.

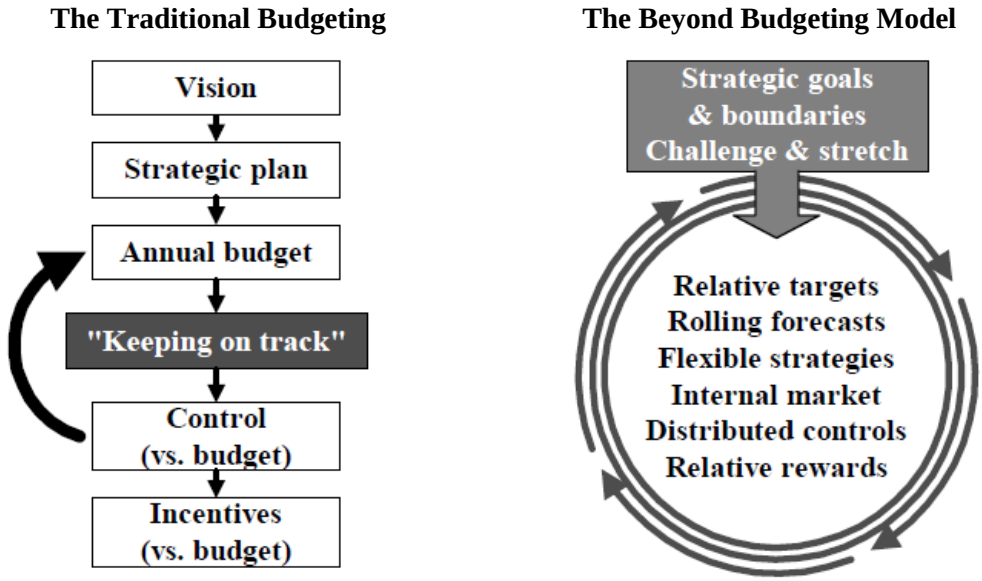


Figure 16: The Traditional Budgeting Model versus the Beyond Budgeting Model (Hope and Fraser, 2000)

Key starting points for the beyond budgeting model are based on some assumptions: 1) budgeting is still relied on as a managing method since it really has not been challenged, 2) shareholder value is best driven by future cash flows which are strongly reliable on company's intangible assets which in turn are best taken care of by most talented and capable managers and 3) that budgets are reinforcing command and control which focus on short-term financial numbers and thus totally miss the point of boosting the most important drivers for shareholder value. In addition and quite sensationally, Hope and Fraser (1999) denote budgets are "the biggest roadblock (both systemic and mental) to the future". They bring into light many successful examples such as Svenska Handelsbanken, Volvo, IKEA, SKF, Borealis, Schlumberger and Boots as companies that have abandoned budgeting and diverted successfully into managing without them. In summary of the lessons learned within these companies' management models in the information age Hope and Fraser state in the beginning of 1999 the following six points.

1. **Budgets are barriers:** Budgeting is a barrier to competitive success in the information age. Abandoning it is entirely feasible, the alternatives are better, and it is not particularly difficult to achieve.
2. **Ten principles and practices:** Just dismantling the budgeting system will not be effective unless the changes in management principles and practices are seen as an integrated approach with as much emphasis on the "soft" cultural issues (such as empowerment) as on the "hard" process issues (such as management reporting).

3. **New steering mechanisms:** Alternative steering mechanisms can be used to manage the business more effectively. For example, management information and control is improved with better anticipatory techniques (such as rolling forecasts) leading to more effective control and better decisions.
4. **Organizational levels:** The management model can vary according to the needs and complexity of a business and between different levels within an organization (e.g. group head office, business units, and responsibility centres).
5. **Building the new model:** The organization, culture and values are important. They take time to develop and should be appropriate to the competitive pressures of the business. E.g. decentralization, process-teams, and knowledge management systems need to be considered.
6. **Implementation:** Careful thought needs to be given to implementation. This issue will occupy much of our attention in 1999.

The above statements may sound like piece of cake since academic scholars and practitioners are surely aware of budgeting's disadvantages. One might easily ask, what should be done if budgeting is to be abandoned. In short, the authors Hope and Fraser (1999) list ten very practical principles and practices followingly: 1) Target setting should maximize long-term value and beat the competition, not the budget. 2) Strategy shall be devolved to the front line and made a continuous and open process, not a top-down annual event. 3) Growth and improvement should be aimed by challenging people to think radically and not incrementally. 4) Resources ought to be managed from the lifetime of an investment perspective rather than on the basis of short-term (budget) allocation. 5) Coordination would be best organized by emphasizing managing of cause-and-effect relationships across business units and not by concentrating on departmental budgets. 6) Cost levels are better challenged based on whether they add value or not, not whether existing levels should be increased or decreased compared to last year. 7) Rolling forecasting can be useful in managing strategy and making decisions, not only to keep things on track. 8) Measurements and controls should concentrate on a few leading and lagging indicators, not on a mass of detailed (historical) reports. 9) Rewards are better tied with company and unit-level competitive performance, not personal financial targets. 10) Lastly managers should have more responsibility and freedom to act, instead of the option of micro-managing them.

In order to give a turn of speech to those holdouts out there and to avoid one-eyed perspective, it's good to bear in mind that some researchers have been quite critical on the courageous abandoning of the budget. For example Libby and Lindsay (2007) found out that even though the interviewed practitioners were suffering from many deficiencies of budgeting, they were majorly reluctant to deem it as dispensable. Their study's starting point was to examine budgeting against those claims made by Hope and Fraser with their beyond budgeting model. For example beyond budgeting model suggests that budgets are used in a rigid way. This accusation did not get support from this

Libby and Lindsay's study. The bottom line of their study was that beyond budgeting slashes budgeting too harshly and that budgeting is a process which can be used either in a productive or unproductive way and for many the golden path will lay in improving that process since it is totally unrealistic, according to interviewed practitioners' survey answers, to assume such an intact part of nowadays' businesses will be waved goodbye with the snap of the fingers.

Other steps towards understanding beyond budgeting as a management model can be taken by viewing what other scholars or practitioners have stated. For instance, Robert S. Kaplan introduces (Bogsnes, 2009) Bjarte Bogsnes as one of the best individuals in shaping finance departments from the controlling and beancounting office to the company's value-creating office. Bogsnes himself describes Beyond Budgeting as a revolution, the purpose of which is liberation from dictatorship, micromanagement, number worshipping, calendar periods, hierarchies, secrecy, sticks and carrots, and all the other management myths about what is the best for achieving great performance in teams and organizations. The following sentence by Bogsnes (2009) describes finely beyond budgeting's core essence and what the model is trying to achieve in another way than Hope and Fraser did.

> *"A philosophy concerned more with leadership than with actual budgeting,*
> *Beyond Budgeting is about releasing capable people from the chains*
> *of the top-down performance contract and enabling them to use the knowledge*
> *resources of the organization to consistently beat the competition.*
> *With intellectual assets accounting for 80 to 90% of shareholder value today,*
> *people really are every organization's most valuable asset."*

Bogsnes (2009): Implementing Beyond Budgeting. Unlocking the Performance Potential

In chapter two McGregor's theory X and theory Y people was introduced. The link with Beyond Budgeting, according to Bogsnes, is that theory X, where people generally dislike their jobs and responsibilities, have low ambitions, and prefer to be directed and controlled, is still much alive in nowadays' world. Beyond Budgeting is designed to kill the theory X in practice. It longs for leadership, i.e. designing environments which are suitable for success through transparency and trust, and claims it is the myths and beliefs of traditional managements that need to be tackled. Many titles in the finance department are Control accessorized like "Financial Controller", "Controller", "Business Controller", "Group Controller" et cetera. Does control bring performance, is the question Bogsnes (2009) is asking us and discriminates control into three different categories.

Control the right picture of the present state of the business	**Control over what people shall do and what they shall not do**	**Control of the future**
Quality Accounting Quality Reporting Effective Processes Understanding of causalities	Detailed Budgets Tight Mandates Detailed Job Descriptions Rigid Organizational Structures Bonus Schemes	Plans and Forecasts with numbers

Table 2: Control in three different categories (Bogsnes, 2009)

Bogsnes emphasizes the first type of control is always desired through quality accounting and reporting, whereas controlling what people shall do and shall not do and controlling the perceived picture of the future with management methods of today are those to be abandoned. So actually we've come down to the conclusion that it is important to determine what to control and by what means, in order to maximize shareholder value. The major argument here with the beyond budgeting model is that there are in many places outdated methods and they need to be replaced by more appropriate management systems. Since the beyond budgeting model is clearly more about philosophy and company culture than specific tools, it's clearly worth pinpointing a couple of case examples of how things can be organized, in order to comprehend the entirety all the way from broad principles to exemplified details.

Bogsnes introduces that in Handelsbanken, international Swedish banking industry company, management model was completely changed in the early 1970's: Jan Wallander established a strongly decentralized model, in which budgets, centralization, secrecy and individual rewards were thrown into the garbage bin. He organized the bank branches with great authority, launched a flat organization structure with a few layers only, put customers on the focus instead of products, established a collective profit-sharing system, nourished value-based culture and abolished budgets. Since those decisions, Handelsbanken's financial performance has been staggering with low costs providing great profitability, in comparison to other bank companies. It started driving performance through commonly understood measurements, i.e. return on capital and cost-income ratio and their comparison between bank branches in a transparent way. Bogsnes verified that the company story was intact through many observations and discussions and amazingly the success recipe stated above was openly discussed and available for copy-cats. This change occurred during only a couple of years, not of course with a snap of fingers, and it has lasted up until today as a commonly agreed success factor in the bank's history.

Another case, Borealis, a leading petrochemical manufacturer nowadays, was established in 1994 with Neste and Statoil each holding 50% shares. The new company had to develop new management practices and on the other hand had the opportunity to do so. One of the core values stated was "one company – new, different and better". That may be one reason that escalated the criticism for budgeting's existence in the company. In the beginning stages of the company, a couple of budgeting rounds were spent doing hard work and planning financial forecasts for 1994 and 1995, two budgets that finally totally missed the actual figures. Thus more integration related merger synergies were needed and a program called "management effectiveness" was launched with CEO's encouraging words, that he expected the unexpected. During those two budgeting rounds a Norwegian controller was fed up and suggested: "what if we don't budget at all?". That was a comment that ignited the later revision of the management model. The program team started finding out if it would be possible as part of enabling more efficient management.

The initial question was why the company should abolish budgeting. After examining the matter, the company found out that it wanted to improve financial management and performance measurement, decentralize authority and decisions and simplify the process and reduce time spent budgeting. During the change process, as Borealis learnt that Volvo had dropped budgeting and recalled that Jack Welch had stated budgets were the bane of corporate America,the inspiration rose.

The budget was used for:	**We achieve the same through:**
High-level financial and tax planning	Quarterly rolling financial forecasts
Target setting	Targets on the balanced scorecard
Controlling fixed costs	Trend reporting Cost targets where and when needed Activity approach
Prioritizing and allocating investment/project resources	Small projects – trend reporting Medium projects – varying hurdle rates Major strategic projects – case by case, the budget was never a tool
Delegation of authority	Use existing mandates/authority schedules

Table 3: The Budget Alternatives (Bogsnes, 2009)

Weaknesses listed of traditional budgeting resembled those stated in chapter 3.1 but no alternative tool for it was in sight until the program team succeeded in asking themselves the ground-breaking question: "why do we budget?". This is what led for further development in understanding that

instead of all-in-one comprehensive tool the company needed a set of tools that would replace what budgeting had always tried to achieve. The following table captures this.

Along the journey, the realization of new tools brought much more than just what traditional budgeting had produced. Figure 17 clarifies how budgeting's outputs were replaced with new tools.

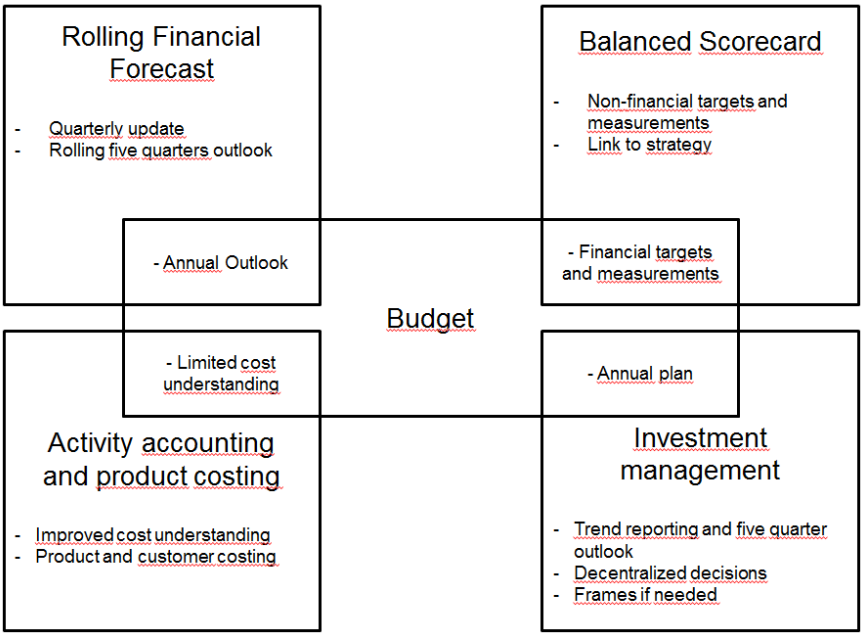


Figure 17: More for less (Bogsnes, 1995)

The rolling forecasts were designed through the mindset "roughly right" instead of a lot of details since the purpose was not cost control but high-level financial and tax planning which should be achievable very quickly and by simple calculations. It's worth noticing that the beyond budgeting model is not the same as rolling forecasts, which is the most common misunderstanding of beyond budgeting, according to Bogsnes. As for target setting, balanced scorecard financial KPIs were the ones that replaced budgeting. The company adapted a measure called "the relative ROCE", which accounted for the historical relationship between market conditions and return on capital employed. This turned the eyes of business units to those operations that they could really affect; investments, divestments, working capital, fixed and variable costs, margin rates and volumes. There were no excuses anymore and decision making was strongly decentralized to business units whereas common processes and support functions were strongly centralized. In the same time, benchmarking across production plants proved to be a very powerful means of motivating all units performances: those that were on top did not want to lose their position and those that were low in rankings tried everything they could to avoid being looked down on. Also trend reporting was one intact part of the entire reporting. Activity based costing was established in order to understand

costs better and to some extent Borealis succeeded in that even though there were system related problems in that project. Regarding investment management, Borealis categorized investments into three categories according to their size and dealt with them differently: small projects were considered in the same way of operating costs, medium projects were decided case by case and pictured through the forecasts and major strategic projects were managed totally separately and did not have any linkages to short or medium-term management tools. Rewarding and bonus systems were linked to those targets mentioned in the scorecards. Coming all the way with these new tools, Borealis had made the jump into the unknown: living without traditional budgeting.

During the process, Bogsnes states, the following lessons have been learnt as for making this kind of change happen in a company.

- The vision could have been stated in a more profound way.
- HR function should have been involved from day one and not later on due to the change being much more than a finance department exercise.
- Too much weight on KPIs could do harm to the strategic objectives.
- Borealis made the change almost totally without any supporting software and it managed in doing so because the concept was very strongly anchored. In their experience, systems such as SAP could only restrict the outcome.
- Designing too much does not follow beyond budgeting's core essence. Issues should be solved once they appear.
- Controlling costs through budgets might in fact increase the costs and once released from the chains of budgeting, a company is more capable of lowering the costs.
- It takes many forecasting rounds for business units to understand that in beyond budgeting forecasting is just forecasting and not proposals and funding.
- Abolishing budgeting can boost the image of finance function as business partner instead of being the control freak department.

Having become acquainted with beyond budgeting's ideas, it is clear the academic field would need more research about the performance those companies are having that have implemented beyond budgeting. Similar studies to that by Hansen (2011), in which rolling forecasting, beyond budgeting and activity-based budgeting were found profit increasing alternative methods to traditional budgeting, are needed in addition to such case studies provided by Bogsnes (1995). Many companies do see value in it since they are adopting it. What will be rolling forecasting's role? Will there be a budgeting evolution or total management revolution? After winning the first round of criticism in the 1980's by Johnson and Kaplan (1987), is it so that we're experiencing the Second World War for management accountants who should fight for their existence?

4. Rolling Forecasting

As mentioned earlier in this thesis, rolling forecasting hasn't attracted management accounting researchers' attention to a great extent, like with activity based costing or the balanced scorecard. Beyond dispute this is a consequence from the fact that rolling forecasting is still quite a recent phenomenon; in Finland strategic consultants denote it as a trend (e.g. Nivaro, 2001). Yet, not all of the management accounting scholars has been obedient in following their broadcasting silence. Rolling forecasting has been the topic of some master's theses in the 21st century (Forsell, 2003 and Kuisma, 2002), in which the development of the planning and controlling systems of the case companies have been the research setting. Furthermore, some studies and numerous articles and seminars have brought the topic of rolling forecasting forth in the 3rd millennium (e.g. Öhrnberg, 2008; Lynn and Madison, 2004; Myers, 2001; Hansen and Van der Stede, 2004).

Possibly the misunderstandings that regard rolling forecasting as ordinary budgeting, which is only carried out more frequently than the old-fashioned yearly budgeting, have damaged the scholars' interest in this topic. In the other extreme, which was learned in chapter 3.3, some see rolling forecasting as the same as beyond budgeting, which is also incorrect. Another explanation would be that rolling forecasting should be tailored so precisely to meet a company's exact needs that creating generalizations wouldn't be necessary. The latter is not a good argument since research is not always striving for generalizations as we see in chapter six, where the methodology of this thesis is examined. Like stated in the introductory part of this thesis, the aim is to answer this shortage of studies regarding rolling forecasting.

Nevertheless, it was "the speed of change in today's economy" as Montgomery (2002) put it and thus the emerging demand for answering this speed as well as the practitioners eagerness to sell ideas, growingly in the 1990s, that ignited the extensive movement to make the most of rolling forecasting (e.g. the beyond budgeting round table by Hope and Fraser, 2003). The researcher presumes this goes hand in hand with the revolution of the information systems and improved skills of users of those systems.

4.1 Basic Concept

Since rolling forecasting does not have a broad backup from the academic field a rather managerial approach is taken and a consultant-based how-to-do-rolling-forecasting is brought forth. The idea of

this structure is to have the opportunity later on to mirror the empirical findings bilaterally both to the theory of diffusion and to practice-based consultant-type instructions. Although a complete theoretical perception of rolling forecasting is missing, the basic concept of rolling forecasting can still be laid out.

Rolling forecasting is not as a new phenomenon as one would think at first thought. The basic idea has been there already in the 1950s (Clarke 2007), which is to construct a budgeting process, where at certain predestined intervals, for example every month or every fourth month, new financial figures are integrated into the business of the organization. A budget or a financial plan is the output of rolling forecasting and the planning horizon is often determined to be longer than one year. The use of rolling forecasting does not exclude the use of the traditional yearly budget; a company might use both in a parallel fashion (Ekholm & Wallin, 2001). The key idea of rolling forecasting is to turn the glance from the past to the future. This is done by integrating as real-time figures as possible into the budgeting system and accordingly adapting the business to the changed situation. Usually the near future plans contain more accurate figures and the far future only rough estimates. (E.g. Jyrkkiö and Riistama 2000; Bergstrand 1997; Drury 2004)

The fundamental idea of rolling forecasting is to construct a budgeting process, where at certain suitable intervals, e.g. quarterly or monthly, company aligns the budget to meet the newest business figures. The forecasting period can be for example from 12 to 18 months. Rolling forecasting, however, does not exclude the use of annual budgeting, as one first might think. Pivotal is bringing more real-time information into the budgeting system and in that way developing a good structural custom of reacting to the new figures. The near future of the forecasting horizon is normally planned in as detailed a manner as possible and the end of the forecasting horizon is viewed quite broadmindedly. (Jyrkkiö & Riistama 2000; Bergstrand 1997; Drury 2004)

Jeremy Hope (2006) presents a typical five-quarter rolling forecasting timetable in the following way in figure 18 below. As end of quarter one is approaching, other already planned quarters need an updated view and an additional quarter needs to be added so that the view ahead matches always five quarters. More weight will be put in the near quarters than to last forecastable quarters. Additionally, Hope underlines that adaptive organizations use forecasts to support strategy reviews, rather than simply check where they are against the annual plan.

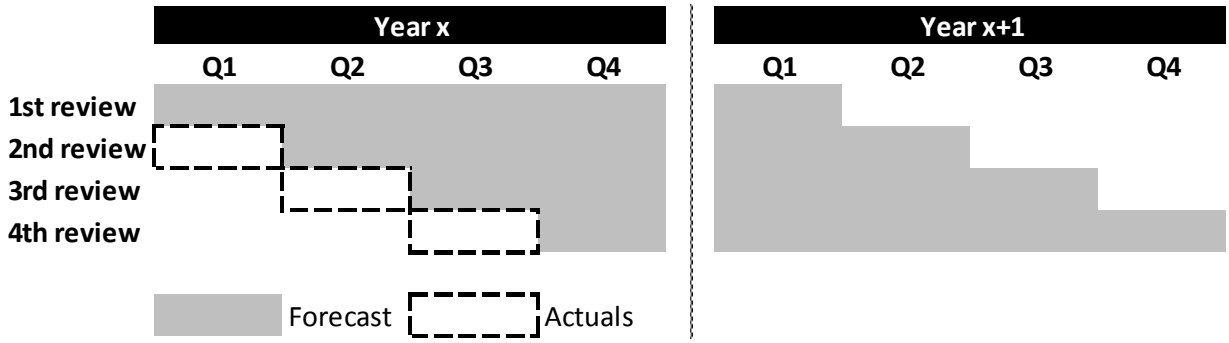


Figure 18: A five-quarterly rolling forecast (Hope, 2006)

Lately a lot of discussion has been devoted to the changed role management accounting experts possess in companies (Pierce B. 2001; Granlund and Malmi 2002; Burns, Ezzamel and Scapens 1999). Although this paper does not concentrate on the new role of management accountant but rolling forecasting, it is good to bear it in mind when treating new budgeting practices like rolling forecasting. Here the study discriminates some of the change to have a technical, like high-end data systems, and some a humane, like new ways of thinking, nature.

It is obvious that the above-mentioned basic idea of rolling forecasting cannot be separated from the revolution of information systems. With these thoughts of planning more frequently with a real understanding of business realities it is evident that new advanced information tools play a central hygiene factor role in delivering what rolling forecasting promises to be. The major point here is that the basic idea of rolling forecasting is that it changes the way how the CFO, management accountants and their subordinates work. In theory the information system tools should bring the figures as comfortable as possible so that the rest of the time could be used in concentrating on learning the business and bringing the best possible view of the future. Change, like everyone knows, isn't always easy. The examination of these technical (information systems) and humane (the employees) capabilities in realizing rolling forecasting into action is too captivating a subject to be skipped in the coming empirical part of this thesis. Therefore in this thesis, interest is being forwarded towards whether rolling forecasting more of a technical or a humane change in the company's budgeting process?

A strategic consultant, Nivaro (2001), provides a good example of how consultants sell the idea of rolling forecasting. He claims that the central idea of rolling forecasting is that decision making can take a rather normative form and that looking forward becomes preferred over examining the past. A fixed budget guides the management to look too intensely at the financial goals, like turnover,

that were set earlier for the financial year. In that case the return for the investments in the company can fall because of sub optimization. Department managers may accelerate or press brake regarding their turnover with unreasonable selling campaigns or by slowing down the delivering of products to serve their own interests, i.e. rewarding plans. The rolling budget guarantees that the goals are set many times and in that way prevents irrational decision making and creates a better understanding of the business's causalities. (Nivaro 2001) What is interesting at this point is that practically this view of goal setting is quite on the contrary to what beyond budgeting suggests in chapter 3.3.

A brief look into what managerial publications have promised about rolling forecasting may give us a look at the question, why so many companies have adopted rolling forecasting. The main goals of rolling forecasting are mentioned to be rational decision making, concentrating on the future rather than on the past and creating a better understanding of the company's causal business relationships. In addition, rolling forecast is said to prevent the company from sub-optimizing actions by updating the goals many times during the fiscal year. In other words, rolling forecast should function as a safety check for the company to ensure that it is moving in the right direction. (Clarke 2007; Nivaro 2001) All these promises sound very nice indeed but in the meanwhile they raise a lot of valid questions that not only bother but also interest the researcher. Firstly, is there a particular reason for rolling forecasting that stands out as a remedy for improving the business above other reasons? Secondly, how people perceive these goals of rolling forecasting? Do they concretely see them or do they evaluate them as consultant jargon?

One other interesting reason for rolling forecasting could stem from the corporate governance recommendations that have blossomed after a world widely increased interest in taking care of the company's investor relations. In Finland for listed companies for instance, the corporate governance recommendation from 2003 says word-by-word the following: "The good corporate governance of a listed company requires a reliable, up-to-date disclosure practice. This supports well-founded price development of securities subject to public trade and promotes trust in the securities markets. The information published by the company permits shareholders to evaluate the functioning of the corporate governance of the company and make reasoned decisions concerning their holdings." What interests the researcher a great deal is linking this issue with rolling forecasting's role the company. Therefore it is justifiable to ask, how big a role does rolling forecasting play in dealing with investors' longing for information.

From a stock exchange listed company's point of view rolling forecasting could be perceived as a tool for building a matter-of-fact investor communications and gaining image related targets. Helsinki Stock Exchange's recommendation for listed companies' corporate and governance, as of December 2003, underlines in instructions point 12: "Listed company's good governance requires reliable and up-to-date information sharing. This supports correctly done price setting and promotes trust in the stock market." As one interprets these sentences, it becomes clear and evident what kind of weakness the yearly budgeting process possesses: steering the business and meeting the information needs may become impossible if the business environment takes an unexpected path. As companies try to keep the core business strengths alive and change and react dynamically in correct places the question on the tip of our tongues is obviously: "Does rolling forecasting fit only into changing environments or also into traditional and static industries?"

Commenting on the above recommendations, in practice investors are really interest in the outlook of capital expenditure. Going back to chapter 3.3, which introduced the case of Borealis and beyond budgeting which included rolling forecasting as one of the tools chosen for managing the company, capital expenditure intentions of managers initially rocketed sky high once rolling forecasting was implemented. This was because managers believed it would influence their approval ratings. That did not happen and investment decisions were taken over by a quarterly review committee, which made sure the managers calmed down and gradually adjusted their forecasts to reflect a more realistic view, which in turn is more suitable for the investor communication purpose.

As for the advantages of rolling forecasting, Ekholm and Wallin (2001) state that it does not have the mandatory and stifling image as the annual budget since it is flexible and does not rely on obsolete figures, which should lead to more timely allocation of resources. As for the cons, they denote creating a feeling of uncertainty among managers because of ever-changing outlook and difficulty in designing a fair system for bonuses.

In order to further disentangle the basic concept of rolling forecasting some more practical viewpoints of organizing such a system, firstly during transformation and implementation of rolling forecasting and secondly during continuous usage of the system, are next elucidated.

4.2 Transformation and implementation

Glader et al. (1996) surveyed Swedish listed companies and got results that 40% of the companies indicated that changes to the budgeting process are under way. The main change in their results was that rolling forecasts will play a bigger role in the future. Similar results were found by Ekholm and Wallin (2001), who studied conservative companies' and radical companies' opinions on several statements concerning rolling forecasting, although the researchers remind that willingness to change an existing system in reality is different from willingness to express favorable comments about the change in a questionnaire. It's worth noticing that those percentages in the table below are representing those answerers who replied 4 or 5 on the scale and that the rates were quite high except for the claim that rolling forecasting conveys a feeling of uncertainty.

Statements about rolling forecasts	*Frequency of respondents who circled points 4 and 5 on the scales*	
	Conservative companies	*Radical companies*
a. 'Can replace the budget'	61% (n = 140)	87% (n = 23)
b. 'Not so mandatory'	48% (n = 139)	83% (n = 23)
c. 'Increases flexibility'	47% (n = 139)	57% (n = 23)
d. 'Better variance reports'	56% (n = 140)	74% (n = 23)
e. 'A feeling of uncertainty'	31% (n = 140)	17% (n = 23)

Table 4: Replies to statements about rolling forecasting (Ekholm and Wallin, 2001)

Now that it has been clarified that the ground is suitable for rolling forecasting to take steps into organizations, as has already happened in many places, it is rightful to ask, in what kind of environments it would be most suitable. Nivaro (2001), is considering this matter, whether rolling forecasting is more feasible for turbulent or static operational environments, and reminds that competitive advantage is born by reacting quicker than competitors within the same market. A couple of logical deductions point out that rolling forecasting could be beneficial also in those environments where future is more foreseeable. Firstly, it is difficult to estimate, when traditionally stable businesses turn into a more volatile mode, e.g. through law changes, company acquisitions or IT revolution. Secondly, doesn't a company in stable environment still want to ease its budgeting process and notice even small changes in the market better than competitors do? Association for rolling forecasting that comes to the researcher's mind, is a modern baby diaper which shows a visible signal when it's time to change. Rolling forecasting should function in the same way: it should tell the company's management when it's time to change direction.

Management is indeed the beginning point of changing existing budgeting methods into something new and what kind of message is sent from management's desires to employees. Nivaro (2001) remarks that the key issue, along with the decision on how management wants to follow critical topics, is how people are motivated and rewarded for actions that push the company towards realization of strategy alignments. Instructing, follow-up and reporting are vital parts of implementing rolling forecasting according to Nivaro, but rewarding system cannot be totally left out of this change because otherwise employees might continue working as they did before. It is not an easy task, since the beyond budgeting model introduced in chapter 3.3 does not recommend linking rewarding or bonus systems with rolling forecasting and due to the finding of Hansen and Van der Stede (2004) that use of rolling forecasting decreases budgeting performance for performance evaluation.

Myers (2001) arguments in his article "Budgets on a Roll" that fundamental changes are not necessarily needed when implementing rolling forecasting. He reminds that there's a certain momentum for other budgeting process improvements for the company once it launches rolling forecasting. According to him, it is a good time to question many existing procedures and in the same time equip rolling forecasting with a promise that the budgeting process will become lighter. However, there needs to be a good balance with number of changes and work burden; the changes should ease the workload in the long-term since rolling forecasting never should be the same as budgeting but with four rounds a year! Herein lies one of the major points to be understood concerning rolling forecasting implementation: most of all, it is a cultural change and a change in the way of thinking. Each organization is different so careful and sensitive analysis of the optimal change speed should be analyzed: sometimes incremental changes work the best, sometimes it benefits the company to completely overhaul the existing budgeting process with one explosion.

Even though we're dealing with culture and mindset of accounting and other professionals, of course the existing IT system infrastructure needs to be taken into account. However, Lynn and Madison (2004) state it is vital to understand that software in itself never replaces the analyzing need for data and need for professional leadership. Budgeting or rolling forecasting needs to be seen as a part of all-embracing and comprehensive management system, in which rolling forecasting related software works only as a supporting tool, according to the researchers. Helsinki School of Economics professor Ikäheimo stated in his lecture on 20.3.2006 that companies often regard IT investments and costs as unavoidable. As for rolling forecasting, already in the beginning phase it is worth assimilating that additional personnel and IT resources are needed and that there's a risk of a

prisoner-warden relationship being present if the company orders such software that needs frequent updates and consultation services from the external partner.

Clarke (2007) suggests several key principles that should be taken care of in order to improve the possibility for a successful transformation and implementation process of rolling forecasting. He issues the following list of dos and don'ts.

- Keep it free from the influence of personal contracts and incentives. Of course, there may he sales targets or goals for cost reduction, but don't assume they will be achieved. However, if there are events planned which will help achieve those goals - the effect of those should be included.
- Information from outside the organization is essential. Without it the forecast is simply a recast of what is already known and therefore provides little benefit for those involved. Also, it is difficult to forecast out to a meaningful horizon without using indicators of demand from outside the organization.
- Forecasting is a core activity and should be resourced accordingly.
- The forecast should have an owner - and those maintaining the forecast should also be its users.
- Always test the forecast to see whether it is influencing behavior as intended and whether better decisions are being made.

4.3 Continuous Usage

Neilimo and Uusi-Rauva (2005) criticize rolling forecasting regarding its craving for resources and time. Continued question to that comment could be that of course properly designed management systems take time but the more accurate and fruitful comment would be whose time rolling forecasting should take? It is quite obvious that forecasting cannot be something that is dealt only with accounting personnel and management. At the most optimal situation those that are the best ones to forecast would also benefit from the effort put into forecasting by being more on the track of their business areas. Abramson (2002) states in his article "The Perfect Forecast In The Eyes of a Rep" that the best interest group for sales forecasting are the sales managers. He does not suggest putting forecasting work on the shoulders of actual salesmen or –women because that would endanger a critical process, the sales process, in the company. Rolling forecasting is embedded with this kind of threat where also other critical processes like production, logistics, customer service, purchasing, financial statements, strategy process and IT consider the requirements of rolling forecasting rather offending than helpful. As for the continuous usage of rolling forecasting, this is one of the biggest turning points for whether the company will be successful of unsuccessful. No

matter what is decided to do with rolling forecasting, it should help your life instead of being a repetitive burden.

What comes to accounting people's suitability to rolling forecasting, there's a wide and common discussion in the professional field that in the future accounting professionals are not needed to the same extent as before in areas such as financial controlling, accounts payables or receivables, tax accounting or bookkeeping. This is due to more efficient shared service centers and more automatic accounting IT software. The area that needs more accounting professionals in the future, is business controlling. This is due to the value-adding human analysis which cannot be copied by computers and due to the vast amount of data available for analysis. Myers (2001) brings up Cisco Systems' vice president Jonathan Chadwick's comment that eventually everything is based on the demand for the company's products or services and that cannot be forecasted accurately with any kind of systems or methods. In that kind of setting accounting professionals that can stand uncertainty and see it actually as a possibility, will rise in demand.

It is the combination of these two factors, determining those who should forecast and accounting people that shouldn't be bean counters but dynamic business minded controllers, which will eventually lead to battles won and not lost in the journey of establishing rolling forecasting as a management tool. On the one hand, forecasting should be done in the right places and by dynamic people who learn their parts. Let's say there's only 10% reduction of input needed every time forecast rounds double, which leads to a situation in which only 65,6% of work is needed at the 16^{th} round of forecasting. If four rounds are done every year, this efficiency rate is achieved only in four years. On the other hand, the saved 34,4% of working time can only be utilized if the employee is eager to deal with new challenges and to learn about new areas and issues. Traditional bean counter would end up tweaking the forecast to the last decimal, and the value-adding possibility is vanished in the same second.

Additional spice to the forecasting discussion is given by Abramson (2002) who states that during his over 35 years career dealing with sales he has not seen any changes in the methods used for forecasting. According to him salespeople only know one form of forecasting, which is the sales force composite, where in a bottom-up fashion sales are aggregated from all sales nodes. In the following table below Abramson presents that there surely is no lack of methods that could be used.

1.	Analogous forecasting
2.	Assumption base model
3.	Atar model
4.	Box-Jenkins models
5.	Customer/market research
6.	Decision trees
7.	Delphi method
8.	Diffusion models
9.	Experience curves
10.	Expert systems
11.	Exponential smoothing
12.	Jury of executive opinion
13.	Linear regression
14.	Moving average
15.	Neural networks
16.	Nonlinear regression
17.	Pre-cursor method
18.	Scenarion analysis
19.	Simulation
20.	Trend line analysis

Table 5: Alternative techniques (Abramson, 2002)

In addition to determining the most suitable forecasting techniques, continuous usage of rolling forecasting requires many assumptions, timetables, instructions, templates and report formats in order to enhance the performance of budgets for operational planning, an outcome Hansen and Van der Stede (2004) found out about rolling forecasting's effects on companies. Another affair to be decided is the rolling time horizon, which according to Hansen and Van der Stede's US located survey proved to be most often three months.

What other things do we know about research concerning the effects rolling forecasts have had or should have on organizations that have implemented it? Hansen (2011) found out that rolling budgets should lead to an increase in the volatility of the firm's output, an increase in the firm's total expected output and to an increase in pay-for-performance sensitivity. Hansen's paper also indicates that rolling forecasting generates a set of complex interactions which yarns for empirical work that could solve more issues between functions. Neely et al. (2001) promise that rolling budgets and forecasts will result in more accurate forecasts and Rappeport (2008) reminds that rolling forecasting is the remedy for CFOs who do not like surprises through faulty forecasts since they might end up being fired. Nevertheless, this leads to a problem that performance predicted by the original budget tends to evaporate in the updated forecast rounds, which endangers managers' commitments to the originally launched expected performance levels, as Hansen et al. (2003) put it.

5. Summary of the theory part

Due to the ever increasing speed and dynamism in the business world there is a clear need both in the academic field as well as among the practitioners to gather knowledge on how management controlling system innovations spread on micro-levels within organizations and among its members. This thesis concentrates on such an innovation by examining the diffusion of rolling forecasting in the Finnish Retail Ltd with the research question "how does rolling forecasting function in everyday operations, how does it bring the aimed results and how are the results viewed in different levels of an organization?". Before moving on to the case study, wrapping up the theory parts of diffusion, budgetary control and rolling forecasting is more than welcome.

As stated in chapter two, diffusion is the social process by which an innovation spreads through a social system over time. During that process one is dealing with elements such as decision making, risk taking and rate of diffusion, both on organizational as well as on individual level. As for the innovation itself, relative advantage, compatibility, complexity, trialability and observability determine how fast the innovation could diffuse. Those are the characteristics of the innovation. As for what could be done in order to affect the pace of adoption, different boosting strategies might be implemented. Changing the perceived attributes, utilizing champions, changing the norms through peer support, using entertainment and activating peer networks are examples that could have an effect on the adoption process.

The emphasized point here is the bridge between organizations and individuals. In case something is decided only on the highest level of the organization, without understanding the above-mentioned attributes of the innovation and bypassing some change strategy, the innovation might end up being a fad instead of a true diffused innovation. Like stated in chapter two, it is most often the secondary phase of adoption, adoption by individuals, which causes the most problems for organizations. For the big picture to be full enough, it is also important to understand that one is dealing with knowledge management: i.e. different schools such as the information school and the behavioral school. That means there are also individuals in the top management that might perceive personnel and learning through different values and beliefs, in different cultural environments and adapt their initial angle of approach accordingly.

Kimberly synthesized vast amount of diffusion studies until the 1980's and noticed that there is a lack of managerial innovation studies due to difficulty in measuring their performance. He found

out that studying personal characteristics of administrators and other members provided consistent results whereas studying the attributes of organizational structures did not lead to other than ambiguous findings as for diffusion of innovations, that is, without the contingency theorists' goggles. That is also what Abrahamson brought to the table in chapter 2.2 in his writings about major shortcomings of the basic theory of diffusion. He reminded about the downfall of the US economy in the 1970's and 1980's, a period in which business world unsuccessfully adapted sticking to old ways of doing or leaning to keep-it-simple ways of turning things around. Complexity is what needs to be answered and that cannot be done with simple formulas.

Abrahamson tackles the basic theory of diffusion accordingly by underlining that organizations cannot always freely and independently choose to adopt innovations or that they surely sometimes are not relatively certain about their goals. Abrahamson goes deeper by widening our traditional efficient-choice perspective for the diffusion and rejection of innovations: in the forced-selection perspective nothing is imitated but the adoption of an innovation is coming from outside, in the fashion perspective the organization imitates innovations presented by outsiders who aggressively promote the innovation whereas in the fad perspective the organization imitates actively what others have done, through self-reasoning. The inextricable tangle is finished when considering that the perspectives can be parallel, contingent matters may always have their influences and that sometimes failings are needed in innovation project portfolios in order to learn and get something useful successfully through. This all underlines that the single-case company needs to be examined thoroughly in order to understand history, people, structure, culture and thus causalities concerning the innovation under interest.

In order to grasp with this complexity, management accounting scholars have studied diffusion of management accounting innovations, majorly concerning the balanced scorecard and the activity based costing. Management accounting change model, in which change had motivators, catalysts and facilitators, by Innes and Mitchell (1990) was developed further by Cobb et al. (1995), who introduced the leaders, potential for change and barriers of change into the model. After the turn of the millennium, the model was refined by Kasurinen who categorized the barriers of change into confusers, frustrators and delayers. Kasurinen also discussed management accounting change through Burns and Scapens' process institutionalization framework, in which the change process begins with the encoding sub-process and continues with the enactment, reproduction and institutionalization sub-processes. The organizational learning elements were highlighted within the encoding process that was split into further sub-parts of situational analysis, internationalization

process, change realization phase and organizational memory. Ultimately, Kasurinen emphasized that competitive and dynamic environment might lead to a situation in which learning process will have value in itself and that ongoing change will narrow the gap between management accounting and other organizational systems. Malmi emphasized that before problem solving careful analysis of what is really wanted from the management accounting system is needed. Laitinen, in turn, found out that top management support is the most important single matter that is needed in order to achieve successful adoptions of innovations, which are likely to become more frequent in times of increasing uncertainty, flexibility and all in all more dynamic operating environment.

This thesis does not deny the need for new and more adaptable ways of encountering changes and system implementation situations. However it claims boldly, that valuing change in itself, in other words giving the idea of "rolling stone gathers no moss" a positive connotation, will create a totally new dangerous position in nowadays' business world: the value destroyer. Kimberly already stated that innovation has had a positive meaning in scholars' and practitioners' mouths. This thesis argues the same has happened for management accounting change and we already have value destroyers amongst us; destroyers who drive change through with bad quality, no reasoning, insufficient resources, inadequate analysis and with no personal risk embedded in the change process. Provocatively said, the value destroyer is a person who prefers reading the latest daily operational reports from his or her tablet, phone or phablet while taking a sip of coffee and who is putting value on accomplishing minor things or any kind of changes at this very second instead of thinking bigger issues or possibilities. The value destroyer is finding it hard to do real brain work for example by listening to important messages from the field or by taking the necessary time to think about tactical or strategic relationship of the matter.

The thematic of budgeting was discussed in chapter three. Budgeting was found to be a much more complex system than just financial figures put into income statement and balance sheet. It is a much more humane process than one might initially think; budgetary bias is always present because of very natural needs of individuals for safety, esteem, power et cetera. Budgeting can possess many types of roles: short-term weighted operational planning and performance evaluation and the long-term oriented communication of goals and strategy formation. All of these roles have different antecedent factors as background factors such as organization structure and strategy as well as operating and external environments. Additionally, budgeting has also different characteristics such as use of rolling budgets, budget iterations, strategy linkage, participation level, target difficulty and budget emphasis. Ultimately, budgeting and planning is there to boost shareholder or stakeholder

value through improved management, well managed market perceptions and improved company performance. Nevertheless, there's a mismatch with what budgeting tries to do and what it really achieves; it has been under vast criticism, long shortcomings lists are easily developed and some companies have even abandoned budgeting. In the big picture, majority of companies are not planning on abandoning budgeting and trying to improve the budgeting process instead.

Different improvement steps for budgeting have been around for decades already: zero-based budgeting is thanked for its thoroughness but slammed for its burdensomeness, balanced scorecard is revolutionary as for its concept but it seems unfit from the managing point of view, activity-based budgeting catches the idea of matching resources with needed outputs but is dampened by lack of driver information and disagreements on causality-relationships in the value-chain. Lastly the newest development effort for budgeting is stemming from the beyond budgeting model, which is more of a leadership philosophy than an actual budgeting method, that is aiming for putting people as the most valuable asset to the forefront and enabling their value-creation activities through liberation from dictatorship, micromanagement, number worshipping, calendar periods, hierarchies, secrecy, sticks and carrots, and all the other management myths about what is the best for achieving great performance in teams and organizations.

Rolling forecasting, the major topic of this thesis is not a new idea but practitioners have only recently, increasingly in the new millennium, started adopting it into their organizations. The key challenge and possibility of rolling forecasting is that it is much more concerned with future-oriented and strategic mind-set and not with technically diverting the budgeting process into some new format.

It seems that rolling forecasting can be implemented to low extent or great extent, depending on the goals attached to it. Rolling forecasting can help the company with investor communication, operational efficiency, getting rid of budgeting, strategy realization and staying on the right track. It requires good leadership, accounting professionals equipped with the right value-adding mentality and sufficient IT systems. At worst rolling forecasting does not really change anything for better and it is only yearly budgeting repeated four times a year with superficial information, no understanding of business causalities, bored accounting professionals and business people that are far from accounting function's reach and who want to stay that way.

6. Methodology

This research was a bold jump into the unknown, like Vaivio (2008) put it in describing qualitative research in management accounting. The researcher had not touched rolling forecasting in his university studies or work history more than on the surface and also the single-case organization, the Finnish Retail Ltd. had not done rolling forecasting before its implementation in 2005. The research always possessed a risk of finding nothing special even though single-case or field case studies of rolling forecasting had not been done to this extent earlier. That was a major pre-advantage for the study alongside the journey of schooling for the researcher himself.

In this section the intertwinement of the chosen methodology and research methods are discussed, which is followed by a concrete depiction of the data that was used in the research. Researcher's relations to the case company are clarified, which is followed by analysis of the weaknesses and strengths that were present in the study. A critical perspective is adopted as for pointing out the vulnerabilities of the validity and reliability of the research, matters that have been traditionally overlooked (McKinnon, 1988).

6.1 Methodology and Research Methods

Peculiar to this study was the lengthy period and extensive inspection of field research done in the company, all the way from 2006 to 2014 consisting of the HQ's and two divisions' operations. That enabled the researcher to use multiple angles of approach; he examined the case company through semi-structured interviews, working in different positions and divisions inside the company, unofficial discussions, internal material such as guidelines, survey results, internal reports of rolling forecasting and naturally records on financial plans throughout the years.

Birner et al. (1990) studied the case of multiple methods in empirical management accounting research and found out that none of field, laboratory and survey research methods dominated the others on all criteria and therefore multiple methods should be used to investigate management accounting phenomena. This study falls most definitely strongest to the category of field research as most of the research methods and devoted time was spent on the "case" or "field". One might claim, however, that the concentration and devotion spent to writing this study resembled a laboratory-like environment and that survey results on rolling forecasting realized on yearly basis inside the company satisfy the survey method to some extent.

Due to the long research period and using of multiple research methods, there was a more than a good possibility of achieving a high level for the so-called richness of the study. Ahrens and Dent (1998) highlighted in their research paper "Accounting and Organizations: Realizing the Richness of Field Research" that the dominant emphasis amongst management accounting field research studies had been rather on technical properties of new systems of calculation and their relevance to actual or theoretical classes of management actions than on social and organizational perspectives. A growing number of studies have put more weight on the organizational aspects, maybe due to management accounting experiencing some kind of a renaissance as a profession or as a research field. This rise has led to the birth of many research papers that discuss the methodological questions, followed by discussion on what is exactly a rich study. According to Ahrens and Dent (1998) rich, at its simplest, means "life-like". In another way to depict it, they state that rich has to do with making understandable the actions and motivations of often very skillful people who routinely mobilize accounting in their daily work lives.

Anyhow one puts it, the following sentence of Ahrens and Dent (1998) captures that management accounting research has a truly interesting development path in research field in narrowing the gap between accounting theories and practices.

> *"We are impressed with the tensions and ambiguities that often characterize accounting in action, with the sometimes contradictory ways it is drawn upon by actors in organizations and how it can constitute organizational life differently in different settings. We believe capturing these ambiguities, tensions and contradictions to be a major opportunity offered by field research methods."*

Source: Ahrens and Dent, 1998

Ultimately, this thesis encounters a single organization which is facing a change in its budgeting process. It will be seen in latter chapters, if the study really grasps this opportunity to get rich!

The richness touches upon the idea of Hopwood (1983), who claims organizational researchers and theorists can see accounting as both a dependent and an independent phenomenon. In this thesis the interdependency of accounting department, more precisely through rolling forecasting, is kept tightly on mind, even though the starting and leading point of this thesis is to examine rolling forecasting firstly from within different levels of accounting department and secondly make statements on the reality that is existing in the interfaces of accounting and other organizational settings. Intriguing comment by Hopwood (1983), is the statement where he argues "all too apparently accounting is a phenomenon which is what it isn't and can become what it wasn't".

Basis for the study is accepting the traditional idea of the contingency theory, according to which there is no universally appropriate accounting system which applies equally to all organizations in all circumstances (Otley, 1980). The basic variables in the contingency theory are presented below.

The effect of technology

The distinction between types of production has been shown to have remarkable effects on how internal accounting systems are designed. Whether one is dealing with unit, batch, mass or process production there are different levels and kinds of data and costs available, which is allocated, apportioned or pointed to specific accounting targets. Equally other technology effects can be found also in examining the complexity of the task faced by an organization or task variety and knowledge.

The effect of organization structure

Organization structure has been one founding factor in the contingency theory, with which there's been found evidence of variations in how accounting systems have been designed. Organizational performance has been found to be affected differently whether Budget-Constraint or Profit-Conscious use of accounting information was present (e.g. Hopwood, 1972 vs. Otley 1978). When such studies have been compared, there have been found, not only different, but importantly different situational differences, such as responsibility centers being independent to totally different extents.

The effect of environment

The use of accounting information may vary depending on the environment the organization is operating in. Things such as external competition intensity, type of competition (price, marketing or product) or varying internal competition situations have affected things such as sophistication of accounting and control systems and styles of budgeting.

All of these contingency variables surely have interdependencies across themselves; company affects its environment and the company itself is affected by organization structure and technology choices. Times change politically and economically, companies enter using innovations at different instances, they have different positions in the markets, life-cycles and natures of products they're selling might be quite different, strategy they've adopted might be totally different from their competitors. As for this research, the key observation here is that capturing some of the situations, ambiguities, tensions and contradictions accounting practices are encountering in reality might be worth taking a look at, if it is done with high quality and if the situations outside and inside the firm

are understood. In addition, observations on how the organization and the researcher possibly changed their attitudes or opinions on rolling forecasting, exposes or rewards the study to mixed conclusions.

Due to these starting points of richness, interdependency and contingency, it is a conscious choice in the empirical part of the study that the case company as well as the competition environment are introduced in a more precise manner than generally.

Classifications for the study

In management accounting Scapens (1990) classifies case studies into the following categories.

Descriptive	The research objective of this kind study is often to provide a description of an accounting practice. These case studies describe accounting systems, techniques and practices.
Illustrative	These case studies provide an illustration of what has been achieved in practice concerning new and possibly innovative practices developed by particular companies.
Experimental	Newly developed accounting procedures can be examined through such studies. Benefits of new systems can be derived and difficulties in implementation can be examined.
Exploratory	Reasons for accounting practices are explored. Objective is to develop ideas and hypotheses that can be tested in further studies, which try to produce generalizations.
Explanatory	Firstly a theory is chosen, through which accounting practices are explained reasonably. Secondly, if existing theories are inadequate, modifications to theories are accomplished after which explanatory level will rise.

Source: interpreted from Scapens, 1990

As Scapens (1990) underlines, the distinction between these categories is not so clear-cut and it is up to the intention of the researcher to determine the appropriate classification. Statements in the beginning of this chapter of the novelty of rolling forecasting for the case company, added with Vaivio's (2008) remark of management accounting change being shown to be smaller and less significant than is presumed within the consultancy view, support the distinction of this single-case and field study as an illustrative case study. One could, however, see the study as a descriptive one,

especially in the later empirical stages of the study where rolling forecasting belongs to the routines of the company. There are also some characteristics of an explanatory case study since the theory part of the study concludes with a theory framework that stems from diffusion, management accounting change and budgeting literature and papers.

The study relies on the hermeneutic research approach: it's not trying to achieve generalizing results in such a complex world. Instead the goal of this method is bringing in the answers for the research problem: the aforementioned special features and "how" questions concerning rolling forecasting.

Generalizing the results of the study

As for generalization of the study, at this point, no other strong statements are made, other than this: "the cause of generalization is not the ultimate goal of this thesis". As a repetition, the humble goal of this study, is to get answers for what was stated in chapter one as the research problem:" How does rolling forecasting function in everyday operations, how does it bring the aimed results and how are the results viewed in different levels of an organization?". The suitability of this study to the above mentioned explanatory category might be found in reflecting the findings against the theoretical summary that was presented in the chapter five. Lukka and Kasanen (1995) alleviate the problem of generalizing by their findings, in which they showed that statistical accounting studies have more problems with generalizations than thought and case studies have more potential for generalizations than one might think.

It is worth bearing in mind that even if the thesis succeeds well in its inductions through deep knowledge, high quality, hard work and countless of hours spent in the field and in front of the screen and keyboard, finding answers for or against theories, there is no replication taking place in the big picture, which is a prerequisite for a study to be of generalizable nature. Even after replications could be realized, statistical problems with sample and population, statistical significance, wrong interpretations of causalities and correlation factors would still be persisting. This thesis, therefore, is an ode for keeping ears open, listening, trying to understand and interpreting a management accounting tool called rolling forecasting, in different levels of an organization. Thus more weight is put on to understanding the possibilities, threats and choices to be made with rolling forecasting.

Validity and Reliability of the study

Ryan et al. (1992) divide the validity of a study to internal and external validity. Internal validity means the harmony of the study for drawing conclusions: that the researcher really succeeds in studying the topic that was intended for being studied, that the data used is sufficient enough and that it neutrally answers the research questions, that the researcher is able to make correct deductions of causalities between the data and factors under interest and that the conclusions can be found logically along this continuum. External validity, on the other hand means the suitability of the study for generalizations.

As theory basis for matters endangering validity of a research, Ghauri and Grønhaug (2005) list four types of threats to validity: history, test effect, maturation and selection bias. In the history threat something is occurring in the same time as the subject of the research, in the test effect the study itself affects the results, in the maturation threat the test units have changes during the research period and in the selection bias threat is that the study objects cannot be chosen randomly.

As for internal validity, professionals and practitioners that participated in the study all knew very well the topic and what it meant so the issues under interest was not difficult to determine. In addition, the research question "How does rolling forecasting function in everyday operations, how does it bring the aimed results, and how are the results viewed in different levels of an organization?" was explicitly formulated in a way that misunderstandings would be minimized. For the internal validity, it can be stated that the access to company data was quite substantial: interviews could be freely organized, company inside material that was built along the years was within reach as well as financial figures for actuals and plans and unofficial opinions could be freely distributed, maybe not least because of the Finnish culture and attitude.

On the insufficient side, the implementation phase was studied only in one of the two divisions of FiRe Ltd. Moreover, it is quite obvious that the CFOs of both divisions would not reveal specific facts about the bonus system in place or specific behind-the-door aligned strategy alignments and their linkages to rolling forecasting. Triangulation was used in order to improve the validity and reliability of the study; using of interviews, part of which were recorded and transcribed, surveys, unofficial discussions, company inside material and financial figures concerning rolling forecasting were used to approach the topic from different viewpoints. As for the reliability of the data, the tone used in interviews was often quite official and not so critical compared to unofficial discussions,

maybe due to the interviews being recorded, even though two hours were reserved for each interview to make sure no hasty answering would occur. One interviewee did not allow recording and wanted to alter the written report about the interview afterwards, which is a warning sign for those results. According to McKinnon (1988), researcher's presence is one threating factor for a study's reliability and validity along with insufficient data and limitations set by the human thinking.

Vaivio (2007) denotes that the longer the time spent researching the studied context, the less there are risks for the reliability and validity of the study. That implicates that the researcher in this study has better grounds for neutral, valid and reliable study results than usually. Nevertheless, according to him each coin has two sides and there is a risk of "going native" if the distance to research subject is not sufficient. Also McKinnon (1988) underlines that a lengthy research period boosts validity and reliability of the study through not being forced to rush with the research results, being able to genuinely encounter what the field has to offer and facing counterarguments to researcher's own initial subconscious expectations.

It is worth mentioning that the researcher has a relationship with the case company as an employee on a group level. This inflicts a problem with the objectiveness of the thesis, which is alleviated through the following facts. The assignments during the employment time didn't have anything to do with the cooperating employees that concern this study. In addition, in order to remain as objective as possible the researcher chose as passive a role as possible in terms of retrieving the company's inside material and doing semi-structured theme interviews. Intervention was only used as a means in filling the gaps in understanding, i.e. disentangling what was actually meant.

In this type of study, the external validity, which means the suitability of the study for generalizations, will remain a question mark since the sample size of organizations was one. That is of course a chosen path and weakness for the quality of the study, which hopefully will be overcome by the richness of the single-case study accomplished in FiRe Ltd. It could have been possible to interview other organizations, send surveys and examine organization inside material but it would not have been possible to work in those organizations and gather valuable unofficial opinions or develop own thinking of what is really affecting what within those other organizations. On the company level, with altogether 13 interviews, 11 of which were accounting professionals, it can be stated that the generalizability of the results are good as for accounting professionals' insights but fairly weak with views of other than accounting personnel. This is a deliberate choice

since accounting personnel are traditionally equipped with good education and with good analytical skills whereas the expectancy rate for volatility of business people's opinions is high.

The time validity, which means the extent to which the particular research results at one point in time may be generalized to other periods of time has major cons and pros. The interviews were carried out in the implementation phase, in 2006, and at a particular point of the phase of continuous usage, in 2010. This built up the validity. On the other hand, what dampened the validity was that people's perceptions of rolling forecasting seemed to change as time passed by. That is also what happened to the researcher himself and it can be honestly admitted that the implementation phase would have been studied in a different fashion with more rich semi-structured questions. The implementation phase could have been studied afterwards but then there would have been a risk of guiding the results unconsciously. All in all, the researcher had all the time to develop the understanding of rolling forecasting during the research years from 2006 to 2010, during which the researcher worked only occasionally with rolling forecasting related issues.

6.2 Data

In order to familiarize the concreteness of this study, the data and particular methods used in the research are targets, which are examined more closely in this subchapter. It will be pointed out that this study had an ambiguous level of diversity and perspectives, which contributed to and stepped up the quality and depth of the paper. The subheadings below do not represent any kind of order of importance or extent for the material and data used; instead, an alphabetical order is chosen.

Financial data

The financial data gathered for the study was harvested in the late phase of the research period in order to get an extensive amount of financial data to ensure an adequate sample size. In the end, the researcher managed to gather financial results from 2008 to 2014. All of the data collected for the eight stores, one HQ unit and FiRe Ltd. company figures were downloaded from a SAP-based accounting system, in which the company booked the financial data according to the Finnish accounting act.

Four of the stores were grocery stores and four DIY stores. The main idea for the HQ unit was primarily that costs should be allocated to the stores according to allocation drivers such as sales

proportions, number of personnel, gross margin proportions and sales area in square meters. Units that were operating in the HQ premises but that were directly in touch with the stores and business actions were allocated to the stores whereas some HQ costs were not allocated to divisions. Representative of such costs were general management and some of the supporting functions, e.g. Finance department's costs. Hence the stores would show only the EBIT level that the store manager and employees could contribute to more or less directly.

The concrete financial figures consisted of yearly data of different items down till operating profit: sales, gross margin, other operating income, personnel costs, rent expenses, IT costs, marketing expenses, maintenance costs, other operating costs, depreciations and impairments followed by the operating profit itself. For each year, actual outcomes and four financial plans were put to a spreadsheet for all ten entity levels, i.e. eight stores, one HQ unit and the FiRe Ltd. as one company. This meant the total amount of financial data had ten units times five scenarios times eleven income statement items times seven years which equals 3 850 separate figures (10*5*11*7 = 3 850). To put it differently, 770 actual outcomes for financial figures had 3080 matching planning figures. Each year had 110 actual outcomes that had 440 matching planning figures. These calculations are only derived from the fact that each separate actual figure had four matching planning scenario figures.

It goes without saying that macroeconomic environments have changed during these years, which makes it difficult to come to all-embracing conclusions. However, there might be observations of some systematic under or over performances in some stores more than in others and concerning some income statement items more than others. Also, differences between divisions within these dimensions might be obvious, mild or indifferent.

Internal material

There were multiple sources of internal material available for use. They ranged from initial presentations of the ideology of rolling forecasting to system specific instructions and to practical instructions on how the company has aligned the work of planning financial figures. Naturally the background work of empirical part of the study consisted also of organization charts. The key final products of rolling forecasting, the action and financial plans for the stores and the whole company, were also accessible.

Entirely another type of internal material which could provide the research a different viewing angle was the report FiRe Ltd. had ordered from a consultancy firm in order to examine and develop rolling forecasting. This order was placed in 2010 when the firm had already many years of experience with practicing the concrete reality of rolling forecasting.

It is fair and necessary to emphasize that the researcher has had a role within many types of internal material. First of all, he has belonged to the FiRe Ltd.'s organization. Secondly, he has had a part in some of the work instructions developed for some FiRe Ltd.'s units. Thirdly, he has been part of the process in crystallizing the FiRe Ltd.'s action and financial plans as presentations. Lastly, the consultancy company reviewed the researcher for its rolling forecasting report. These interdependencies are surely problematic from the study's autonomy perspective. However, these kinds of circular references may not be highly problematic due to the fact that FiRe Ltd. was a fairly big company in Finland and therefore one subordinate level's employee could not affect reports or other outcomes to great extents. Alternatively, this relationship has logically many upsides as well, the most obvious being naturally close to the field and having access to ambiguous research data.

Interviews

Interviews for the study were accomplished in two different phases. Both of the interview rounds followed a semi-structured theme interview method with open-ended questions delivered to interviewees in advance. In the first phase during the implementation of rolling forecasting in 2006, five accounting professionals ranging from assistant controller to chief financial officer were interviewed (see appendix 1). This round of interviews concerned only the grocery division in FiRe Ltd. whereas the second round of interviews (see appendix 2), eight pieces, consisted of personnel from grocery division, DIY division, HQ department and also the consultant that made a rolling forecasting status report for FiRe Ltd.'s HQ department. Apart from the consultant, all second round interviews were recorded and transcribed, totaling 595 minutes of voice recordings and 70 pages of transcriptions.

Some of the interviews suffered from interruptions that are common in nowadays' business world. All of the interviews were budgeted for one hour calendar time, which did not hold very well since the shortest interview (38 min) lasted roughly only a third of the time taken by the lengthiest interview (128 min). Another thing that varied throughout the interviews was that people were quite differently interested in the topic; some spoke their mind and heart till the last drop and some

clearly needed guidance and answered only briefly to questions posed by the researcher. In addition, some of the interviewees were clearly sensitive about their comments when they realized the interview would be recorded and transcribed whereas some did not shy at all. One of the biggest findings about the researcher himself was the inability to recognize the freshness of rolling forecasting in the company during the first round of interviews in 2006. Of course there was the fact of only two accomplished rounds of rolling forecasting but still at that time it was very hard to put that into the big picture and framework within which the company was operating; what was the company culture, former practices and plans for the future.

Customer satisfaction data from FiRe Ltd.'s HQ department

The HQ department of FiRe Ltd. realized a yearly customer satisfaction survey and the researcher managed to get his hands on years from 2009 to 2013, except years 2010 and 2011, which were unfortunately missing. To be specific, it has to be emphasized that the customers in this survey were actually accounting professionals within the divisions. In addition to structured questions, in which answer choices were totally agreeing, partly agreeing, half agreeing or disagreeing, partly disagreeing and totally disagreeing the survey also had the possibility for the replier to leave open comments as feedback. Examples of such surveys, years 2012-2013, are presented in appendix three.

The following table depicts the yearly sample size of answerers and number of questions and open comments concerning rolling forecasting.

Year	**2009**	**2010**	**2011**	**2012**	**2013**
N	18	N/A	N/A	23	27
Questions	7	N/A	N/A	1	1
Open answers	6	N/A	N/A	3	N/A

Table 6: Customer satisfaction surveys by FiRe Ltd.'s HQ department

Formulation of the survey changed from year 2009, which had an extensive amount of questions about rolling forecasting and many open comment responses to the fairly new budgeting process, to years 2012 and 2013, which had the same single question for rolling forecasting and remarkably lower amount of open comments. All in all, year 2009 could be analyzed as results after the implementation phase (chapter 7.4) of rolling forecasting and 2012 and 2013 as results for continuous usage phase (chapter 7.5). As such survey data would be of course totally insufficient but relevancy of such survey data is quite high from complementary point of view; accounting

personnel was assured total protection of anonymity which is always important in assuring employees having the opportunity to speak their minds entirely.

Working experience

From 2008 to 2010 the researcher worked as an accounting specialist in FiRe Ltd.'s grocery division. During 2008 the work consisted of several stand-in tasks suitable for gathering wide knowledge of the organization and grocery branch. In 2009, the researcher was appointed team leader in finance department's business support function, which had multitude of rolling forecasting related assignments.

From 2011 to the publication date of this thesis the researcher possessed two different positions in FiRe Ltd.'s DIY division; first being a controller more on the financial controlling side of the controller profession's continuum for the first two years, after which the success in that position led to a promotion to business controller which comprised of job tasks much closer to business people who are thirsty for support and guidance. Again, both of these duties were executed in the finance department.

After the seven years working experience in FiRe Ltd. it was inevitable that the researcher had established tight cooperation links with HQ department's and both divisions' accounting departments accounting personnel, which led to honest and straightforward unofficial discussions about rolling forecasting. Therein also lies the risk of this study; it is worth remembering that the researcher's experiences are heavily accounting department weighted. With unofficial discussions there is also the danger of giving too much weight to charismatic opinion leaders. This might lead to biased conclusions which do not take into account real business units' perceptions about rolling forecasting. In order to foster the validity of the paper and to assure as genuine opinions and real situations as possible, the researcher did not market the ongoing research to anyone during this work experience. Apart from the ones who were interviewed for the research, only few superiors and colleagues knew about the study until 2014 when the researcher revealed the intentions of publishing such a report with relation to the whole working history in FiRe Ltd.

7. Case Finnish Retail Ltd. (FiRe Ltd.)

This chapter evaluates the case company, its environment and shift from traditional budgeting methods to a system that includes rolling forecasting. Theoretical parts' findings are actively mirrored to the observations made during the working and research period in the company. Conclusions, are not jumped into since that task is left for chapter eight, discussion and conclusions.

The case company, Finnish Retail Ltd. (FiRe Ltd.), operates in two big markets inside Finland, both in the Finnish grocery trade as well as in the Finnish DIY (Do-It-Yourself) businesses. That is why this chapter begins with clarifying these two markets' peculiarities, introducing market sizes, trends and market shares before moving on to the more detailed depiction of FiRe Ltd. and its operations. That is followed by examining the near history of budgeting in FiRe Ltd., reasoning the need for change and goals that the company set for rolling forecasting. The chapter naturally has the biggest weight on the planning process itself by describing the implementation phase of rolling forecasting, its daily and present usage and what kind of future related issues remain open for discussion.

7.1 The Finnish Grocery and DIY Retail Markets

The Finnish grocery trade market

The definition for groceries, päivittäistavara (Finnish), literally "daily goods", refers not only to food but also to other consumer goods and groceries used daily, and bought by the consumers together with their food. Thus the term 'groceries' includes food, beverages, techno-chemical products, tobacco products, household paper and tissue products, newspapers and magazines and daily cosmetics. (The Finnish Grocery Trade Association, 2009)

In order to understand in what kind of environment the case company operates, it's useful to take a look at the categorization of the Finnish grocery retail market. Following the above-mentioned definition of groceries, the total value of grocery trade in Finland was €23,5 billion in 2008. This figure follows EU statistics, which include also sales by catering wholesaler customers like daily meal services of public institutions (€1,2 billion) as well as restaurant, café and staff cafeteria sales (€4,8 billion) in the private sector. Also Alko (Finnish state governed alcohol monopoly) sales (€1,4 billion) belong to this number. All taken into account €16,1 billion is left for sales primarily through grocery sales by chains (€13,5 billion) and other grocery retail sales (€0,6 billion) kiosks, service stations, discount stores and outdoor sales (€2,0 billion). The following figure clarifies the situation.

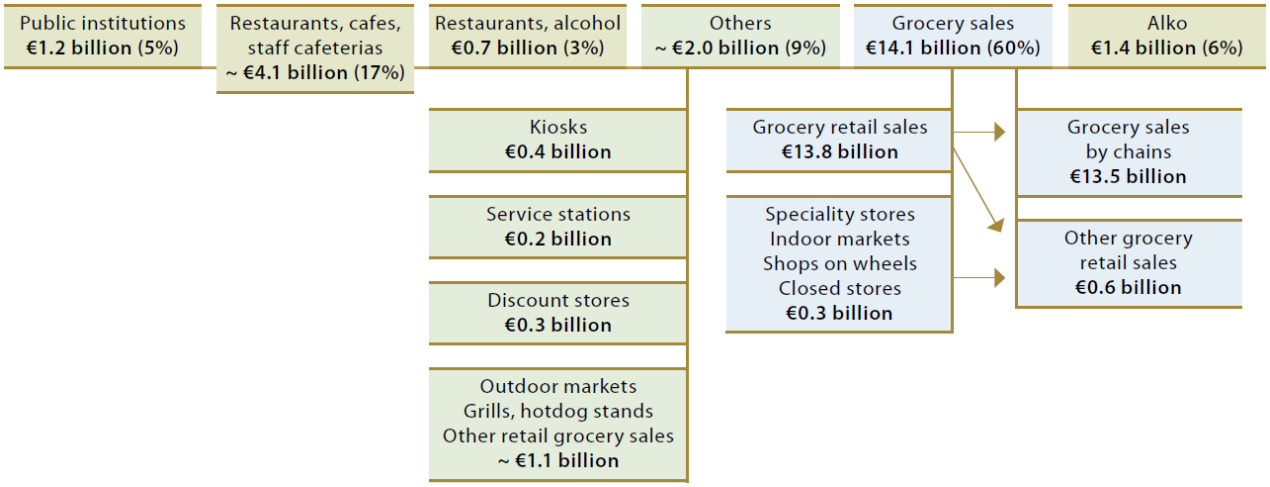


Figure 19: Grocery trade market in 2008 according to EU statistics
(The Finnish Grocery Trade Association, 2009)

As for the trends and development paths of the Finnish grocery trade market there are several essential points that should not be bypassed. First of all there has been a long-standing discussion over some grocery market regulations. The Finnish Grocery Trade Association, in its publication for 2013, claims that Finland's grocery trade regulation was the fourth strictest among all OECD countries, whereas just a few years ago, in 2008, Finland was halfway down the list. Concretely, this can be seen in grocery stores' everyday life: they're not permitted to sell any non-prescription medicines or alcohol beverages that have over 4,7% level of alcohol.

Deregulation of the medicine issue is pressurized by the Finnish Competition and Consumer Authority, which published in 2012 a report, where non-prescription medicines are suggested to be freed for selling in grocery stores. It claimed that the medicine market in Finland is inefficient and that Finland was the only Nordic country where pharmacy stores kept such monopoly position. Association of Finnish Pharmacies and the legislators, so far, have been on the opposite side with their opinion, stating that such a monopoly ensures patients' safety and protects the society.

The alcohol issue, deregulation of the selling of mid- or high concentration levels of alcohol beverages or drinks (practically strong beers, wines and liquors), has not lured any real or authoritative pressure. Discussion has been circulating more around the alcohol tax rate, where Finland is, according to European Commission Excise Duty Tables for alcoholic beverages, one of the strictest countries in the EU (7/2014). This has led to issues in financing public services as also the Ministry of Finance admits in its press release 10.4.2014 that the tax-free importation of alcohol, growing 15,4% in 2013, amounting to 75,3 million liters, has stayed permanently at high levels.

As for other regulatory things, the research period of 2008-2014 also included the liberation of opening hours for grocery stores as of September 2009 and changes in the land use and building act, in force as of April 2011, when the lawmakers enacted major restrictions on large retail trade units, assuring services for city centers and stirring the ground plan market by discriminating against the so-called auto-shopping-parks around outlying districts.

Looking at the trends of grocery trade in Finland there are many things worth mentioning. In 25 years of time the number of market-size stores has gone down from approximately 10 000 stores to 3 200 stores whereas in 20 years the selections have tripled. A more recent yearly statistics of all grocery stores show that urbanization and politics favoring the growth centers in the country have led to an even declining number of stores, which can be seen in the following table:

Year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
#	4325	4165	4163	4129	4192	4109	3942	3922	3904	3917	3923	3964	3981	4066

Table 7, number of grocery stores in Finland, The Finnish Grocery Trade Association

The structure of grocery trade in Finland has changed from 2000 to 2013 meaning bigger shopping centers as the number of stores has declined by 259 (-6%). During the same period sales has improved +69%. In 2013 stores considered from large-sized to hypermarkets accounted for two thirds (66%) of total sales whereas in the millennium year 2000 the same share was only a little bit over half (56%) of total sales. Another thing peculiar to the Finnish grocery trade market is the high level of concentration in the market, meaning two big players, namely S-Group and K-Group, dominated with accumulated share of 79,7% of the total market. Vice versa, competition level is quite low and this is majorly due to Finland being sparsely populated country in the North which leads to high transportation costs with low volumes. In terms of the Herfindahl–Hirschman Index, the HHI index, the Finnish grocery retail trade market is considered “highly concentrated” if one approaches this issue through the United States Department of Justice and Federal Trade Commission’s interpretation of highly concentrated markets. Calculation formula and HHI categorizations in the US are described in the table eight below.

Organization	S-Group	K-Group	Lidl	Suomen Lähikauppa	Stockmann	Tokmanni	M-chain	Minimani	Others	Total
Market Share	45,7%	34%	8,1%	7%	1,3%	1,3%	0,7%	0,6%	1,3%	**100%**
HHI index	$0{,}457^2$ 2088p	$0{,}34^2$ 1156p	$0{,}081^2$ 66p	$0{,}07^2$ 49p	$0{,}013^2$ 1,7p	$0{,}013^2$ 1,7p	$0{,}007^2$ 0,5p	$0{,}006^2$ 0,4p	$0{,}013^2$ 1,7p	**0,3365 3365p**

Unconcentrated Markets	**Moderately Concentrated Markets**	**Highly Concentrated Markets**
HHI < 1500p	$1500p \leq HHI \leq 2500p$	HHI > 2500p

Table 8: the Herfindahl-Hirschman Index and the Finnish grocery market trade 2013

Other tendencies characteristics of the Finnish grocery trade market are challenges with the weakening purchasing power of consumers. For sure the industry has reacted to this development by implementing an intensive strategy for private label product selection, share of which has risen from 18% in Q2 2011 to cover almost a quarter of total grocery sales (23% in Q1 2014) Traditionally the Trade industry has been the biggest employer in Finland and that has not changed with 300 000 employees in 2013, from which 65 000 worked for grocery trade, which has its traditional high season sales during Easter and Midsummer but especially during the weeks before Christmas while the rest part of the year provides quite constant and predictable supply-demand situations. As for future trends, it is evident that grocery web store operations will pick up pace as Finland is in this area quite an underdeveloped market. For example in France the grocery shopping is done to 4,5% extent online whereas in Finland it is under 2%.

The Finnish DIY market

FiRe Ltd. belongs to the RaSi ry. (Finnish Hardware Association, DIY), the parent organization which looks after the interest of its members. Practically this means that selling of construction materials is most often the main line of business for companies within this industry. Compared to the grocery trade market, DIY market is much more complicated from many perspectives.

First of all, it is very difficult to draw a particular line in defining the markets: many players in Retail Trade operate partly inside some DIY product lines, for example florist stores compete against yard and garden departments, general stores sell HPAC, tools, decoration and furnishing related products. Also agricultural products are sold closely together with traditional DIY products, which make the market share calculations a loose field.

Secondly, customer segmentation is much more diverged. B2C customers, who have been suffering from a weakening purchase power, play certainly a big role also in DIY business but B2B customers provide often a need for structuring totally different service channels. Those B2B customers operate in the construction industry, which provide a remarkable driver for the DIY industry companies. Finnish Association of Civil Engineers estimates in its ROTI-report that infrastructures, structures and constructed land plots account for some 70% of national wealth, i.e. altogether 565 milliard euros. Related to this wealth, there has been a yearly rise of construction debt of three milliard euros in the Finnish economy during the 2000's. This means that housing and other buildings have been repaired or reconstructed by 10 milliard euros while the estimated yearly erosion and usage of these structures amount to roughly 13 milliard euros (2,3% of total capital). In total, as of 2011, the construction debt is estimated to range between 30 to 50 milliard euros.

All in all, even if the Finnish economy takes a drastic change for worse, leading to a smaller interest for B2C customers to establish new construction projects, big part of the demand will have this kind of support and defenses stemming from the construction debt, especially as housing and public buildings constructed in the 70s or 80s are famously known for their sluggish construction quality. Another important customer categorization to understand is the four-type model: professional constructors, small constructors, big repair project customers and small repair project customers.

Other peculiarities for DIY business are surely to be found: distribution channels vary from agency business to warehouse distribution model, where the handling of slow-moving items remains a key factor in striving for competitiveness, along with commerce bonuses and well-function concepts for varied clientele. As for seasonality the DIY market is bipolarized, spring and summer being the high-season whereas Fall and Winter being the low-season. Number of stores has had another story than the grocery market in Finland: Finnish Hardware Association's data shows that biggest players reached a peak in year 2009 when there were 607 DIY stores. More detailed data is presented below in table nine below.

Year	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
#	590	588	582	587	N/A	602	597	595	607	598	590	571	561

Table 9: number of DIY stores in Finland

In terms of the Herfindahl–Hirschman Index, the HHI index, the Finnish DIY market is considered "moderately concentrated" if one approaches this issue through the United States Department of

Justice and Federal Trade Commission's interpretation of moderately concentrated markets. Calculation formula and HHI categorizations in the US are described in the table ten below.

Organization	K-Group	Starkki	S-Group	Puukeskus	Other	Hartman	Puumerkki	RTV	Bauhaus	Värisilmä	**Total**
Market Share	38,5%	14,2%	11,8%	6,9%	5,9%	5,4%	5,0%	4,3%	4,3%	3,7%	**100%**
HHI index	$0{,}385^2$ 1482p	$0{,}142^2$ 202p	$0{,}118^2$ 139p	$0{,}069^2$ 48p	$0{,}059^2$ 35p	$0{,}054^2$ 29p	$0{,}05^2$ 25p	$0{,}043^2$ 18p	$0{,}043^2$ 18p	$0{,}037^2$ 13p	**0,2009 2009p**

Unconcentrated Markets	**Moderately Concentrated Markets**	**Highly Concentrated Markets**
HHI < 1500p	$1500p \leq HHI \leq 2500p$	HHI > 2500p

Table 10: the Herfindahl-Hirschman Index and the Finnish DIY Market 2013

7.2 Case Company Description

After the operational environment has been introduced, it is time for the case company, FiRe Ltd., to be given a brief and special attention. Things such as history and traditions, organization hierarchies, management models, market positions and strategy alignments are introduced.

FiRe Ltd. is a traditional Finnish firm and has even a longer history than the Finnish Republic as an independent nation (1917). In fact, origins of FiRe Ltd. organizing retail operations stem back to the late 19th century, when Russian entrepreneurs ruled in the East and Swedish entrepreneurs in the West. Those were, however, few in number, and not able to serve the whole Finnish region. Especially in sparsely populated countryside regions people felt the need for change and thus several food associations grounded FiRe Ltd., whose aim was to centralize and empower purchasing of goods. In the beginning of 20th century the ownership spread strongly among population, main operations concentrated on being an efficient wholesale company, which had those kind of toppings that the company had own manufacturing of foods and other ware as well as energy business.

After the Second World War the FiRe Ltd. took part in rebuilding the society, majorly through investing heavily on many, also distant, locations throughout Finland and supporting thus the rise of Finnish economy among many sectors. From the 1960's to 1980's the company underwent many changes, reacting to strong urbanization of Finnish society, rebranding the company's trademarks and widening operations to other, not so traditional, business areas. In the late 20th century the

company spent a lot of effort both in grocery and DIY businesses in creating efficient chain operations: new formats were launched and central warehouse operations initiated. At the turn of the millennium, FiRe Ltd. took also steps in international markets in more than one industry and is nowadays facing major challenges with foreign players attacking the Finnish market and the digitalization of the world, where groceries and DIY products continue to play big parts in people's lives, whether through online shopping or footing stores.

Through its long and prospering history, the FiRe Ltd. has reorganized its structures with several incorporations and many mergers in order to enter new market areas and exit old ones. Nowadays the FiRe Ltd.'s HQ operations are led by the CEO, who is directly managing several departments, namely Strategy and Research Unit, Finance and Accounting department, IT operations unit, HR and PR department, Internal Audit & Risk Management and Legal Unit. In addition, several divisions have division leaders, who have their own division organizations and who report directly to FiRe Ltd.'s CEO. Appendix four clarifies the general structure of FiRe Ltd. concerning different divisions and HQ support functions during the research period 2008-2014.

From the figure above one might understand that the majority of personnel would be positioned in the FiRe Ltd.'s headquarters, which is located in Southern Finland, whereas the divisions would have quite flat organizations. The reality, however, proves to be pretty much vice versa. Only minority of the working staff are employed by these departments, the nature of which reveals to be much more guidance oriented than business solution oriented. The separate divisions have been traditionally given a lot of responsibility which means they have big organizations with many executive natured departments cooperating with their HQ counterparts. For example, the DIY division has its own accounting department and own CFO, who has gathered the most talented and solution-minded business controllers to execute financial business planning, reporting, support and control for business people and ad-hoc accounts for concerns of division the leader of DIY division.

On the other hand, the firm saw that there simply was no use in keeping processes such as bookkeeping, accounts receivable or payable, financial controlling or other technical matters such as finance IT systems inside the division level and therefore those were located in the headquarters, from which they could cooperate and coordinate all divisions' technical or system-oriented processes more than well enough, and in fact, more efficiently. Likewise, HR and PR operations functioned similarly, all technically weighted things, such as calculation of payrolls, were centralized but recruiting best professionals for certain business areas, on the other hand, remained

naturally in the hands of the division. In FiRe Ltd. there was no strict orientation towards a matrix organization or towards a division organization. It was the issue or matter, rather its technicality, which decided how the work was organized. Appendix four depicts this reality more from the eyes of the division (FiRe Ltd.'s relations both to DIY division and to grocery division).

At first glance the figure might seem a little bit complicated but after a examining it a little while it all makes sense and crystallizes into one sentence:"All work that should and could be centralized will and shall be centralized". The opposite version of this sentence is:" All work that creates added value for a particular division should be positioned inside the division". FiRe Ltd. encountered the organizing of work through these glasses, ideologies and questions. In chapter 2.1, Theory of Diffusion (Adoption), the research brought the information and behavioral schools into the picture. For those, who rely more on the information school, this model seems very rational on paper but in reality it is the humans that do all the work eventually.

Many change-minded young professionals, even though on paper it all made sense, often stated that FiRe Ltd. really had too few processes in place and that more experienced professional were accustomed to keeping tacit knowledge in order to promote their own indispensability, which led to too much work done from the ad-hoc point-of-view and to losing of the entrepreneur-mindset amongst personnel. To the researcher's eyes this made all sense since during the interviews and research's observation period inside all environments, to be precise in FiRe Ltd., DIY division and grocery division, there seemed to be quite a negative working atmosphere. This could be seen on many levels in everyday life; colleagues not greeting each other in the mornings, information not being shared, not contacting other professionals because they're we're not so nice persons, speaking of the bigger evil in top management, stabbing of superiors behind their backs and incapability of concentrating on important job tasks and doing only what was being told to do and forgetting the prioritizing of tasks that is needed to maximize payback for the company for devoted working time.

One revealing and brief story about the atmosphere, this time in grocery division, was the following: a young controller inside the accounting department filled in some real estate figures into a template and sent a respective spreadsheet to an experienced person who was asking for it and who had been working for the company for 15 years. A short moment later, the young controller went to see the experienced person and asked: "Actually, why did you ask for that template?" As a short reply, the experienced controller answered:" You're a strange and different accounting

professional since you ask for what the information was asked for. No one ever does that here. I'm just sending this to the headquarters of FiRe Ltd. and I don't know their usage of it."

The reader might think at this point that such cases naturally happen every now and then in hurry situations, when private life is kicking hard, when youngsters get played around by veterans or simply because information keepers do not want to open causalities for their business know-how. Interestingly, case study evidence within FiRe Ltd. suggests otherwise: the company was really suffering from lack of horizontal level cooperation simply because the divisions' independency rates and departments' independency rates had grown, for historical reasons. It is no wonder every management model is, at least to some extent, somehow like a two-edged sword: FiRe Ltd. could implement and put new business ideas into effect very smoothly, as long as the division leader was backing up the idea, actively supporting it and following up the results. Same level directors inside the firm could not cooperate effectively and many brilliant ideas were put off. Subordinates commonly knew in the company that they had to add their superior or even superior's superior in the carbon copy field in electronic mails if they were to collaborate with other departments by any means. Unofficially and verbally agreed subjects did not hold very often, which is why people were reluctant to communicate in an open and trustworthy manner.

Citing the description above, it is fair to say that the company tried to promote matrix operations on paper, but it was unsuccessful in the practice in doing so, and the company remained in line-management position. The FiRe Ltd.'s management realized that this is some kind of a problem in the 21st century as the world is becoming more liberal by many means, through free trade zones, improved human rights, fair trade issues, freedom of speech, spreading of internet et. Cetera. Therefore, the company initiated an efficiency program in 2011, which consisted of negotiations with the personnel according to the Finnish co-operation act, seeking for efficiencies within the operations and business cases and also changing the way the company was managed. As the Finnish economy was struggling, there was no other choice than to combine all these goals. Roughly speaking no managing can be changed if there are no real effects on personnel structures or real changes in how business cases are encountered. After some people were laid off and business initiatives were published, the company took very practical actions presented in the following list.

- The CEO was changed and behavior of the new CEO was remarkably different than the former CEO's, who was not really present at the company most of the time. The new CEO held positive speeches and actually took himself/herself to the streets and had lunch breaks

with ordinary employees along with the CEO constantly showing up at the workplace as early as 7 AM in the morning.

- Also other changes in management were made, the biggest effect being negatively oriented directors being replaced by positive and track-record proven champions from either within or from outside of FiRe Ltd. The former CFO commented during his/her time that the company was so agile that no tight processes were needed at all, which is quite a representative comment for the change that happened. The new CFO launched systematic templates, timetables and processes and taught personnel about the reasons to love them.
- Organization hierarchy was flattened in all places where possible, aiming at destroying too long vertical lines hindering information sharing. Also, at some roles, there were changes where a former subordinate would become a new boss for a former middle-management person.
- Learning environment was established, where the personnel director pushed many business areas and departments to present their core ideas and operations as learning materials. Earlier there was only technical readiness to do this but no material what so ever was uploaded.
- Workspace environments were launched to boost information sharing, not only for projects but also for common processes. The usage of personal folders was discouraged as well as the usage of department related network folders.
- Store operations unit was forced to share real estate and store site knowledge through spreadsheets and a system specifically designed for such use.
- Project organization was founded in order to prevent hidden projects from arising.
- For superiors it became a necessity to make sure every subordinate had a written job description, which also had to be signed by superior's superior.
- Headquarters' units were ordered to keep a big seminar at least once a year with their divisions' counterparts, including unofficial dinners and get-togethers.
- Trainings subject to a charge had to be attended by at least two persons in order to avoid information piling on one individual's shoulders. Only in special cases one could attend training but in such cases training material was obligatory to be distributed among all personnel inside the department or unit.
- Company's risk management assured two things: firstly an up-to-date list of people who could have company-sensitive information in their possession was formulated and kept up to date and secondly list of investment approvers was formulated so that no breaches of rules could happen after such a list had been openly published.
- Permanent travel permits were cut down heavily and one-time travel permit had to be accompanied by clear goals and topics.
- Big project was initiated in order to write down the policies of FiRe Ltd. A policy means a framework that has to be followed in organizing the work done in departments, aligned to be suitable with the company's strategy and feasible for developing detailed work instructions.
- The company even established a bookkeeping account for wellbeing at work in order to follow how much was invested directly to personnel's wellbeing.

It is obvious that FiRe Ltd. has taken a lot of steps in liberating the way work is done, shifting towards a much more matrix oriented setting and thus trying to react to new challenges. Naturally the risks of such a move are evident for nowadays' leaders in Finland as they know the rude fate of Nokia. In his book "Mahdoton Menestys", Jorma Ollila, the former chairman of Nokia board, clearly states that he brought the strong matrix organization into the company and that was one of

the key success factors in the rise of Nokia in the 90's. However, after time lapsed, the company had become helplessly bureaucratic and overly systematic in its moves, surely not least because of the monster matrix that was living a life of its own. Even though the management group of Nokia knew that it is essential to look into the future carefully, which is undeniably one of the key goals of rolling forecasting, Nokia collapsed with a pace not even the tech-analysts could not forecast. As for this thesis it is very important to sense the company's information sharing culture since one might ask the following question: what is budgeting other than information sharing? Yes, it is consolidating financial numbers, crunching spreadsheets and making pretty presentations but more than anything, it is sharing knowledge of what the company has done and especially what it will definitely do in the future and what it is trying to do in order to take a step towards realizing the company's strategy and reaching out for the vision it has set as an ultimate goal.

7.3 Old Budgeting System and Need for Change and Goals for the New System

In this chapter the old way of budgeting is given a short moment in the spotlight and emphasis is rather given to the need for change that preceded the implementation of rolling forecasting. The initial goals for the new system are also commented.

The old budgeting system

The grocery division's director of finance mentioned during the research interview, that as he began working for FiRe Ltd. in the 1990's the company had been using very traditional yearly budgeting as the basic cornerstone for financial planning and target setting. The business controller interviewed from the FiRe Ltd.'s HQ also stated that during his very long history at the company budgeting had been done on a yearly basis and it was very formal with loads of budgeting instructions. According to him, there was also a very tight link between bonus systems and the yearly budget. In the next sentence, he eagerly continued that that kind of rewarding system is nowadays behind the times and he would like to see much more timely bonuses and adjustable situations. Earlier, there were loads of cost units, which is quite analogical to the discussion about the company's hierarchy. Remarkable amount of time was used for internal charges between support cost centers and business profit centers. The old budgeting system, according to these professionals in FiRe Ltd., was a process of pedantic, precise and burdensome nature, where people would plan themselves to exhaustion in the end months of the calendar year, then continue with lack of energy to take care of the company's financial statements for the calendar year. Controller

of the grocery division underlined that very tight and extensive instructions were given by HQ and those had to be followed precisely. The CFO of grocery division said "we used a very traditional yearly budget and the big problem in that era was that everything was done way too heavily".

Internal material dating to years before rolling forecasting revealed that characteristic of the old way of budgeting was the going through of the finalized budgeting during one day lasting budgeting days. In those days directors presented the plans and budgets of their responsibility areas. This tried to ensure the cooperation between the unit responsible for the grocery chain and the units responsible for commerce, marketing, store network, finance, IT, logistics and so on.

System architecture designed for the old way of dealing with budgeting supported the meticulous working ways. Plans could be done for each cost center and account with the accuracy rate of decimal of the currency, namely the Finnish mark and later the euro. Before FiRe Ltd. implemented a major FiCo and ERP system project at the turn of the millennium, there had been several systems from plain spreadsheets to various stiff planning systems that did not import any figures from spreadsheets and everything had to be done manually. In those days personnel were not so accustomed to IT systems which led to the rise of a particular profession group in between the IT department and the traditional accounting department. A third interviewed person, grocery division's business controller, implied that there was a desire to do rolling forecasting already in the 90's but due inadequate IT systems and stable economy that was more stable that did not realize.

Updating the yearly budget and the emerging need for rolling forecasting

Actually the company did forecasting naturally along the year by updating their insights for the rest of the year. That was, however, a very scarce and ad-hoc based process, i.e. with no process at all. The grocery division's business controller underlined that nowadays the management demands and urges accounting department to develop processes, in which future periods are examined closely and in a reliable manner. According to him, business people have great ideas that are lacking basic cost-benefit analysis, which will be forced by giving accounting department the power and right to ask for them. At the end of the interview this professional whispered quietly followingly.

> *"It is not important how we do it but this is what rolling forecasting is all about. It's about challenging our business people to think through a cost-benefit framework so that they themselves see which ideas are worth pushing and which are practically rubbish". Grocery division's business controller*

His hint was obvious, the real role of rolling forecasting is, or at least should be, assuring operational efficiency through validating business cases into figures.

That operational efficiency could be improved through good communication between departments and that was what was indeed happening with the old way of doing things: budgeting summaries included sensitivity analysis of effects of several business occurrences, i.e. store opening delays' and not accomplishable projects' effects on financial outcomes were analyzed. Naturally investments, income statement and balance sheet were taken under the magnifying glass alongside with marketing budget, logistics budget and central costs' budget but the key notation is that special attention was also given to product lines' sales, gross profit, operational costs and operating profit in different retail chains. Example of this view is given in the following table 11.

Budget th €	Stores EBIT							Budgeted EBIT Total	
	PL1	PL2	PL3	PL4	PL5	PL6	Total		
Chain 1	1	3	4	2	1	1	12	12	Chain 1
Chain 2	1	2	1	2	1	2	9	9	Chain 2
Chain 3	2	2	2	1	2	2	11	11	Chain 3
Chain 4	3	1	1	3	1	4	13	13	Chain 4
Total	3	1	1	3	1	4	45	45	Total
								1	Other Business 1
								2	Other Business 2
								1	Other Business 3
								49	Grand Total

Table 11: Product lines' and Chains' operating profit Matrix of grocery division
(In addition to sales, gross profit and cost matrices)

The product lines' and chains' operating profit matrix of grocery division was practically trying to be activity based budgeting that was introduced in chapter 3.3. It tried to boost the cooperation between chain managers and product line managers in the matrix. In accounting view, sales and gross margin was fairly easily distributed to chains and product lines along with some cost centers' direct costs, pointing out the so-called "contribution ebit". However, it fell short in driver information that was not being discussed to its very roots; way too often sales was the distribution driver to many types of fixed costs. For example, even though the grocery division had product line square meter data store by store, the rent costs and maintenance costs were still distributed by total

sales distribution. Also, when new departments were established, the grocery division chose to distribute its fixed costs by sales distribution instead of really discussing what the new department was all about, what resources it was really using and what were the outputs of such a unit. The end-result was indeed, like stated as one of the danger zones of ABB in chapter 3.3, something the business nor accounting people really did not assimilate. For business people it was just a game of numbers and for overly careful accounting people it was just something that had to be done. Rolling forecasting was the master plan to change this culture and reorganize the matrix cooperation.

FiRe Ltd.'s business controller, an experienced old fox, commented in his interview another very interesting point for the need for change and goal of the new budgeting process. He said that accounting department is responsible for forecasting and accounting people are careful in their nature which leads to accumulated carefulness in the planning process. Herein lays the need for change according to him: the company needed more business people to bring in their effort and accounting professionals that can really cooperate with them without diverting the forecasts too much, accounting people that are business minded and not bookkeeping minded. His bottom line was working closely with other humans instead of just putting figures together that match and that seem nice on reports. There lies the added value of rolling forecasting: more timely and constant cooperation that brings the realistic view to the management's desk, which has the opportunity to really steer the ship by bullet-proofing launched strategies instead of arguing with two totally different views about the future with the personnel. The CFO of grocery division agreed with these views and stated followingly.

> *"We hoped for combining of budgeting to real work shift planning, target setting and managing of the company with real issues. However, we soon saw the opportunity to put all things in one basket as an integrated network of this company's real life situations and plans."CFO of grocery division*

As one interprets those interviewees' comments stated above, it is possible to see some answers for the question stated in chapter 4.1, which was the following: "Is rolling forecasting more of a technical or a humane change in the company's budgeting process?". Firstly, rolling forecasting, is definitely a humane change in the company's environment and secondly it can only happen if supporting systems are at an adequate level, above the hygiene factor where too much time is not needed for using of cumbersome spreadsheets or accounting systems.

The grocery division's director of finance, similarly with DIY division's and FiRe Ltd.'s colleagues, was surely aware of the IT systems' deficiencies and saw that the targeted broad-minded and

straight-forward forecasting process was striving for filling the prerequisites from system point of view. Little by little, however, the budgeting related IT systems matured and the world kept changing more rapidly, which lead to the need for making right decisions more swiftly. Thus FiRe Ltd. decided to implement rolling forecasting in 2005 with high hopes. The FiRe Ltd. HQ's CFO published the following list of targets and what will change compared to yearly budgeting.

Targets set out for rolling forecasting

- improving strategy based operations management
  - Vision ➔ Strategy ➔ Actions ➔ Follow-up
- improving results' follow-up
  - target to improve all of the time
  - financial and non-financial (predicting) indicators
- logical period for managing the company's operations
  - units occupied with more flexible and predictable resource decisions
- improving the financial forecasts' reliability
  - rolling forecasts ➔ best estimate of future's financial development
- a faster forecasting process than yearly budgeting
  - a weight on changes that bring added value for the company.

As for managing the shift, the CFO of FiRe Ltd. HQ, analyzed and had discussions with personnel about what kind of changes the new model would bring. He made clear that yearly budgeting and unofficial ad-hoc based forecasts done throughout the year will be abolished and replaced by rolling forecasting, which would be done in a more efficient and faster manner. This would be realized through rationalizations, where irrelevant and static accounts would be forecasted with minimized time and changes that really deliver economic value would be given more weight. According to him, cost control would remain important but perspective is changed from budgeting's allowances to cost-efficiency minded planning of business actions. All of these could be realized through common tools for forecasting, which would be stocked with reliefs for the user.

7.4 Implementation of Rolling Forecasting

Rolling forecasting was launched in FiRe Ltd. in 2005 with high hopes of management getting more timely information for decision making and with a lot of doubts on the personnel side that now the workload especially for accounting people will explode, expectedly quadruple. This chapter clarifies the story of the implementation phase of rolling forecasting in the company, the shed tears, moments of joy and especially, how management, middle-management and personnel perceived this change. For the sake of clarity and as elaboration, it is fair to state already at this point, that the implementation phase understands the time period from 2005 when the new process

was launched to 2007 when the firm stopped developing already the second technical solution tailored for rolling forecasting (called the BPS).

Launch of rolling forecasting with statements and timetables

As the starting point, the company wanted to make a brief statement of what rolling forecasting was all about.

> "FiRe Ltd. uses rolling forecasting as a tool for operative and financial controlling. Rolling plans are updated quarterly. In addition forecast is updated monthly to match the latest information about future economic development. Planning is based on strategy. FiRe Ltd.'s strategy is updated yearly."

It launched timetables, presentations and figures of the kind seen in figure 20. In practice, this meant forecasting fifteen months ahead. For instance, with RP1 2006 the period of October 2005 to December 2006 would have to be put into the rolling forecasting system. Then after three months had passed, the forecasting period would move three months onwards, i.e. with RP2 2006 the forecasting period would be January 2006 to March 2007. As the new approach was published, it was already fall 2006 and forecasting process of RP1 2006 began straight away. There was a major uprising in the opinions of accounting personnel, who would eventually spend most of the time gathering the figures and assuring the budget found its way to all systems, reports and presentations.

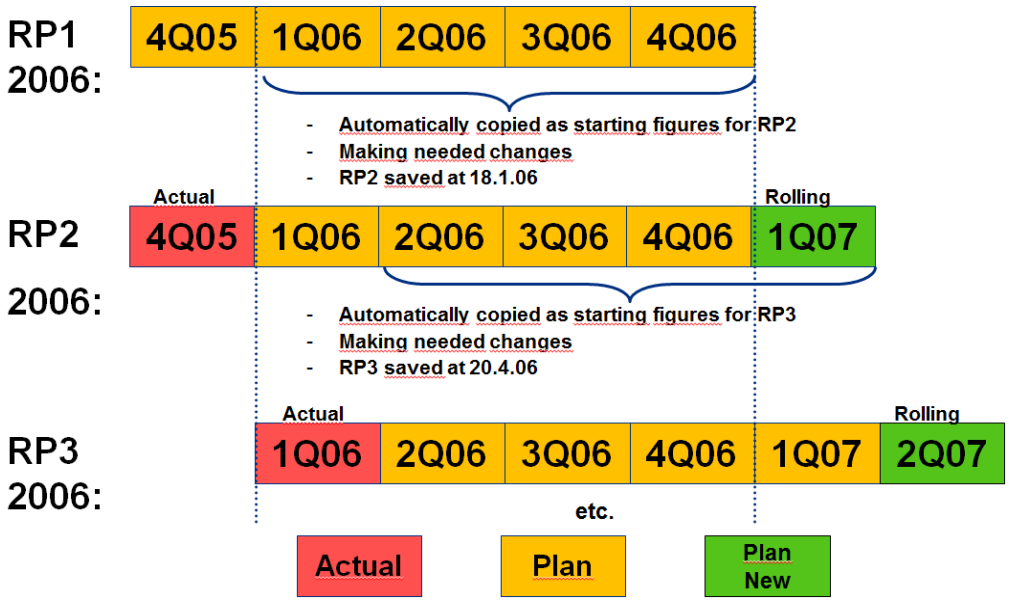


Figure 20: General timetable for freshly implemented rolling forecasting in FiRe Ltd.

Grounds for implementation

According to the theory part of this thesis, the implementation of rolling forecasting requires, above all, support from the director level of the organization, which succeeds best if the directors are well aware of the targets, goals and concrete benefits of rolling forecasting. Business controller of FiRe Ltd.'s grocery division, where the researcher studied the implementation phase of rolling forecasting, stated in 2006 that there really was great support from the top management level. He admitted, however, that middle-management was struggling with the change tremendously as they saw the benefits of the new idea and approach but they realized the stated goals and targets remained on a too high level for the accounting personnel, who weren't convinced about what's in it for them other than a stressful change. This resulted in middle-management realizing they would have to play the biggest role in this change as change champions with people, who were pretty much categorized as X type in the McGregor's generation theory. Interestingly, it was not an age issue; there were also young professionals who questioned the meaning of rolling forecasting and made ultimatums of leaving the company and older professionals who actually pursued it actively.

According to the business controller, accounting people, generally, were not quite change minded people and typical of the Finnish nature, not so positive minded either. It came down to the following comment of the business controller:

> *"In general we understand what we are striving for but our personnel want to see real currency, euros, invoices and reports of past happenings and they simply cannot grasp to something that is not existing. They live their lives one day at a time, with limited commitment to work regarding sacrificing extra hours when needed. Practically we're stuck with them and we cannot find ways in motivating them. Eventually we understand that these kinds of big changes will take years of time and we have to stay determined and patient in order to push this whole thing for better. It is not a project and will never be finished, sometimes it is hard to work with those kinds of characteristics when planning the financial future linked with planned actions." Grocery division's business controller*

In the early point of the implementation phase, management almost totally bypassed the reality that rolling forecasting did indeed cause extra work load among those who were responsible for gathering the figures and putting them into the system and analyzing them, mostly controllers and assistant controllers. However, after a while, the atmosphere in the company was tense but open enough for this reality to spring to the awareness of top management, who made the following counteraction: a project for working hours monitoring was launched in order to see what tasks took the majority of time. This confirmed that rolling forecasting was not understood correctly since analyzing those hours led to a conclusion that it really was budgeting almost four times a year.

Consequently all teams were obliged to list all reports they were producing and to whom they were sending those reports in order to see if all were necessary and if some of reporting could be abolished. That is to say, rolling forecasting can have an indirect effect on the finance function as a whole since it forces to prioritize the most important factors of business to the forefront and shakes up those chronic structures faced with traditional reporting and also with budgeting.

Hoped-for-results and rewarding system's relationship to rolling forecasting

The grocery division's CFO, when asked about the concrete benefits of rolling forecasting, stated that the company would have a clearer picture about the future, a more reactive organization and that it could delete many occasions of repeating same business facts on ad-hoc basis. His view was also that it eases the work of refreshing the business status of the company for the CEO. One obvious, work atmospheric point lies in here: it was the director level and middle-management that were really interested in the theoretic idea of rolling forecasting and how it could help concretely in planning everyday's business actions. These people were quite eager to discuss about the business in general as well and enjoyed the sketching of different what-would-happen-if scenarios.

This might be one of the reasons that FiRe Ltd. did not link the rewarding system to rolling forecasting; rolling forecasting would have to be a part of systematic way of work and taking care of the company's business actions. Therefore, according to the grocery division CFO, there would be no room for rewarding "games". The reality was not, however, so black and white; rolling plan number 2, that was prepared in the place of the old yearly budget, was the starting point for target setting for employee reward systems. The CFO of grocery division commented as follows.

> *"We think multidimensional rewarding system functions very well. That means having personal targets, non-financial KPIs, financial targets adjusted from last year's actuals and freshly baked RP2 figures. RP2 cannot be taken as-it-is since we realize it might lead to sub optimization schemes by personnel or team leaders who are not playing the game according to the company's values". CFO of grocery division*

Once the target was set, there would have to be a very good reason for resetting it during the ongoing year. In another interview, the controller of grocery division stated that linking rolling forecasting to rewarding systems would be quite difficult in reality and would cause a lot of extra work, at least in the implementation phase when there were enough worries turning the routines around. All this pointed out that the big journey with rolling forecasting was in its early phase and that FiRe Ltd. did not want to change other controlling systems with the same sudden stroke. In the

interviews it became clear, that according to middle-management and subordinates, the small steps and active discussion is needed in order to achieve big goals.

Full-scale implementation preferred over piloting and the decisive factor of culture

As for implementation phase's decision, whether FiRe Ltd. should pilot rolling forecasting first at one division, the CFO of grocery division and business controller of FiRe Ltd.'s HQ commented that there were too many similarities between yearly budgeting and rolling forecasting for piloting to be a feasible solution. Divisions would have cooperative meetings anyway so there would have been misunderstandings of what is happening in one division and not at another division. That is why FiRe Ltd. launched rolling forecasting entirely for all financial figures at the same time.

The bottom line is that the change is more linked to the way of thinking than to technical systems. The CFO and business controller specified their opinion that way of thinking should always be open for changes whereas future changes in rolling forecasting's technical systems could be piloted first at some department or division before spreading to all places in FiRe Ltd. According to the CFO of grocery division, the timing of the implementation is vital; there should be as few distraction factors as possible from within the company and distraction factors from outside world that lure the company to take a better grasp on what's occurring in the operational environment. This meant that the company was not having other major projects in their management controlling systems or other topics that would need full devotion of time from accounting professionals. In the retail industry, there is a saying that the industry will encounter more changes during the next 10 years than it has experienced during the last 100 years. It goes without saying that with this kind of atmosphere the ground for rolling forecasting was rock solid.

Instability of the IT environment concerning rolling forecasting

Controller at the grocery division brought one interesting point to the discussion with emphasizing the company's system architecture's feasibility rate for rolling forecasting. Practically he meant that the FiRe Ltd. was using multiple systems, from which it was not so convenient to gather data for rolling forecasting, i.e. FiCo, payroll, store network information, marketing, agreement data, research, finance systems, let alone the business units' action plans in PowerPoint and Excel formats. Concretely these systems had severe problems in not having joints to other systems or in importing data to spreadsheet form, where monthly data could be seen without manually processing the background data for the ultimate financial plan.

The IT department worried mostly that the company's ERP was integrated to other crucial systems to an extent where the core operations could be secured. It was, in reality, not in the IT department's interest to take an active role in developing rolling forecasting's system architecture. That had to do with the roles of accounting departments inside Fire Ltd; they were surely appreciated but not really walking hand-by-hand with the business units, which meant accounting department lacked support for IT system development projects, simply because, as units, the history had shown that accounting departments were just responsible for meeting legislative requirements as for financial statements and simple reporting followed by irregular and hazy ad-hoc culture.

The grocery division controller underlined that, at least for now, the time was not mature enough to the actual forecasting system to be anywhere close integrated with other IT systems. The top management as well as the CFOs of HQ and the divisions, were determined, however, in unleashing the accounting department from this slavish role to a change agency role. Therefore, in the implementation phase of rolling forecasting, the power relationships inside the organization should be understood to maximized extent in order to realize with what muscles one is working the weighs.

At the latter stage of the implementation phase, in 2006, FiRe Ltd. made a decision to shift from SAP based planning system to a system called BPS. SAP was seen as very stiff since there one had to forecast every single cost center and account by manually typing in the figures. This did not serve the meaning of concentrating on big issues since many entireties could only be built by these much smaller parts. In BPS, forecasting cost center groups and account groups was possible. In addition, BPS had more usable reports than SAP so there were ingredients that could serve the original purpose of rolling forecasting better.

The reality with BPS, as the grocery division business controller stated, proved to be not so rosy: "It is not one round or two when we have had to boot and restart the whole system. It has been unstable and on the other hand the scarcity of accounts is not serving our business needs when for example we have 20 marketing accounts in actual reporting whereas BPS has only three." So practically FiRe Ltd. went from one system to another, and both systems were not delivering what top management desired, as the business controller continued:" Our top management assumes that we do have an official and saved store-specific forecast. In reality we do not have, we have had a big master excel from which sum levels have been put into SAP or BPS, or we have had BPS where we have put in the figures with our tiny little fingers."

Another controller who was part of the project team for BPS, commented that the system provider had horribly under resourced the support for the system, that was having only two and ultimately only one consultant available for developing and supporting the system. Stigmatizing many of the interviews in this thesis, many controllers really believed that excel could be abandoned at some point but the actual forecasting work, pre-forecasting as one controller put it, was done very often in excel. The grotesque reality was that FiRe Ltd. finally had to make the decision to abandon BPS, firstly by stopping its development in 2007, and later after two to three years in 2010 by shifting to Hyperion based system, the core of which was, no surprisingly doing almost all of the work in excel and uploading those forecasted figures into the system as saved official versions of forecasting rounds. For the researcher of this thesis, it was interesting to find out that daydreaming CFOs and some controllers might have such megalomaniac ideas of abandoning excel work or forecasting.

After the first round of interviews, designed for the implementation phase of rolling forecasting, FiRe Ltd. was just having first demos of the new Hyperion based system, which has since stabilized its position in the company as the forecasting tool to be used now and in the future.

Frustration in the subordinate level

Assistant controller at the grocery division explained the fears the subordinates were having at the time of implementation of rolling forecasting in late 2005. At the time of his comments the company had finished two rounds of rolling forecasting and was having the third round ongoing. He argued that even though they trusted in top management's competence, the new way of budgeting, i.e. rolling forecasting, would not be the right process for FiRe Ltd. at this point of time. The assistant controller elaborated the statement: "This whole thing will make us blind". He continued his lengthy outburst in the following way, which shows the passionate feelings of the subordinates.

> *"Earlier we were concentrating on real things, calculating real business cases, answering reasonable questions from management or business people, we had the power to produce real top quality and gave our everything to a very thought-through yearly budget. That yearly plan had very good follow-ups and we could really discuss with business people why we're succeeding or underachieving. We're not dumb neither fools, we surely understand the idea behind rolling forecasting; it would be nice to be more reactive or even proactive. There's no argument over that. The simple truth now is, that we're doing bad quality plans, we do not have real or systematical follow-ups anymore, just monthly actuals versus some rolling plan figures, we've switched to survival mode where the only thing that's important, is that we crush the figures into the sluggish planning system in time. Earlier we were thoughtful human beings whereas now they're turning us into machines. I know a lot*

of people are fed up with this and that many are thinking of leaving the company. Now they come to us and tell us we have to be more agile, as if they did not know what we were doing earlier in our vacancies. Therein lays the path to failures we are now having. Rolling forecasting is actually worsening the information flow inside the company. We have reacted in different ways: some of us bend to the limit and do yearly budgeting four times a year, some of us take the RP2 seriously and relax with the other rounds, some of us, like I said, are planning to leave, and some of us have been reluctant to express their feelings about this thing." Assistant controller of grocery division

The key point of the assistant controller was that the pyramid of directors and top management was too hyperactive in developing the business. This is a resemblance to those value destroyers mentioned in the summary of theory part in chapter five. He concluded as stated below.

"Anyone of us can throw ideas around and pretend to be dynamic whereas very few of us can realize well-made plans. With rolling forecasting, we're giving a signal of strategies and directions of the company changing with a blink of an eye, thus leading to a model where plans will be prepared too hastily. I'm afraid the company will end up being an inextricable tangle where top management has outsourced the managing of the company to a process called rolling planning. Nowadays some firms are even abolishing budgeting entirely. I cannot believe we're giving it more emphasis than before since we're not even doing this thing any lighter than before." Assistant controller of grocery division

Not all of the subordinates were so infuriated or skeptical about rolling forecasting as the assistant controller above: grocery division controller stated that it is only natural people are having change resistance since traditional yearly budgeting has been around for ages and it has been integrated to many processes in the company. He presented that rolling forecasting has ignited many good discussions on what is actually vital for the company. According to him, no matter what new process is established, there's always a momentum in such situations to knock over those fences some employees were holding by keeping key information to themselves. This comment is an evidence that rolling forecasting implementation might lead to power shifts within the company.

Early on measures taken to boost the implementation of rolling forecasting

In the late 2006, at the later phase of the implementation, FiRe Ltd. ignited a self-made development project for rolling forecasting in order to align the process with those targets mentioned in chapter 7.4. In the following figure the red parts point out which points of strategy process, rolling planning and monthly reporting were tweaked in order to improve those relationships.

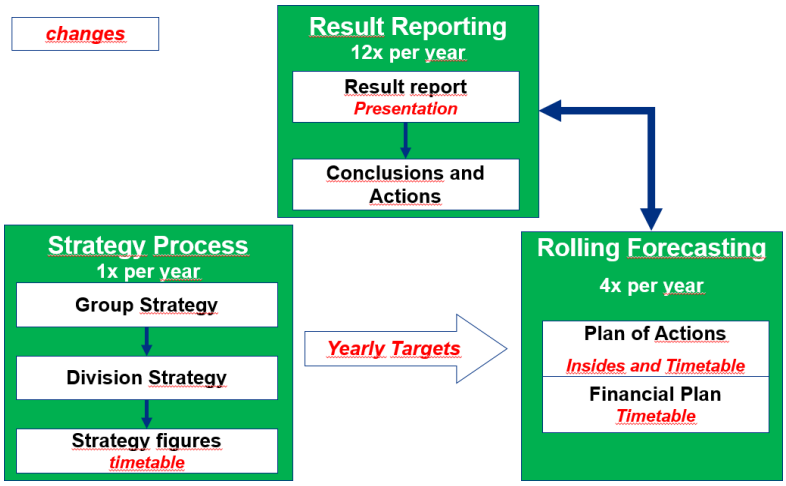


Figure 21: Tweaked points of FiRe Ltd.'s strategy, rolling planning and result reporting

For the project, the company published four key points presented in table 12.

1.	Financial planning and reporting processes need to be combined clearly
2.	Result planning supports result making
3.	Operation planning and financial planning need to be flexible
4.	Forecasting data need to be reliable

Table 12: FiRe Ltd.'s four point list of targets for developing rolling forecasting

For financial planning and reporting the company clarified that the strategy should offer the baseline for yearly targets, which function as stepping stones for rolling forecasting. This clarified the difference between targets and rolling forecasts. Targets were yearly figures whereas forecasts were seen as plans of actions and financial plans updated each quarter. Targets were mostly fixed and could only be bend in company merger or acquisition situations whereas rolling plans had a basis from the targets but they could and should be bent according to all information available. Another difference was that targets were really target-oriented whereas rolling forecasts should be embedded with strong realism. Also the top-bottom and bottom-top perspectives differed between targets and rolling forecasts; targets were set by the management whereas rolling forecasts and related action plans were crafted by the organization and accepted or declined by the management.

As for targets, it was publicly announced that they would be set on challenging levels so that operations would be developed and efficiency improved. Timetables were adjusted in order to ensure flexibility in planning and reliability of those forecasts were emphasized so that internal

managing could be as efficient as possible external reporting would provide interest groups as accurate information as possible. Reporting of the deviations from forecasts was brought to the forefront, the idea being that if one reports those one would plan better in order to avoid shameful deviations from plans. The following figure explains further how this follow-up was organized.

Sales development	Q106	Q206	Q306	Q406
Actual	1,6 %	-0,5 %	-4,5 %	2,0 %
RP4 2016 - deviation			2,1 %	3,2 %
RP3 2016 - deviation		4,2 %	1,6 %	0,5 %
RP2 2016 - deviation	-5,8 %	-1,9 %	-7,6 %	-1,8 %
RP1 2016 - deviation	-6,4 %	-2,9 %	-8,5 %	-3,1 %

Deviation between +/- 1%
Deviation between +/- 3%
Deviation over 3%

Figure 22: Reporting of deviation of rolling plans

Other changes carried out were that strategy related yearly targets were really uploaded into the system in order to save those targets into some more official place than spreadsheets and presentations, timetables for rolling forecasting were tightened in order to force more analysis time and also that monthly result packages abolished deviations from rolling forecasts entirely and concentrated only on differences between calendar years; the forecast was visible only in one column which was the updated forecast for the whole year.

All in all, FiRe Ltd. recognized that many things were not providing those results that were desired and reacted in ways described in this subsection so that processes would have better interrelationships. As for rolling forecasting, at this point, it was clear that it was categorized as a tool for tactics, i.e. the catalyst between short term business activities and long-term strategy. What can be said, is that at least rolling forecasting did not mess up the company's core processes in the retail business since FiRe Ltd. showed constant improvement in the operating profit during the research period of 2008-2014 and also during the implementation years of 2005-2007.

Concluding the key points of the implementation phase of rolling forecasting

As a repetition, the implementation phase of the company's rolling forecasting process was colored by the following findings.

- Earlier FiRe Ltd. relied on traditional yearly budgeting and reacted to changing environment based on case by case and ad-hoc methods.
- Business minded accounting professionals were seen as vital members for the success of the company; rolling forecasting tried to turn the way of thinking, i.e. culture, around.
- Budget was a word that did not die and harmed the understanding of rolling forecasting.
- Rolling plan number 2 was the basis for rewarding systems but not taken as such in order to avoid budgeting games.

- At first, the top management did not supervise how much time was used for forecasting and at first the middle management failed in delivering that message to directors.
- New account hierarchies were established and each division could bend them according to most suitable use, which lead to account ledgers that did not match with reports and thus harmed the understanding of income statement.
- The company understood that they needed to recruit, more than ever and not least because of the very unstable IT environment concerning rolling forecasting, accounting professionals that were keen on IT systems as well as excels, interested in developing new ways of working and attracted to the idea of concentrating on big issues and their financial solutions rather than matching irrelevant things to the last decimal.
- Rolling forecasting succeeded in shaking present ways of encountering business cases, according to some, and failed by creating a shallow process which in itself dampened the feeling of entrepreneurship in the company, according to some others.
- Development project tried to clarify the processes, definitions and uses of different tools.
- Most importantly, during the implementation 2005-2007 rolling forecasting did not lead to noteworthy downfalls of FiRe Ltd.'s profitability. The financial crisis hit the business environment starting in fall 2007 and had more impact on the following years.

7.5 Daily Operations of Rolling Forecasting

Around 2009, once the implementation phase had stabilized to a somewhat stable state of running the forecast process throughout the year, FiRe Ltd.'s top management decided it was the right time for some outside partner to take a look at forecasting practices and see what a consulting firm would conclude about the process in general. It concentrated on business units' and subordinates' activities during the process to become more familiar to the CEO and other members of top management.

Consulting company report on running the rolling forecasting process in FiRe Ltd.

The report found out that there are upsides and downsides of the diversity of rolling forecasting: on the one hand forecasting could be used in a versatile way and some people felt it released some employees from older submissive structures but on the other hand subordinate level did not have understanding of what rolling forecasting was all about. There was lack of commitment to the new way of managing the company as job descriptions had not been updated to match the targets of rolling forecasting. That was an interesting finding because it is a clear sign that change management had bypassed one of the key elements: things had not been agreed between different levels of the organization, instead there was more of a tell-to-do culture surrounding rolling forecasting. How can one achieve the more agile and dynamic company culture?

The consultant report underlined that top management support for rolling forecasting was of utmost importance as for what kind of position it gains within the company. Finance function on its own cannot be the process owner, instead it should be the business entities that should be process owners and finance should be there to help get things done. Of course timetables, reporting and analysis are on the shoulders of finance department but the business process in itself should be on the highest podium position. Still in 2009, the report concluded that communication on what rolling forecasting was all about, was far from finished: it had so many interfaces with many other processes that managing the whole forecasting process seemed to be a challenging task.

The consulting firm suggested establishing workshops around different parts of rolling forecasting in order to boost cross-unit communication. Another finding of the report was that too few documents were to be found concerning the basic forecasting assumptions present at each rolling forecasting round. For example, there were no consistent lists of store network, no assumptions for gross domestic product growth or for different cost indices. There were big changes between sequential rounds but unfortunately the reasons for those changes were too hidden. Ultimately, the consulting company presented a five point list of improvable issues in FiRe Ltd.'s rolling forecasting process. This can be seen in the following table.

1.	More discussion and communication for rolling forecasting's meaning in the company
2.	Flow-through of one round, especially for RP1, RP3 and RP4 needs to be shortened
3.	Determining the concrete differences between rounds need to be clarified
4.	Job descriptions and related responsibilities in forecasting process need to be sorted out
5.	Key assumptions used for forecasting need to be more open and visible for all processes

Table 13: Five point list of improvable issues for FiRe Ltd.'s rolling forecasting process provided by the consulting company hired for examining rolling forecasting

Practical organizing of the forecasting work

The practical work could be categorized in three parts: preliminary work, actual forecasting work and finally reporting work. In this subpart those are elaborated further.

Preliminary work

One of the starting points for each rolling forecast round was, of course, the timetable for the whole process including main points' deadlines. Firstly FiRe Ltd. reviewed ongoing projects, their

assumptions and effects for forecasted figures. These included the store network plan and other major projects. After those cornerstones were analyzed, the management group gathered and reviewed what kind of preliminary targets could be set in order to steer the process proficiently. Preliminary work included also dates for launching many kinds of templates; e.g. for investments, many types of reporting formats, operating expenses and gross margin forecasting.

The timetable did not set any dates for the actual forecasting phase but set of course the dates for finalizing the figures in the system and providing respective report templates and presentations. All in all, the whole process, according to the timetable, would last almost two months, which is quite remarkable amount of time considering that some of the key assumptions made early in the process could change and have major effects on the final financial outcomes of the company. Basic mathematics also sums up that four rounds of rolling forecasting would mean having 8 months of forecasting throughout the year. Adding approximately two months personal vacation and national holidays it would mean having only two months of the year without rolling forecasting process ongoing. The following figure depicts how the timetable was presented.

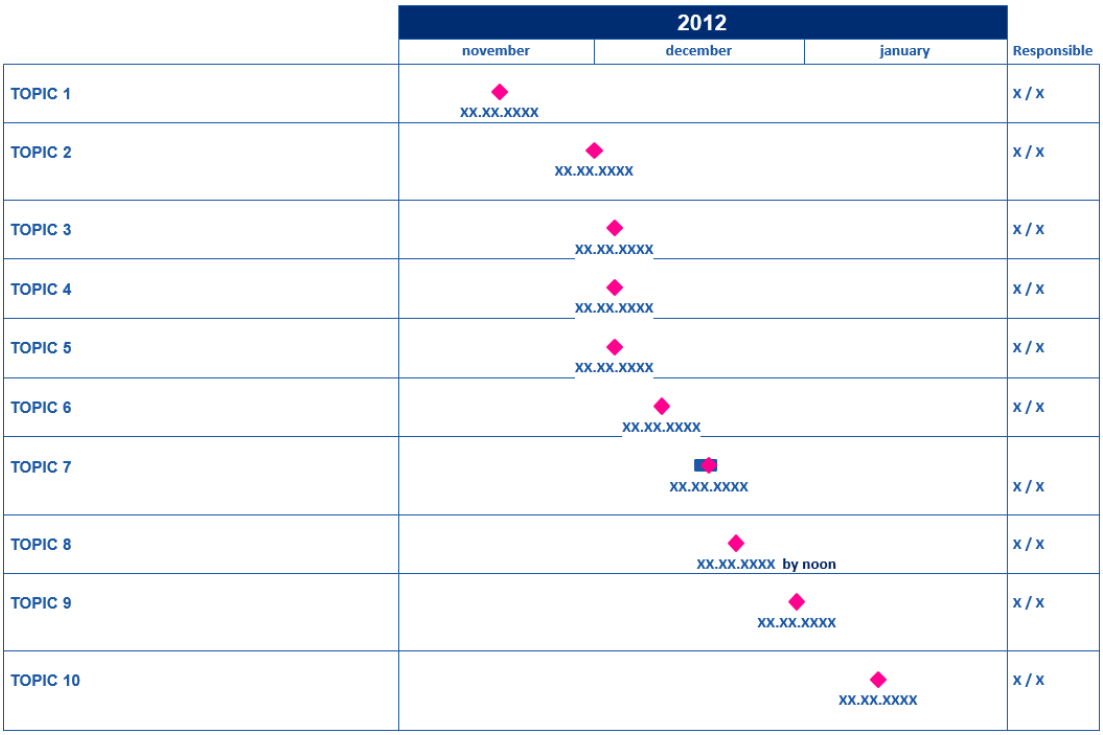


Figure 23: Example of a rolling forecasting timetable

Surely, as the process owner of rolling forecasting, concerning the actual forecasting work, the accounting function of FiRe Ltd. tried to create responsibility areas for accounting personnel. One

of the key problems in forecasting was the ever changing organization. One controller put it in the following way.

> *"We're having nowadays organizational changes in less than two years cycle and people that have continued working in the company are accustomed to it. The only ghoulishness in this setting is that sometimes people are not learning their new positions and are sticking to the old tasks they used to have. This problem might have several background reasons in my opinion; an employee that is allergic to changes, scarce resources for training, unwillingness of management to change things due to changes that happened against their will or because they knew themselves they would not be there for a long time anymore, differences in people's skills and sometimes also real business changes that caused new units and cost centers to be established." Controller of DIY division*

Earlier FiRe Ltd. did not have that kind of an assisting position in the accounting department that would take care of the intactness of the entity hierarchy, account hierarchies, cost center establishment and system feasibilities. In 2012 this kind of position was established to be alongside in the accounting department with business control, financial control and other teams. According to many opinions, this proved to be a successful tactical move because now business controllers and financial controllers could work with their full expertise in those tasks for which they often had a higher academic degree. In figure 24 the basic idea of a responsibility table is represented.

Comment	Unit	Business responsible	Accounting responsible	Template ready?	Template sent 8.12.2010?	Discussed with business responsible? 8-15.2010?	Template returned at latest 11.12.2010	Figures uploaded 14.12.2010
Comment here	Accounting	Name 1	Name 1	YES	YES	YES	NO	NO
Comment here	HR and Legal	Name 1	Name 1	YES	YES	YES	NO	NO
Comment here	~~Abolished Unit~~	~~Name 2~~	~~Name 2~~	Unit not in use	Unit not in use	Unit not in use	Unit not in use	Unit not in use
Comment here	Management	Name 1	Name 1	YES	YES	YES	NO	NO
Comment here	Commerce 1	Name 2	Name 2	YES	YES	YES	YES	YES
Comment here	Commerce 2	Name 2	Name 2	YES	YES	YES	YES	YES
Comment here	Commerce 3	Name 2	Name 2	YES	YES	YES	YES	YES
Comment here	Chain 1	Name 3	Name 3	YES	YES	YES	NO	NO
Comment here	Chain 2	Name 4	Name 4	YES	YES	NO	NO	NO
Comment here	Chain 3	Name 5	Name 5	YES	YES	YES	NO	NO
Comment here	Marketing	Name 6	Name 6	YES	YES	NO	NO	NO
Comment here	IT	Name 7	Name 7	YES	YES	NO	NO	NO

Figure 24: Example of a responsibility table

In this figure one can see that many columns were embedded in this kind of spreadsheet. There was comment field which no one ever used in any of the examined rounds, then units and respective business responsible and accounting responsible persons. A deleted unit was overwritten so that everyone could see it had to be nullified from the systems. Then there were binary columns stating yes or no for different phases of the process of updating each unit's figures; template ready, template sent, discussion with business responsible, template return date and uploading of figures.

These kind of follow-up files were quite usual in the company for other processes as well and as it can be seen in figure 24's example, very often the template was not filled according to process owning business controller's wishes, leaving many cells empty or prefilled no as end-state after each rolling forecast round. In this example names 4, 6 and 7 totally bypassed filling yesses to desired places. This is not an argument that these kind of tables were not useful, this is just an argument that the process owner lacked the expertise, desire and or time to supervise the sufficient flow of the process. In addition, if one misses supervising processes once, the subordinates become accustomed to this kind of slack in the processes. As for the preliminary work, it can be said that the prepared templates changed each and every forecasting round the researcher encountered, which distorted the analyzing work of the template receivers. Preparing phase included also publishing foreign exchange rates to be used for purchases made by the commerce department.

Actual forecasting

Even though timetables could describe the rolling forecasting as a process with a starting point and ending point with several milestones, the beginning point for realizing the actual forecasting work, is understanding what kind of different roles and groups were playing their part in building an intact forecast. It was not just a task of one CFO and some controller who would crunch the numbers. An intact forecast was built through tight cooperation between business people, business controllers, financial controllers, CFOs, the CEO and the board. One could not state it would have clearly been a top-bottom or bottom-top process. Instead, it was more of a complex network with some natural chaos concerning all interest groups. There were group and individual information flows, interests, power relationships, different experience and skill backgrounds, opinions and lastly a whole lot of reporting perspectives that enjoyed varying levels of attention each round. Figure 25, which totally on purpose seems to be like an inextricable tangle, depicts this reality.

Merely within the accounting function in itself, the following things varied between teams and individuals: some were system-wise advanced and saw the possibilities in systems' development, some very social and business intuitive, some talented in financial accounting and thus in finalizing rolling forecasting's final balance sheet items, some good in coordinating the whole process, some skilled in handling loads of spreadsheet data and some interested more in some business perspectives presented in figure 25 than others.

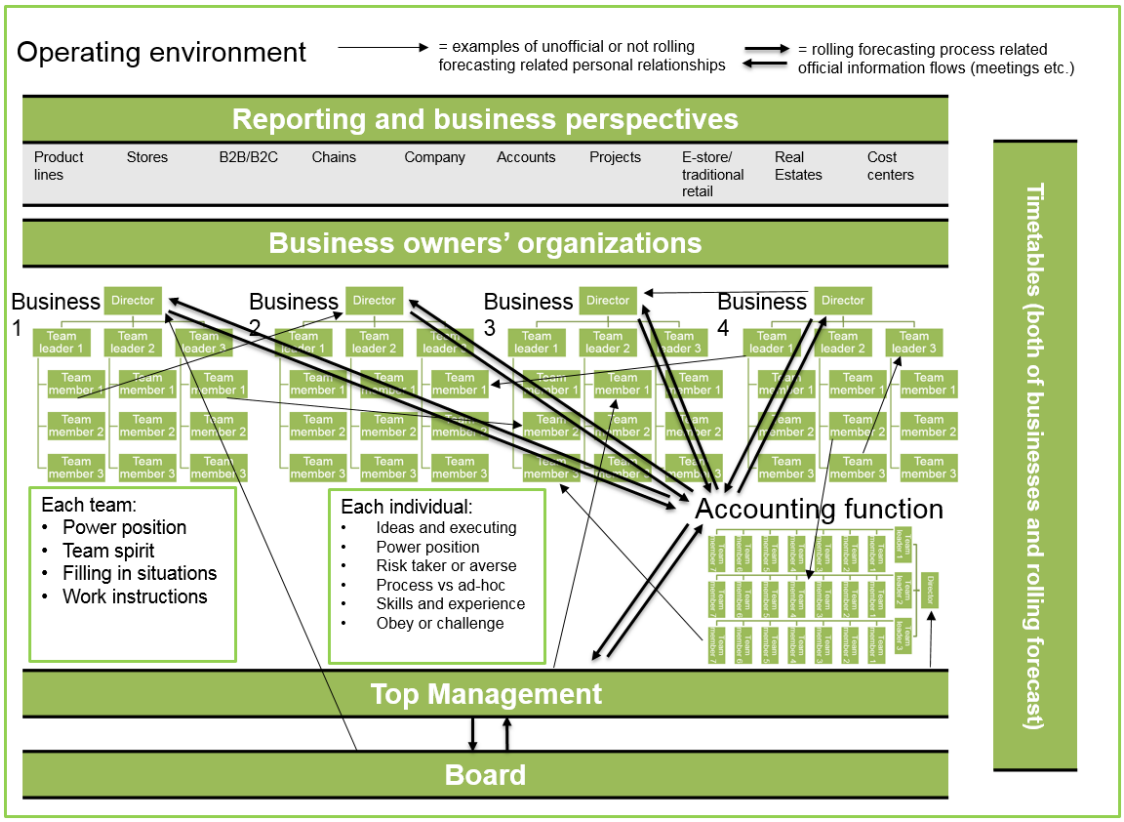


Figure 25: Complexity of rolling forecasting process related perspectives and information flows

The board of FiRe Ltd. set strategic alignments for the top management, who guided the business directors and accounting function CFO in coordinating the forecasting process. This led to business controllers harvesting for quantified business knowledge and rolling forecasting coordinating controller to cooperate in putting in the financial figures into the system, which was finalized by financial controllers who had the best knowledge in finalizing the companies entire income statement and balance sheet. The bottom line with figure 25 and this paragraph is that taking into account all of the business perspectives, the limited time and team specific and individuals' specific characteristics it is clear that compromises have to be made and the real challenge lies in finding the good balance between information that is ultimately wanted and information that is possible to be delivered, i.e. maximizing the benefits of rolling forecasting with the correct, reasonable and cost-efficient amount of resources.

Once majority of the forecasting templates had been launched, there were usually two weeks' time until figures had to be ready in the forecasting system and several reports returned to each division's CFO who would examine the end results of regional results and also prepare the consolidated package with his or her accounting professionals in order to deliver the message both to management groups inside the division and to management group of the HQ. One of the major

complaints about this timetable was not that two weeks would not be enough. Instead, it was more the timing of this two weeks' time. Many of those subordinates, i.e. controllers and assistant controllers, were tightly occupied by the month end process for the last month before the rolling forecasting period and approximately one week time out of those two weeks reserved for forecasting was totally parallel with month end process.

Based on many rounds' experience and unofficial discussions, it can be said that different levels of the company were using their time quite differently concerning the actual forecasting work. For the accounting subordinates that were playing the executor role and who were responsible for preparing the templates, putting in the figures and making sure details were according to what business people had told or given as assumptions, the working time grew intensely during those two weeks. One of the subordinates stated his opinion about that time: "in itself, I do like reporting and taking care of analyzing each month's results because they are so called real euros, and in itself, I do like forecasting because during that process I get to learn more about the company's future and I can help the business people's view on the near future by quantifying their ideas. However, these two combined to happen in the same time leads to insufficient quality in both processes, in my opinion." Major finding here, though, was that many of the tasks subordinates claimed to be within this two weeks, were, however, tasks that they could accomplish fully or partly already earlier before the forecasting round officially had begun.

Team leaders and business controllers had an active role in the forecasting process. Their time-span began earlier than that of the subordinates' with preparing meetings beforehand and lessons-learned type of meetings after each round. One can say, for them the forecasting process lasted approximately for two months, out of which 2 weeks could be categorized as full working days. Their role also included readiness for giving answers to top management during off-work time. Another major finding was that team leaders and business controllers could have pushed and motivated subordinates to preparing work much more eagerly and also let top management know of the realistic burden, of which the process was made of instead of giving almost unlimited promises to top management. Motivation building had become almost extinct since no positive feedback was almost ever given when forecasting deviations were small, instead nagging ruled the playground about the budget differences versus actuals instead of building a learning and self-correcting culture. According to many subordinates and also team leaders, this was because of the fear spreading from the highest levels of the organization. Even though FiRe Ltd. had ignited change actions mentioned in chapter 7.2, the culture was changing slowly and still suffering from the past.

As for the top management, which was responsible for adapting the company's operations according to aligned strategy directions, the rolling forecasting process can be understood as an always ongoing process with a lot of off-work time. That means the time-span for each forecasting round lasted whole three months, during which actively spent forecasting related working days could be somewhere near five working days, consisting of guiding meetings with team leaders and target setting meetings with members of different management teams. Major findings concerning the work of top management summed up to three things: firstly there were too many last moment changes concerning some rolling forecasting assumptions which led to earlier work done by subordinates being either rubbish or misleading. Secondly trying to guide the rolling forecasting process to be lighter than before, management would have to start by determining what end questions they wanted answers for. Now the atmosphere was that management encouraged forecasting to be eased until the moment came when they wanted answers for specific things such as store by store data, like for like calculations and precisely answered what-if scenarios. Thirdly, management made alignments and also management level eliminations to the actual forecasting system, which were not documented either at all or too vaguely so that when the time for the next forecasting round came, nobody remembered what special moves were made last time.

After the figures had been finalized to the system within two weeks' time, there were several reporting requirements for different levels and perspectives. Some of those reports had to be returned at the same time as the finalization of the figures and division level end final report packages had to be returned to the HQ in the middle of the first forecasting month. That practically meant that all units had the chance and responsibility to update their rolling forecast if the view had changed drastically way or the other. This, in practice, caused a lot of hassle both for business people and accounting people. Some accounting people asked: "Why are we refreshing our whole plan once we get the actuals in for the last month before the forecasting period? Of course our view has changed since we even know how the first forecasting month has started compared to our earlier thoughts. Business people will get exhausted if we now start asking the same questions."

The researcher's grasp on things underlined this fact: business people were quite allergic on getting near future questions almost every month. They emphasized that working time is a scarce resource and that during that time they will do everything to realize deals and to make real business changes which would eventually lead to beating the view they themselves were building during the rolling forecast process. Top management and CFO levels encouraged that "refreshing our view, if we

know essential changes to the plan we have just finished, is vital since we do need to have an up-to-date view on our future in order to steer the company in desired directions". Anyway it might be, for the researcher it became clear that considering adapting the right mindset for rolling forecasting related work there were definitely some imbalances with the following issues.

- What is the correct release point for forecasting background data? E.g. store network plan, exchange rates, projects and how remarkable changes can be left for last minute changes?
- How remarkable changes would have to be corrected in the forecast?
- What changes will end up in all reports made concerning rolling forecast round and what changes are adequate only in the system?
- What is the optimal timing for making changes?
- Could the correction be made in an inconsistent way preferring quick-and-dirty method?
- What were the cornerstones of consistency of the figures in the system, i.e. which rules could not be bent even in hasty quick-and-dirty situations?
- In what situations do the business people need to be bothered, i.e. how much of the view could the controller correct on his or her own?
- With so many deadlines in the timetable,what deadlines are considered hard and which soft?
- In what situations would it be even preferable to pressurize business people to respond?
- What would be the optimal way to handle those business people, and sometimes colleague controllers, that do not obey the forecasting deadlines, assumptions, principles or rules?
- In what business operations should rolling forecasting play an active role and in what operations would it not play an active role in the day-to-day perspective?

For these questions there are of course no perfect answers but more communication between different levels of the organization and at least principle alignments could boost the understanding and coherence of the whole forecasting process.

Reporting

The reports made during the process crystallized the major points of the forecast in spreadsheet templates and PowerPoint presentations. This subpart clarifies reporting more precisely.

Investments, to begin with, had three major areas; acquisitions, store site investments and IT investments. First report of the whole process was the store site network list for both divisions and their areas. The regional operations filled in a more precise template for their store site and also other investments and returned it to a controller responsible for investments, which was the latter phase of investment reporting. IT investments had a totally different process; it followed projects determined to be realized by the management and the IT director fit the reality into a spreadsheet template. Divisions both had to report investments as couple of summarizing slides in a presentation, which included often also eliminations if the investment outlook in the forecast exceeded the

investment framework set by the HQ top management. Acquisitions, if there were any, were totally excluded from the forecasting process since they were considered as too sensitive data to be included in the forecasts. FiRe Ltd. had a yearly strategy process, in which only the CFO and a couple of key controllers determined the effects of some near future acquisitions.

Risk reports were crafted by each division's risk manager, who set up a risk map with two axis's, y-axis representing the probability for the risk and x-axis representing the impact on division's result within the next 12 months. The quantification of these risks did not include any calculations and also there were no extensive analysis of what actions would be possible to dampen these risks and how much these actions would cost the company and no binary based integers or similar that would have showed if these actions are included in the rolling forecast or not. Example of such a risk map is presented in the following figure.

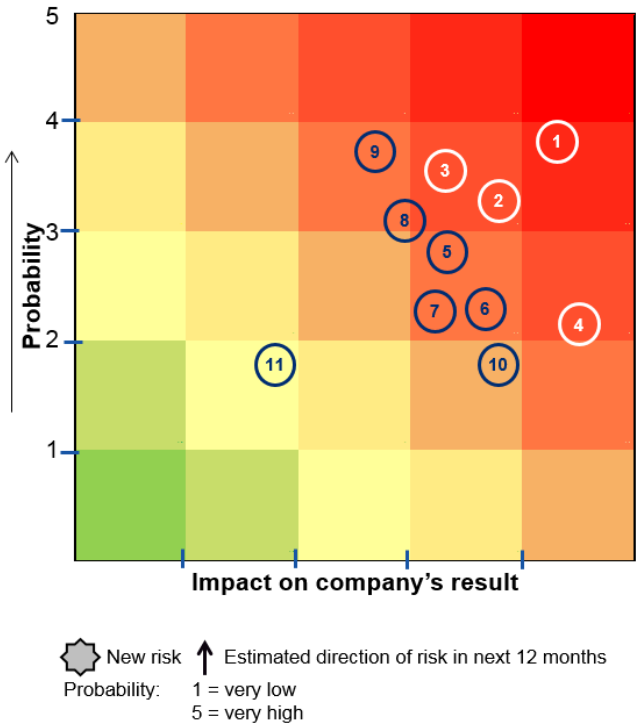


Figure 26: Example of a risk map

As to operating profit reporting, sales and gross margin enjoyed naturally high levels of interest, followed by some cost analysis and ultimately leading to the story told about the division's or FiRe Ltd.'s operating profit development. No surprisingly many tables were presented with full of figures and deviations. Special weight on the presentation material was given to the so called bridge calculations, which were bar chart figures that show changes from last year or from previous rolling forecast version. Example of such a bridge calculation, in which the entity is improving gross

margin by 5 and having a net change of costs by -2, which ultimately leads to improving the operating profit by 3 from 100 to 103. This is presented in the following figure.

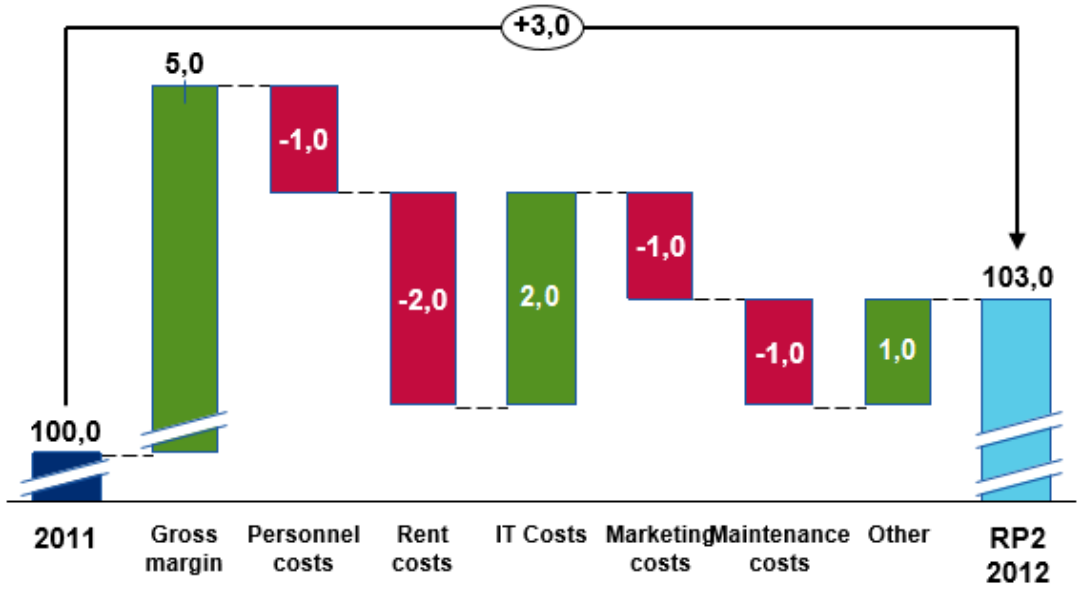


Figure 27: Example of a bridge calculation

Other reports included store sites reports, which concentrated on sales reports for different regions and top-bottom lists of best or worst developing stores and analysis comments on why this was happening. Additionally, the IT director received a table of biggest projects' operating expenses and capital expenditure effects during the forecasting period. System-wise, the company could get many types of reports out of the system: one account and all costs centers, one cost center and all accounts, monthly views and also one huge report for accumulated figures for all cost centers and all accounts. Additionally, controllers could build their own reports by importing data from the system directly to spreadsheets. One of those reports was the cost center income statement view, the figures of which were planned in cooperation with the cost center responsible who was always tagged with an accounting professional. Respecting the salary intimacy, the CFO had an own separate process for salary forecasting in cooperation with HR department. Once all the cost center plans were ready, product lines and retail chains perspective based reports followed since they were calculated in a separate system with allocation drivers for presumed fixed costs.

Reporting in total suffered severely from the ever-changing account and cost center hierarchy up until 2012 when the assisting position was established that would take ownership of these changes. Of course one of the key points for reporting is of course the fact that every month's result package and other operating reports contained interconnections and deviations either to last RP2 or to last built rolling plan. There the focus relied heavily on one month's figures and interestingly, FiRe

Ltd.'s divisions had lessons learned meetings, in which process issues were discussed but they did not include any kind systematical way of measuring previous' rounds hitting accuracies, the thing FiRe Ltd. had accomplished during the implementation phase stated and mentioned important in chapter 7.4. No explicit reason for abandoning separate forecasting deviation analysis was found. This thesis gathered such data extensively, the brief analysis of which will follow shortly.

Worth noticing was that the reports concentrated no further than operating profit, leaving profit of the division or company pretty much unnoticed. The same applied also for the balance sheet items, which no one really analyzed except for the finance department in the HQ which was responsible for making financial arrangements according to money requirements in each division. In FiRe Ltd.'s rolling forecast process there was present only one scenario, i.e. no systematically built best case or worst case scenarios. That was one of the big issues FiRe Ltd. was having since this one scenario was guided by HQ to be the realistic view on the company's future financial outcomes. Practice showed that for some it was like the budget in which business people ask for money to be spent and for some it was a very careful scenario, a kind of promise made that shall not be broken.

Concerning reporting, the CFO of DIY division often encouraged or complained followingly.

> *"We should move from reporting mode to analyzing mode. Now we're reporting a lot of tables and figures without real analysis, sensitivity analysis or discussion of what was happening. On the one hand it's because our change actions are too new and on the other hand it's because our average controller is being too humble and thus incapable to challenge business people especially in situations which have initially a negative vibe." CFO of DIY division*

The end products of a rolling forecast round

Discussing the research question "how does it bring the aimed results" concerning rolling forecasting, it's also good to go briefly through rolling forecasting's actual end-products.

Apart from those reports, partly discussed earlier in this chapter, that would give views on many perspectives like product lines, stores, B2B and B2C business, retail chains, company, accounts, projects, e-store and traditional retail business, real estates and cost centers, rolling forecasting surely achieved further results that were desired by FiRe Ltd. as a company. One very concrete benefit for FiRe Ltd. was that it had controllers examining the near history actuals in order to forecast the near future. For example, this meant that more than often controllers found costs that

could be avoided, criticized or reorganized. Examples of such found costs during the rolling forecasting process were the ordering of a very expensive weather service which was replaced by a free-to-use service with same quality and a video conference service which was ordered only for four distant workers, a setting which could be replaced also by free Skype connections. In other words, rolling forecasting was not giving only the broad picture for the company's future, it was giving real euro findings up for crabs.

Rolling forecasting released FiRe Ltd. partly from the calendar year by providing always the view on how the figures would develop in the coming next 12 months versus last 12 months. In practice rolling forecasting agitated the arranging of business relevant meetings and thus bringing accounting people closer to giving support or challenging business people. It promoted stronger information flows and in other words, rolling forecasting gave the accounting people an official permission to ask for business actions' progress and therefore tools for FiRe Ltd.'s management to ask also those awkward questions to those business people, whose projects or promises were not moving forward, just because "it belonged to the rolling forecasting round's routine tasks". There was no longer the same risk as with budgeting, when the accounting person devoted a lot of working time during the last quarter of the year for next year's budget and then the accounting person would be left to rot for the rest of the year to play solely the role of a reporting machine.

The finance function organizing the out payments and in payments of FiRe Ltd. benefitted a lot from rolling forecasting since the financial markets were much more dynamics nowadays and deals and positions would have to be closed in shorter cycles than before. That benefit was preceded by strategy related alignments meaning the determination of the investment framework given for both divisions. The strategy process taking place once a year benefitted also from rolling forecasting since the first year of strategy outlook was, by rule, determined by the latest rolling forecast.

Last point to be emphasized as one of the rolling forecasting's end products, is the documentation of financial and business plans made along the process. Written documentation is usually taken seriously and the saving of financial planning figures into the planning systems enables the possibility to measure budget or rolling plan deviations afterwards in order to find systematic forecasting errors or other points to be learned from. The learning factor is also relevant for individual employees since through documents and facts it is possible to learn more efficiently than through the word on the street so to speak.

In the next part an extensive amount of budget deviations was skimmed through and the learning from that material is brought into the light.

Retrospective analysis of the consolidated results of FiRe Ltd.'s rolling forecast versions throughout 2008-2014 in grocery and DIY divisions' regional areas as well as the HQ operating costs

The enticing fact in this thesis is that the researcher had the access not only to the 13 interviews, to extensive amount of unofficial dialogues due to the work relationship the researcher had with the company, not only to consulting company report and other company inside material, but also to raw financial data in both grocery and DIY divisions as well as for HQ costs and the whole consolidated view of FiRe Ltd. as a company. For the sake of interpreting the results not too extensively, this research concentrated on items belonging to the operating profit; sales, gross margin, other operating income, personnel expenses, rent expenses, IT costs, marketing expenses, maintenance expenses, other operating costs and depreciations. Also the balance sheet items with investments et cetera were forecasted but that area did not enjoy a lot of interest among top management except for investments' direct influence on operational profit and that is why it is bypassed in this examination.

Both divisions' regional areas, the stores of which were combined to regional results since it was the regional manager in both divisions that was responsible for forecasting. In the DIY division there was no categorization for west and east since those were combined to represent central part of Finland. The following table presents what level results were available for years 2008-2014.

<table>
<tr><th colspan="2">FiRe Ltd. as a company (all the figures below combined)</th></tr>
<tr><td>Grocery/South</td><td>DIY/South</td></tr>
<tr><td>Grocery/East</td><td rowspan="2">DIY/Central</td></tr>
<tr><td>Grocery/West</td></tr>
<tr><td>Grocery/North</td><td>DIY/North</td></tr>
<tr><td>HQ (Operating Expenses)</td><td>Other Divisions</td></tr>
</table>

Table 14: Measured levels of FiRe Ltd. concerning rolling forecasting rounds and actuals

Even though all of these regions were examined in the same way, appendix 5 presents the financial data only for Finnish Retail Ltd. company level actuals and forecast rounds in the following angles.

1) **Calendar year deviations for each four rolling forecast round (First called first RP1, second RP2, third RP3, fourth RP4 and fifth second RP1)**
2) **Consecutive months' and quarters' deviations for each rolling forecast round (Except for first RP1)**

On assumption, calendar year deviations would diminish when with latter forecasting rounds there are already some actual months present. The interesting question is to know, how close FiRe Ltd. could hit with different account groups and ultimately with operating profit. Also, on assumption concerning above points two and three, consecutive months' or quarters' accuracy would be better with nearer future months than with further away months. The interesting question is to know, whether this assumption proved right and if yes, by how much.

1) Calendar year deviations for each four rolling forecast round (First called first RP1, second RP2, third RP3, fourth RP4 and fifth second RP1)

In figure 28 one can see year by year the absolute operating profit deviation % between rolling forecast rounds and the actual for FiRe Ltd. Most often the later forecasting rounds seem to be closer to 0% than the first rounds, except for year 2009, when for second RP1 there was only the time period from October to December left to be forecasted. Obviously something unexpected happened and FiRe Ltd.'s second RP1 was almost worse than the first RP1 done one year earlier.

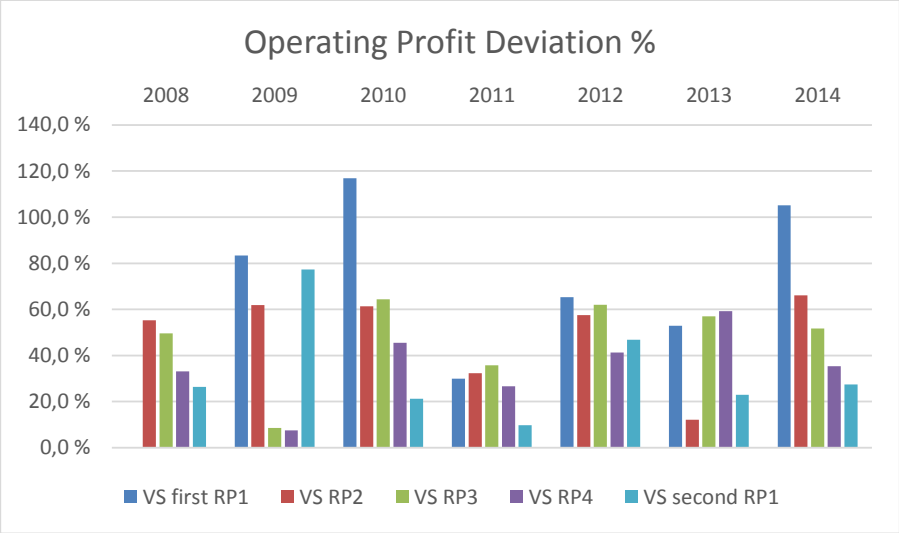


Figure 28: FiRe Ltd. absolute operating profit deviation % between forecasting rounds and actuals

Other than that, figure 29 shows the statistical averages, standard deviations, ranges, minimums and maximums of these deviations for different forecast rounds in units and in percentages. It can be stated that the turning point for forecasting the calendar year happens in the middle of the year when shifting from RP3 to RP4. With RP3, there's still a time period of 9 months from April to December to be forecasted whereas RP4 has only 6 months from July to December. With RP3 there's still almost half the deviation from the final results to be awaited while with RP4 and second RP1 the deviation from the final results of the year is expected to be around one third.

	Full year accuracy 2009-2014* 1st RP1 (12mths)	Full year accuracy 2008-2014 RP2 (12 mths)	Full year accuracy 2008-2014 RP3 (9mths)	Full year accuracy 2008-2014 RP4 (6 mths)	Full year accuracy 2008-2014 2nd RP1 (3 mths)
Operating Profit Deviations in units					
On Average	-13,7	-13,0	-7,8	-2,2	-1,2
On Average (with absolute values)	27,9	22,2	18,8	11,4	8,8
Standard Deviation	31,8	29,3	25,5	14,7	11,3
Standard Deviation (with absolute values)	17,4	21,9	17,6	8,3	6,3
Range	89,1	92,6	75,2	42,9	32,7
Maximum	29,6	22,9	19,7	15,1	12,4
Minimum	-59,5	-69,6	-55,5	-27,8	-20,3
Operating Profit Deviations in %					
On Average	75,6 %	49,5 %	47,0 %	35,5 %	33,1 %
On Average (with absolute values)	75,6 %	49,5 %	47,0 %	35,5 %	33,1 %
Standard Deviation	32,7 %	19,8 %	19,4 %	16,1 %	22,4 %
Standard Deviation (with absolute values)	32,7 %	19,8 %	19,4 %	16,1 %	22,4 %
Range	87,0 %	53,9 %	55,8 %	51,6 %	67,5 %
Maximum	116,9 %	66,1 %	64,3 %	59,2 %	77,3 %
Minimum	29,9 %	12,2 %	8,5 %	7,6 %	9,8 %

Figure 29: Averages, standard deviations, ranges, minimums and maximums of these deviations in units and in percentages for FiRe Ltd.'s operating profit

Figure 30 shows all account groups and all fully examined years with all the forecasting rounds and their deviations in units. It describes well how the story has changed along each year. The red figures state that the deviation has represented a negative surprise for FiRe Ltd. and green figures vice versa. The traffic light next to the figure shows whether the deviation from the final actual figure had diminished measured in absolute values when comparing the previous forecasting round to the round under examination. For example, the traffic light for year 2012 marketing expenses for RP3 is red since with earlier RP2 the absolute deviation in units was 1,4 units whereas with RP3 the same deviation was 2,3. The deviation mentioned in this chapter and also otherwise is always measured against the final actual outcome for FiRe Ltd.

Looking closer to the traffic light results, counting 6 years and 10 account groups and 4 forecasting rounds from RP2 to second RP1 which tried to improve from previous forecast, we're having 240 combinations, out of which 153 (64%) times FiRe Ltd. succeeded in getting smaller absolute deviations and 87 (36%) times when the deviation proved to be bigger than with previous round. Concretely said, if the CEO would ask the CFO about fresh new forecasting figures: "are you sure this account groups' figures will come closer to final actuals than last time's figures?" there would be a 64% chance of success for the average account group and forecast round for this to be realized. Again here the RP2 and RP3 were much less likely to be relied on than RP4 and second RP1 since RP2 had a success rate of 52%, RP3 57%, RP4 73% and second RP1 73%.

First RP1	2009	2010	2011	2012	2013	2014
GM2	-171,6	-7,7	-23,4	-34,2	-44,7	11,8
Other Operating Income	-5,4	2,1	7,7	7,0	-1,8	8,1
Personnel Expenses	70,5	1,7	-3,5	-0,1	4,5	-5,1
Rent Expenses	2,7	-0,4	1,6	-6,3	-0,8	-5,8
IT Costs	1,3	0,9	1,2	-0,3	2,8	1,5
Marketing Expenses	16,1	0,0	-2,0	-4,2	6,1	2,5
Maintenance Costs	13,4	1,3	1,9	3,6	0,7	5,6
Other Operating Costs	16,9	15,1	3,4	10,4	2,7	4,6
Depreciations and Impairments	5,3	1,7	1,9	-1,7	0,1	1,1
Other operating Expenses	-0,9	-2,1	-0,4	-1,0	-0,2	-0,7
Operating Profit excluding nor	-59,5	12,9	-11,4	-25,0	-28,9	29,6

RP2						
GM2	-66,5	-9,6	-27,1	-24,9	-22,9	3,1
Other Operating Income	8,5	6,3	4,6	6,9	-0,7	8,9
Personnel Expenses	25,4	1,7	-0,8	0,2	2,2	-0,5
Rent Expenses	-2,2	0,4	-2,4	-1,9	0,1	-6,3
IT Costs	-0,1	0,5	2,6	-0,3	3,7	1,7
Marketing Expenses	5,0	-4,8	-0,9	-1,4	3,4	-0,9
Maintenance Costs	10,6	0,8	2,5	2,1	3,0	5,9
Other Operating Costs	7,7	16,3	6,4	3,0	5,9	5,0
Depreciations and Impairments	1,0	-0,5	2,4	-2,5	0,3	0,7
Other operating Expenses	-0,9	-2,1	-0,4	-1,0	-0,2	-0,7
Operating Profit excluding nor	-19,3	9,1	-12,8	-18,0	-3,6	22,9
	8 pcs	5 pcs	3 pcs	6 pcs	5 pcs	4 pcs
	2 pcs	5 pcs	7 pcs	4 pcs	5 pcs	6 pcs

RP3						
GM2	-33,3	-7,2	-36,8	-46,4	-14,0	8,4
Other Operating Income	9,5	6,7	-0,3	1,5	-3,9	11,1
Personnel Expenses	15,6	-0,2	6,4	8,5	5,5	-4,9
Rent Expenses	1,2	1,2	0,6	0,7	1,4	-4,0
IT Costs	-2,9	0,7	1,9	0,5	5,4	1,6
Marketing Expenses	2,1	-3,6	1,4	2,3	1,3	-3,4
Maintenance Costs	4,7	0,0	2,4	3,5	3,9	3,9
Other Operating Costs	6,1	13,5	8,8	6,9	7,4	3,2
Depreciations and Impairments	0,3	0,3	0,9	1,9	0,3	-2,1
Other operating Expenses	-0,8	-2,1	-0,4	-1,0	-0,2	-0,7
Operating Profit excluding nor	-1,1	9,4	-14,8	-21,7	9,3	19,7
	8 pcs	7 pcs	6 pcs	4 pcs	4 pcs	5 pcs
	2 pcs	3 pcs	4 pcs	6 pcs	6 pcs	5 pcs

RP4						
GM2	-23,2	-5,9	-16,4	-61,2	-4,3	-3,0
Other Operating Income	9,7	3,8	0,5	0,1	-3,6	8,3
Personnel Expenses	8,9	-0,8	4,5	24,9	5,4	1,3
Rent Expenses	0,2	1,0	-0,4	9,4	0,6	-2,8
IT Costs	-2,0	0,8	1,4	2,8	2,9	0,7
Marketing Expenses	1,7	-0,9	0,3	3,5	3,5	-1,4
Maintenance Costs	3,1	0,1	0,4	4,3	2,8	2,7
Other Operating Costs	5,0	11,1	-0,4	5,4	1,2	2,9
Depreciations and Impairments	0,1	0,2	0,3	2,4	0,7	-1,5
Other operating Expenses	-0,8	-1,6	-0,4	-1,0	-0,2	-0,7
Operating Profit excluding nor	-1,0	7,5	-9,7	-9,4	9,6	15,1
	8 pcs	7 pcs	9 pcs	3 pcs	8 pcs	9 pcs
	2 pcs	3 pcs	1 pcs	7 pcs	2 pcs	1 pcs

Second RP1						
GM2	-2,5	4,2	-0,7	-11,0	-5,7	-0,6
Other Operating Income	5,1	0,6	1,8	-1,4	-7,6	7,7
Personnel Expenses	2,6	-1,3	-0,1	0,1	5,1	1,7
Rent Expenses	-0,2	0,1	-1,0	-1,2	4,1	-1,7
IT Costs	-0,6	0,7	0,1	0,4	0,4	0,3
Marketing Expenses	0,6	-0,3	-1,5	1,6	3,1	0,1
Maintenance Costs	1,4	-0,1	-0,1	0,8	2,4	1,5
Other Operating Costs	4,1	1,6	-1,1	-0,4	0,6	2,9
Depreciations and Impairments	-0,7	0,2	0,2	0,3	2,3	-1,4
Other operating Expenses	-0,7	-1,5	-0,4	-1,0	-0,2	-0,7
Operating Profit excluding nor	5,2	4,2	-2,9	-11,7	4,8	12,4
	8 pcs	8 pcs	5 pcs	9 pcs	6 pcs	8 pcs
	2 pcs	2 pcs	5 pcs	1 pcs	4 pcs	2 pcs

Figure 30: All forecasting rounds for all years from 2009 to 2014 by account groups, deviations in units

If there was a clear difference between forecasting rounds for the success rate, years and account groups proved to be differently difficult in this traffic light logic as well. Naturally, the number of rounds with which one could improve the hitting rate, four is the maximum value for each cell in figure 31 where these results are presented. E.g. in 2009 FiRe Ltd. succeeded to improve consecutive rounds forecasting with many account groups, totaling a score of 32 times, improving with each account group and forecasting round with a success rate of 80%, much more often than during the worst year of 2012, when it hit only 22 times closer the final target if measured in different accounts groups, which in success rate % reached only 55%. Account groups did not show that much difference since many groups' success rate approached approximately 70% rate, many having 67% and GM and marketing expenses being the easiest to improve with 71% hit rate. Other operating income was closer final results on 50% of the improving attempts resembling rather coin toss.

Account Groups\Years	2009	2010	2011	2012	2013	2014	Total	Success rate %
GM2	4	3	2	2	3	3	17	71 %
Other Operating Income	1	2	2	3	2	2	12	50 %
Personnel Expenses	4	2	3	1	3	2	15	63 %
Rent Expenses	3	3	2	3	2	3	16	67 %
IT Costs	3	2	3	1	2	3	14	58 %
Marketing Expenses	4	3	2	2	3	3	17	71 %
Maintenance Costs	4	2	3	2	2	3	16	67 %
Other Operating Costs	4	3	1	3	2	3	16	67 %
Depreciations and Impairments	3	4	3	2	1	3	16	67 %
Other operating Expenses	2	3	2	3	3	1	14	58 %
Total	**32**	**27**	**23**	**22**	**23**	**26**	**153**	**64 %**
Success rate%	**80 %**	**68 %**	**58 %**	**55 %**	**58 %**	**65 %**	**64 %**	

Figure 31: Success frequency of improving forecasting accuracy between forecasting rounds (RP2,RP3,RP4 and 2nd RP1), measuring each round throughout the years by account groups

Table 15 clarifies the findings when examining all the regions in grocery and DIY divisions and HQ operating expenses through these same figures (29 to 31).It is good to bear in mind that the first three columns of table 15 do not represent the size of the deviations in any way; they represent only if the division and region combination was able to improve finding the final actual levels along the financial year. It might be for example that Grocery/South and DIY/North with 58% success rate had more unexpected business environment changes on average during the examined years of 2009-2014 than Grocery/North with 65% success rate. More interesting for FiRe Ltd. as a whole, accounting all years and all account groups, only 64% was the average success rate of finding figures closer to the final actuals even though one had always three months more actual figures compared to last forecasting round.

Success rate for improving between consecutive rounds for 2009-2014

Operating profit deviations for **RP2** in % and units for 2009-2014

Topic Division&Region	**Success rate %**	**Best Year Worst Year**	**Best Account Group Worst Account Group (excl. other op. items)**	**Average units Average units and % (absolute)**	**SD units SD units and % (absolute)**	**Range units Range % (absolute)**	**Max units Max % (absolute)**	**Min units Min % (absolute)**
Grocery/South	58%	09&10 (65%) 11&12 (50%)	Other op. income (71%) Marketing expenses (50%)	2,1 units 5,8 units 32,1%	8,5 units 6,2 units 48,2%	27,2 units 134,3%	18,9 units 140,8%	-8,4 units 6,4%
Grocery/East	63%	2014 (73%) 2012 (53%)	Personnel expenses (75%) Rent expenses (63%)	-10,3 units 10,3 units 76748,3%	7,1 units 7,1 units 202467,6%	19,8 units 5358904,1%	-0,7 units 5359009,9%	-20,6 units 105,8%
Grocery/West	62%	2009 (73%) 2010 (55%)	GM2,Other op. income & personnel expenses and rent expenses (75%) IT costs (63%)	-2,7 units 7,1 units 311,9%	9,4 units 6,2 units 516,1%	31,0 units 1431,6%	13,6 units 1445,0%	-17,4 units 13,3%
Grocery/North	65%	2009 (78%) 2010 (58%)	Rent expenses (83%) Marketing expenses (54%)	-1,1 units 1,6 units 60,4%	1,9 units 1,4 units 34,2%	5,0 units 97,0%	1,0 units 123,0%	-4,0 units 26,0%
DIY/South	59%	2009 (70%) 2012 (40%)	Depreciations and impairments (75%) IT Costs (46%)	-2,3 units 7,7 units 58,2%	11,1 units 7,8 units 61,3%	31,6 units 177,8%	7,1 units 187,9%	-24,5 units 10,1%
DIY/Central	64%	2009 (73%) 2011 (53%)	Depreciations and impairments (92%) Personnel expenses (54%)	-2,0 units 2,3 units 107,1%	3,8 units 3,5 units 233,7%	11,3 units 626,5%	1,0 units 637,0%	-10,3 units 10,5%
DIY/North	58%	2009 (63%) 2014 (53%)	Depreciations and impairments (79%) IT Costs (42%)	2,6 units 2,6 units 49,3%	2,3 units 2,3 units 44,5%	6,3 units 106,4%	7,2 units 119,3%	0,9 units 12,9%
HQ (Operating Expenses)	59%	10&11 (63%) 2013 (53%)	Rent expenses (75%) Other operating income (54%)	-0,6 units 2,0 units 10,2%	2,8 units 1,9 units 10,6%	9,1 units 28,8%	4,2 units 31,0%	-4,9 units 2,3%
FiRe Ltd.	64%	2009 (80%) 2012 (55%)	Personnel & marketing costs (71%) Other op. income (50%)	-13 units 22,2 units 49,5%	29,3 units 21,9 units 19,8%	92,6 units 53,9%	22,9 units 66,1%	-69.6 units 12,2%

Table 15: Success rate of improving the forecast between rounds and statistical data of RP2 rounds

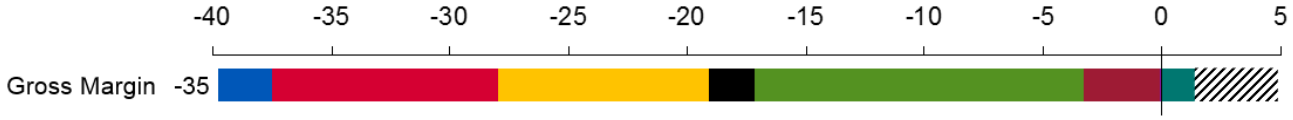
The best year and worst year show that for many regions the year 2009 was the best in improving between rounds. The worst year, during which failures happened the most often in improving the forecast accuracy, varied a lot between division and region combinations; all years were represented except 2009. For FiRe Ltd. year 2012 turned out to be the most difficult in improving the forecast.

As for the best and worst account groups it was decided that when measuring the worst account groups the other operating costs and other operating expenses were not taken into consideration since they would have been easily the worst account group category winners because of their natural nature; unexpected events' costs were booked often to those categories. For Fire Ltd. it was quite surprising that personnel costs and marketing costs were the ones, whose accuracy could be improved most often. One could assume that personnel costs would have been quite presumable already for first RP1 and RP2 as well, whereas marketing most often had a set yearly budget.

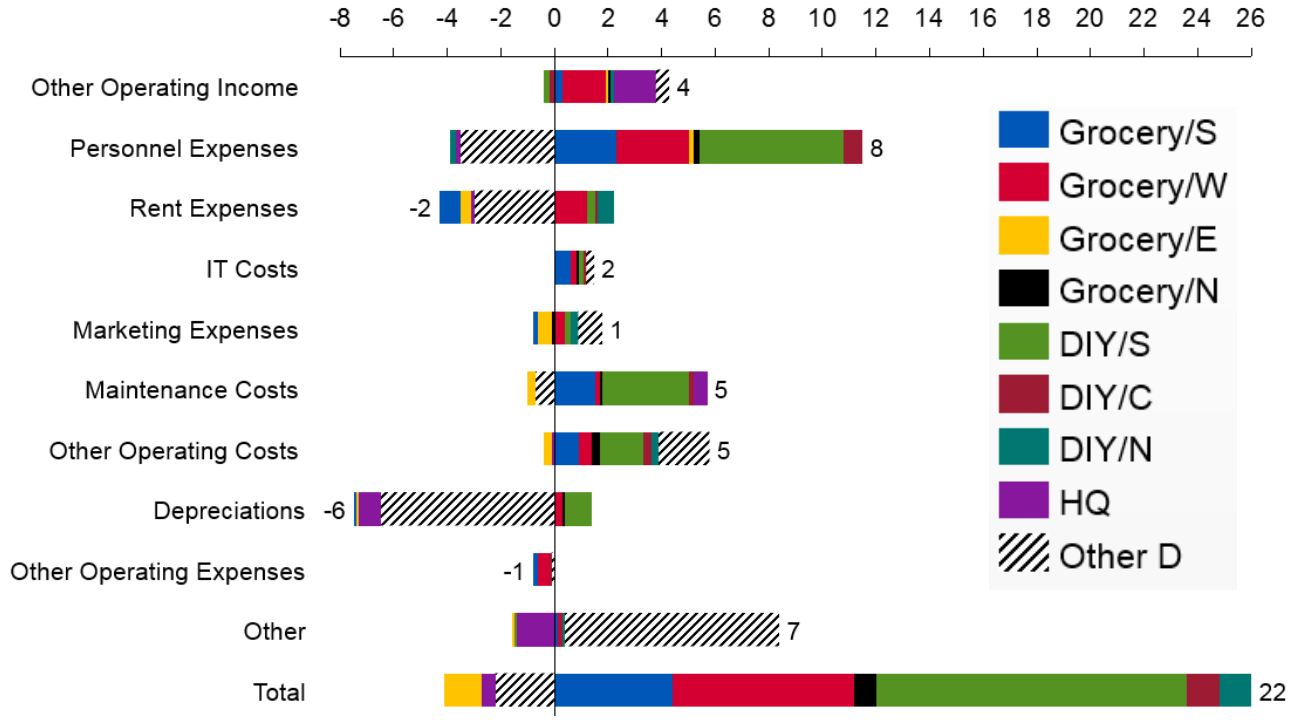
The deeper analysis digs deeper and finds out that Grocery/West and Grocery/East most often underperformed against first RP1 and RP2 sales forecast, which led to cost cutting in personnel expenses which is why the personnel expenses forecast accuracy improved the easiest. As for the marketing expenses, the reason remains a mystery and cannot be argued from the statistical data. The DIY division had best improvement rates for the depreciations which could be argued by the unexpected nature of investment opportunities in the market. Other major findings are that many regions had difficulties in improving the accuracy on IT costs for the financial year between consecutive forecasting rounds and that results varied a lot between different division and region combinations. Examining the regional differences might be a lucrative field to study further.

The results for operating profit deviations for RP2 in % and units for 2009-2014 is present in table 15's right side. RP2 was chosen to be brought into the light since RP2 was unilaterally considered as the most important forecasting round through its closest resemblance to the traditional yearly budget. For statistical measurements the columns represent averages, standard deviations (SD) and range with its maximum and minimum. Figure 32 shows all the average RP2 deviations in units split in all division and region combinations for all account groups. Other D in the figure represents FiRe Ltd.'s all other businesses except Grocery, DIY and HQ costs allocated to these divisions, entities which were under the loop in this thesis.

GM totaling -35 units:



Other operating income and operating expenses totaling +22 units:



Operating profit totaling -13 units (-35 from GM plus other op. income and OPEX +22):

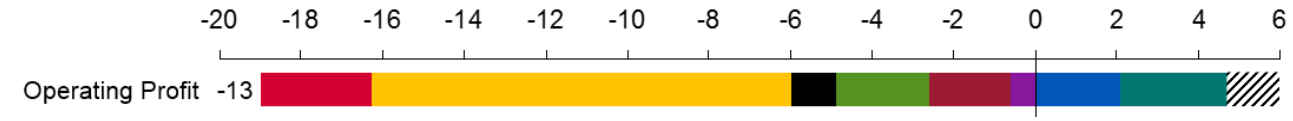


Figure 32: Average RP2 round during 2009-2014 split into division and region combinations

The big picture with figure 32 is obvious: both GM levels and operating expenses seemed to be overstated in the RP2 forecasting round, which led to disappointments in GM and positive "savings" in the cost side. The net effect of these two would remain on the negative side. There's no explicit proof of it but maybe FiRe Ltd. was using forecasting as a target setting tool in the end. There were no remarkable differences between forecast rounds concerning the big picture.

On average, FiRe Ltd. performed -13 units worse than what RP2 would "promise". Looking at the division and region combinations the guilty one is easily found: Grocery/East underperformed by -10,3 units on average whereas all other combinations deviated from the final actual operating profits approximately from -2 units to +2 units. In absolute values, Grocery/East combination's average was exactly the same -10,3 units which must be interpreted so that the deviation has always

been a negative one within the population of years from 2009 to 2014. Another good example of a very difficult region proved to be Grocery/West, where average deviation was underperforming by -2,4 units which is not so bad but absolute deviation was 7,1 units, an average 311,9% deviation from what was promised. That means the combination Grocery/West hit on average quite close but usually every now and then remarkably over and then again remarkably under. Additionally, DIY/Central did not enjoy high certainty level with its RP2 operating profit accuracy since absolute average of 2,3 units (107,1%) shows the final actuals were more than double of what was expected.

At the other end as quite forecastable entities, HQ's operating expenses and thus operating profit was the most constant and reliable also on percentage terms, assumedly due to its easier forecastable nature, better business people or better controllers. Also luckily for FiRe Ltd., the forecasting of its biggest business, the Grocery/South, seemed to be in quite good control having second smallest average deviation in relative perspective, being 32,1%, and third smallest standard deviation in relative perspective, being 48,2%. Maybe because of the location and perhaps a more stable market environment, both Grocery/North and DIY/North combinations proved to have higher expectability by having absolute averages of 1,6 units (60,4%) and 2,6 units (49,3%) and absolute standard deviations of 1,4 (34,2%) and 2,3 units (44,4%).

In appendix five the different account groups can be examined closer for FiRe Ltd. The results show that different account groups have very different natures; e.g. maintenance costs were clearly and systematically constantly over budgeted so that the final actual costs were always lower than forecasted levels. Examining this further revealed that the director for store sites, under whom the maintenance manager responsible for the maintenance budget operated, had instructed the real work followingly: "what is forecasted in the budget or other rolling plan versions, can be accomplished in the real world operations as well without having to ask the permission for it". In practice, the maintenance manager had a very busy time handling the maintenance invoices and making the big maintenance process go around smoothly. This led to the natural consequence that the maintenance manager had the personal incentive to over budget these costs. There were two reasons: 1) firstly at the end of the year the manager could be seen as a big hero once again cutting costs below the original "promised" level and 2) secondly the everyday routine ran smoother if the manager succeeded pushing all the ideas into the latest forecast version. In reality, by rule the rise of maintenance costs was an uncomfortable account group when measured against last year's actuals and the top management obviously did not put great pressure on the respective store site director since over budgeting continued year by year.

Another account group finding was that within the other operating expenses, under which very surprising and unexpected costs were booked, FiRe Ltd. never forecasted any kind of expenses even though such costs occurred every year, causing a deviation of -0,9 units on average, which as a share accounts for 6,9% of the total deviation FiRe Ltd. was having. One easily would suggest that such a management reservation on the company level would be beneficial for the total forecast accuracy. These kind of findings mentioned concerning the maintenance costs and other operating expenses, i.e. digging deeper with the analysis and finding more behind reasons from the business operations' daily work, could turn out to be a fruitful topic for further studies.

2) Consecutive months' and quarter's deviations for each rolling forecast round (Except for first RP1)

After examining the typical story of RP2 and different forecasting rounds' accuracy on the calendar year, one takes a brief look on another very interesting question: "did rolling forecasting provide FiRe Ltd. with a better grasp on the nearer future than the further future?". A common claim in the company, especially when people was frustrated with the planning work, was that "no one can know the future even for the shorter period of time so what's the use in guestimating?". What one knows for sure is that the company knew near future related issues for sure better than the distant future; store network was quite cemented and certain levels of expenses followed for example marketing plans, resource planning, IT contracts and licenses and other similar contracts. In theory, all known data, should have been included in the forecasted figures. On assumption the nearer future months and quarters would have smaller deviations than the more distant ones.

Analysis for ordinal months shall begin with the final target FiRe Ltd. was trying to hit, the operating profit, which is presented in figure 33 below. Worth noticing with all the following analysis figures is that the first three months had all of the forecasting rounds, months four to six did not have second RP1 since for the calendar year that forecast version was not forecasting other than the last three months of the year, months seven to nine had only RP2 and RP3 following the same logic and months ten to twelve included only RP2. The examination could have been done by calculating all rounds' consecutive twelve months but in this thesis the calendar year was preferred.

	RP2,RP3,RP4 and 2nd RP1 2008-2014 1st month	RP2,RP3,RP4 and 2nd RP1 2008-2014 2nd month	RP2,RP3,RP4 and 2nd RP1 2008-2014 3rd month	RP2,RP3,RP4 2008-2014 4th month	RP2,RP3,RP4 2008-2014 5th month	RP2,RP3,RP4 2008-2014 6th month	RP2,RP3 2008-2014 7th month	RP2,RP3 2008-2014 8th month	RP2,RP3 2008-2014 9th month	RP2 2008-2014 10th month	RP2 2008-2014 11th month	RP2 2008-2014 12th month
Operating Profit Deviations in units												
On Average	0,8	-0,5	-0,4	0,1	-1,1	-1,4	-1,5	-1,8	-1,8	-1,7	-1,6	0,0
On Average (with absolute values)	2,1	2,1	2,3	1,5	2,0	2,2	1,1	1,8	1,6	0,8	1,2	0,8
Standard Deviation	2,6	3,2	2,9	2,9	3,7	3,6	3,0	5,0	4,1	4,3	6,8	4,3
Standard Deviation (with absolute values)	2,0	2,5	1,8	1,9	2,6	2,5	2,1	3,2	2,7	2,0	3,1	1,9
Range	13,3	17,5	11,1	13,7	16,2	15,0	11,6	19,1	14,5	12,4	19,4	12,8
Maximum	6,9	4,7	5,1	7,0	4,5	4,9	1,7	3,7	3,5	2,6	4,0	4,8
Minimum	-6,4	-12,8	-6,1	-6,8	-11,7	-10,0	-9,9	-15,4	-11,1	-9,7	-15,4	-8,0
Operating Profit Deviations in %												
On Average	-20,9 %	8,8 %	-69,2 %	-125,8 %	-144,1 %	-485,1 %	-27,7 %	-157,7 %	-96,9 %	-44,2 %	-225,9 %	28,9 %
On Average (with absolute values)	101,2 %	87,0 %	86,5 %	166,4 %	121,1 %	366,9 %	18,8 %	88,5 %	67,0 %	17,4 %	56,5 %	27,2 %
Standard Deviation	262,3 %	136,3 %	148,2 %	733,1 %	343,2 %	1967,2 %	51,3 %	272,7 %	266,3 %	75,7 %	158,2 %	130,1 %
Standard Deviation (with absolute values)	243,6 %	126,6 %	139,1 %	617,8 %	296,9 %	1705,9 %	36,1 %	201,4 %	185,4 %	38,3 %	124,4 %	56,6 %
Range	1814,3 %	698,2 %	802,7 %	3905,5 %	1467,9 %	9081,8 %	211,5 %	843,5 %	1163,6 %	247,5 %	420,5 %	345,2 %
Maximum	618,1 %	384,6 %	89,7 %	650,5 %	109,6 %	17,6 %	42,7 %	64,2 %	187,9 %	88,8 %	-68,6 %	190,4 %
Minimum	-1196,2 %	-313,7 %	-712,9 %	-3255,0 %	-1358,3 %	-9064,3 %	-168,8 %	-779,3 %	-975,7 %	-158,7 %	-489,1 %	-154,8 %

Figure 33: Ordinal months' accuracy for FiRe Ltd.'s operating profit

Surprisingly, the earlier months, when measured as sole months, performed only mildly better than the later months. For example, the first month deviated by +0,8 units on average and the second month by -0,5 units. First four months seemed to under control remarkably better than months from five to eleven, which all had more than -1 unit deviation from the final actual. Also, worth a comment, the twelfth month was an exception by having exactly 0,0 units deviation. In short, it can be said that on average FiRe Ltd. could forecast better the first four months, which also differed from each other, and after that there would be unpleasant surprises on the basic case.

The absolute average deviations' outcome looked somewhat bizarre since the first six forecast months seemed to have deviations of around 2 units and after that from months seven to twelve around 1 unit. This is, actually, strong evidence that sole months could not be seen easier to forecast the closer one was the forecasting moment. That is quite much a result against what was assumed. The interpretation of averages' and absolute averages' deviations is that it was at least as hard or even harder to minimize deviations of closer months than distant months but by rule FiRe Ltd. was overstating the promised operating profit level more with distant months than with closer months.

Bunching the months into quarters showed a little bit other kind of results. This can be seen in figure 34, in which also the cumulative results for quarters are to be seen. Here the power of rolling forecasting can be seen. For the first quarter the average deviation was -0,1 units, for second quarter -2,4 units, for third quarter -5,1 units and surprisingly for fourth quarter -3,3 units. The surprise from the last quarter vanishes and can be explained by looking at the absolute average deviations in units, which shows that the size of the deviation grows the further one forecasts. Measuring the same cumulatively, the further away one moved from the forecasting moment the bigger the average operating profit deviation grew. The same goes for absolute deviations cumulatively.

	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 First 6 mths	RP2,RP3 2008-2014 First 9 mths	RP2 2008-2014 First 12 mths	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 Second 3 mths	RP2,RP3 2008-2014 Third 3 mths	RP2 2008-2014 Last 3 mths
Operating Profit Deviations in units								
On Average	-0,1	-2,2	-7,2	-10,0	-0,1	-2,4	-5,1	-3,3
On Average (with absolute values)	5,2	9,3	15,7	20,1	5,2	7,0	7,8	10,1
Standard Deviation	6,7	11,7	21,0	29,8	6,7	8,4	10,9	14,6
Standard Deviation (with absolute values)	5,2	9,3	15,7	20,1	5,2	7,0	7,8	10,1
Range	32,7	42,9	75,2	92,6	32,7	34,0	42,2	41,2
Maximum	12,4	15,1	19,7	22,9	12,4	10,8	8,8	8,2
Minimum	-20,3	-27,8	-55,5	-69,6	-20,3	-23,2	-33,4	-33,1
Operating Profit Deviations in %								
On Average	-135,6 %	22,1 %	-5,9 %	-13,1 %	-135,6 %	85,0 %	-5234,7 %	-131,5 %
On Average (with absolute values)	172,9 %	56,0 %	31,5 %	49,5 %	172,9 %	161,2 %	5278,7 %	195,2 %
Standard Deviation	503,5 %	81,2 %	36,8 %	55,2 %	503,5 %	389,0 %	19483,2 %	222,1 %
Standard Deviation (with absolute values)	172,9 %	56,0 %	31,5 %	49,5 %	172,9 %	161,2 %	5278,7 %	195,2 %
Range	1814,3 %	9714,8 %	3905,5 %	3905,5 %	1814,3 %	9714,8 %	3378,3 %	679,6 %
Maximum	618,1 %	650,5 %	650,5 %	650,5 %	618,1 %	650,5 %	123,3 %	190,4 %
Minimum	-1196,2 %	-9064,3 %	-3255,0 %	-3255,0 %	-1196,2 %	-9064,3 %	-3255,0 %	-489,1 %

Figure 34: Ordinal quarters' accuracy and cumulative accuracy for FiRe Ltd.'s operating profit

Standard deviation, standard deviation with absolute values and ranges support all the above made conclusions about figures 33 and 34. Combining the ordinary months and quarters and cumulative quarters analysis for FiRe Ltd.'s operating profit, one can summarize and suggest that FiRe Ltd. was more realistic with closer months than distant months but deviation size did not grow as time passed by which is a very interesting finding from this statistical population. In addition, bunching sole months into four quarters provided much better results that were much closer to the original assumption that "the nearer future quarters would have smaller deviations than the more distant ones" than when measuring sole months. Thus it is justifiable to debate that "no one can know the future even for the shorter period of time so what's the use in guestimating?" if one is answering a question from controller that is wondering some deviation concerning one sole month. However, it is not a justifiable counterargument with cumulative time periods or quarters.

7.6 Future Prospects

Rolling forecasting's end products for FiRe Ltd. were introduced in this chapter. Still clarifying to all interest groups in an open way, what rolling forecasting was all about and what is really the value rolling forecasting is adding to Fire Ltd, had an acute order inside the company. FiRe Ltd. had a company policy description with many processes and respective working instructions. However rolling forecasting did not have such a policy and generally people would look down on accounting people in the company when talking about rolling forecasting, the objective of which an average controller could not sell very efficiently to business operations' people. Now, as CEOs and CFOs changed over time, each and every of them had their own principles and thus time after time FiRe Ltd. failed in creating some withstanding cornerstones for rolling forecasting.

Another thing for the future prospects would be the learning from forecasting deviations and creating a systematic way of improving the process and understanding of budget deviations concerning different division and region combinations as well as for different account groups. Now FiRe Ltd. seemed to create a forecast, then report it in the monthly actual reporting package usually as one column deviation and then completely forget the latest forecast round as a new one was created. It neither analyzed nor had constructive discussions or consequences afterwards on systematic failures that were proven to exist in chapter 7.5 with the retrospective analysis of the consolidated results of FiRe Ltd.'s rolling forecast versions throughout 2008-2014 in grocery and DIY divisions' regional areas as well as the HQ operating costs.

The length of the whole process would have to be somehow shortened. FiRe Ltd. management should ask: "how can we claim that our rolling forecasting is future oriented when the forecasting assumptions concerning the economy, network plans et cetera are almost two months old when the forecasting reporting packages are crafted." The whole forecasting process would need rethinking for example by launching different deadlines for different division and region combinations so that the accounting function could process and analyze the work more efficiently through reorganization of the whole process according to the lean thinking ideology. Another way would be forecasting a couple of years forwards, and giving the responsibility to change the forecast entirely to the division and region combination responsible manager in cooperation with a named accounting professional. That would save a lot of working time in those situations where the outlook really had not changed and give focus more on analyzing the deviations and having real business related dealings.

One issue on hand at the time of the research was the waging war between excel purists and forecasting system fans. There were two things in this relation to be solved: what technical solution for forecasting could be most efficient and value adding and how one could make these parties, excel purists and forecasting system fans, cooperate.

Anyhow FiRe Ltd. encounters its future, it has to make decisions, whether to continue with rolling forecasting or not. Presented in chapter 3.3, the beyond budgeting model has rolling forecasting embedded but examining the model closer might lead to groundbreaking changes in how rolling forecasting is used in different parts of the company.

8. Discussion and Conclusions

The deepest desire in this thesis has been to give answers both to academic field's yearning for knowledge and case company's practical challenges. This chapter is divided into two subsections. Firstly the discussion part considers the study in relationship with the present theory of diffusion of management control systems, budgeting and rolling forecasting presented in chapters from two to five. Secondly the conclusion part summarizes with the most important findings theory-wise as well as in practice, which will be followed by some suggestible directions for further studies.

Discussion

This study was designed to narrow the gap between the rhetoric and the reality by examining first diffusion of management control systems, then clarifying the ongoing budgeting debate and lastly explaining the papers concerning rolling forecasting, which was followed by study methodology and related case of case company FiRe Ltd. The researcher of this thesis presumes that in 2016, Anno Domini, as the world business cycles are rapid, as robots and pieces of coding are replacing traditional accounting professions and as the changing role of management accountants has gathered a lot of attention, the demand for this type of studies has perhaps never been bigger.

The case of rolling forecasting in the Finnish Retail Ltd. (FiRe Ltd.) mirrored to the existing theory has been beneficial since there has been an urgent need in the academic field for rolling forecasting studies, and especially case studies, which to date are nowhere to be found. Rolling forecasting has been underlined as the tool to overcome those disadvantages that the traditional budgeting methods possess (Myers 2001; Arterian 1998). As late as in 2010 Libby and Lindsay stated that there's very little evidence regarding on whether and how firms are adapting their budgeting system, even though, as stated in chapter 2.1, Kimberly found out already in 1981 that it has been the studies on technological innovations that have attracted much more research than the managerial innovations.

Budgeting studies traditionally answer questions such as "what is the accounting system trying to do" and "what are the disadvantages and advantages of the accounting system" rather than answering questions such as "how was this accounting system implemented and used" and "how people perceive the accounting innovation". The accounting scholars surely welcome studies that respect the humane nature of budgeting and studies that consider sociological, anthropological, psychological knowledge and aspects important as for its relationship with budgeting. Kimberly (1981) noted that there is often a considerable gap between the rhetoric and the reality and that

relatively little research has been done on the spread of innovation inside organizations, which applies for budgeting studies as well. Even though budgeting games, biases and mental accounting is rhetoric commonly used, budgeting studies are too often encapsulated from the other real world processes and misfire when it comes to depicting the complex reality. Luckily, there are already some models and extensive research around that can be used in analyzing accounting systems.

As for the diffusion studies, this thesis adopted the diffusion definition of Webster (1971) that "diffusion is the social process by which an innovation spreads through a social system over time". FiRe Ltd.'s case of implementing and continuous use of rolling forecasting was exactly that: as the research progressed it was clear that the change from traditional budgeting to rolling forecasting was much more company culture related change than some technical change. Analyzing Webster's three diffusion elements, decision maker, degree of risk and rate of adoption revealed that Fire Ltd., at the time of this study, had still a long way to travel with rolling forecasting since on individual level there can be a lot of rocks on the road, e.g. individuals not understanding the whole idea, individuals still talking only about yearly budget and individuals not understanding the practice of forecasting work required to answer management's yearning for information.

Rogers' (2003) five characteristics of innovation diffusion determine how fast the innovation is likely to diffuse. In this thesis rolling forecasting was found hard to be analyzed whether it had relative advantage over other budgeting methods, easily compatible technically with the existing culture of doing things but difficult in humane aspects, complex in reality since the social networks delivered business info very strongly over rolling forecasting process, available for trial even though not trialed in Fire Ltd.'s case and somewhat observable as for the results rolling forecasting was providing. Rogers (2002) presented also five different strategies to boost the speed of innovation diffusion process, namely changing attributes, utilizing champions, changing norms through peer support, using entertainment and activating peer networks. Fire Ltd. used many actions and strategies, elaborated in chapter 7.2, to adjust the environment to be suitable for desired changes.

Best (2006) depicted the difference of diffusion and fads in figure three, with a diffusion achieving a permanent state and a fad fading out as time passes by. The reality in this thesis suggests that innovations can have a variable curve and thus gather pace at times and suffer from drawbacks at times. Traditionally this has been the problem with many studies belonging to the pre-Kimberly (1981) era; they take innovations as quite binary and provisionally positive subjects.

Gallivan (2001) moved a step further by speaking about primary, which stands for the organization, and secondary, which stands for individuals, adoption of an innovation. The latter proved to be often the more problematic one in Gallivan's study and that applies for FiRe Ltd. as well. As an addition suggestion to Gallivan's definitions, there could be a group of people in between primary and secondary adoption. In FiRe Ltd.'s case it was evident that different groups, business people versus accounting people and comparing top management to team leaders and to subordinates, had different views of and effects from rolling forecasting. Examining the micro-level through the diffusion S-curve it seemed that top management was already on the upper parts of the curve, having adopted the ideas of rolling forecasting, and some of the subordinates laying along the curve somewhere from starting point to mid-areas of the curve.

Fortunately the studies concerning the diffusion of management controlling systems have awakened to the different starting points as well as outcomes innovations might have. Kimberly (1981) considered that the innovation can be narrowly or widely used and it can survive well or die soon and young. Abrahamson (1991) continues building the complexity and flexibility by emphasizing that it is also possible for organizations to diffuse technically inefficient innovations or on the contrary reject technically efficient innovations. To the moment of writing the last letter of this thesis, it was obvious that there were many opinions on whether FiRe Ltd. had benefitted from rolling forecasting or not. That is why it would be interesting to read more about bold cases, in which organization abandons an accounting method. Ekholm et al. (2003), Bartram (2006) and Schmidt (1992) pondered the possibility of budgeting being an outdated tool and Bogsnes (2009) presented a couple of successful cases, Handelsbanken and Borealis, in which budgeting was indeed abandoned. Bogsnes is the advocate for the beyond budgeting model, which is dealing more with the cultural change on how the company is managed rather than dealing with a technical accounting solution used for controlling.

Kimberly (1981) pointed out that forgetting the possibility of "doing the wrong choices" is the same as having proinnovation biases in the studies. Similarly, it can be thought, for management accounting change, budgeting and rolling forecasting related studies that it would be healthy to reserve the possibility for accounting method or innovation to have adverse effects or those background situations, in which the company have unclear goals and high uncertainty situations. It is good to bear in mind that many fashionable accounting methods, such as rolling forecasting, have a lot of managerial studies which present to-do lists, step-by-step processes and that many outside-groups like consultants are eager to sell these ideas.

Abrahamson (1991) presented a typology for the diffusion and rejection of innovations, which had four different perspectives: efficient-choice, forced-selection, fad and fashion. It would be very enticing to see management accounting and budgeting studies examine the origin of the accounting innovation more carefully. This thesis tackled this challenge by clarifying carefully the case company background and by looking closely into the need for changing from traditional budgeting to rolling forecasting. The case of Fire Ltd. revealed that for some within the organization, rolling forecasting could be the efficient-choice, for some a totally forced selection accomplished by a fiat from the management, for some a reasoned fake-like fad with no reasonable grounding and for some an imitated fashion from another organization.

There is not a single theory or a practical thing in this world that two people would understand in the same way. Maybe accounting innovation and implementation studies would need a measure, through which could be analyzed if the personnel, team leaders and top management understood the innovation very differently or in a similar way. For example, Rappeport (2008) reminded that rolling forecasting is the remedy for CFOs who do not like surprises through faulty forecasts since they might end up being fired. In the case study, the subordinate level accused the management exactly of the same matter; the management played too safe, avoided real business responsibility and spent a lot of resources building the forecast, which according to the subordinate level was not anymore as thought-through as the traditional yearly budget and thus destroyed value within the company as the accounting function could not serve the business people sufficiently anymore with real issues. That might be one of the biggest pitfalls of rolling forecasting; the forecasting in itself becomes a repetitive task that does not serve the company's needs for making high quality real life changes by business people who should be supported by accounting personnel.

Speaking of quality, astonishingly, in the researcher's opinion, both the academic discussion within management accounting change research as well as Fire Ltd.'s processes lacked severely the quality perspectives concerning the innovation itself. For example, surely the balanced scorecard studies concern learning, processes, customers and financial measurements but where are the measurements for the management accounting systems itself concerning whether it is well or badly implemented or used? Similarly, FiRe Ltd. did not have systematized follow-up procedures for rolling forecasting as a method; only forecast deviations within monthly reporting and occasional lessons learned meetings were weak signs of it. What is the dipstick, with which management accountant could measure if the management accounting innovation is functioning as it is supposed to function?

Quality of accounting change is very often the big topic missing in the accounting studies concerning the accounting phenomenon under interest itself. What are the quality levels the company is trying to achieve? How could it be measured? For example accounts receivable related accounting change can be measured by reviewing payments on the due side and how much there are bad debts. Rolling forecasting could be measured through the end products that are desired and those effects it is originally trying to effect, for example giving better support for business people, and also through forecasting deviations which could show if the company had a better grasp on the future or not. In Fire Ltd.'s case those targets that were published for the system were quite high level statements without concreteness. Looking afterwards the forecasting deviations in chapter 7.5, even after many years after the implementation of rolling forecasting it can be stated that there were systematical forecasting errors that continued to persist, giving signal that no follow-up was used.

The real life complexity has not been overlooked by all of the management accounting studies. Because many contradictions emerge in accounting change situations, instead of step-by-step realizations, accounting change models of Cobb et al. (1995) and Kasurinen (2002) presented a proper conceptualized way of encountering accounting change process situations. Kasurinen's model, as it is presented in figure five and in Kasurinen's studies, however, puts great intrinsic value on the change itself. Kasurinen stated that "the learning process taking place during the change will often become at least equally important as the outcome" and that "accordingly, in the future it may not anymore be appropriate to investigate management accounting change in terms of projects. Instead, accounting practices could be considered to be in a continuous state of change."

These statements are well in line with Bogsnes' (2009) beyond budgeting model, in which learning and ongoing process are given weight and in which rolling forecasting is playing a role by updating quarterly views on the future. In FiRe Ltd. different organization levels surely understood what rolling forecasting was trying to do technically and during the research period of 2008-2014 the company tried to learn and improve all of the time the process of rolling forecasting. Nevertheless, rolling forecasting's role in the company was understood quite differently or not understood at all. Ultimately the question on many lips was: "For what are we really using rolling forecasting?". In addition, a systematized way of improving the process seemed to nonsexist and the benefits from rolling forecasting relied on individual accounting and business people's ingeniousness.

To end the discussion part, it has to be stated that there are clear signs that management accounting is becoming an even more humane phenomenon in its nature than ever before, not least due to the

changing operating environment, in which democracy, independency of individuals, liberalism, multichannel trading, continuing of the IT revolution, uncertainty and competition has risen. Laitinen (2001) predicted that employees will become the most important production factor. That is not hard to believe in these times when the energy revolution is behind the corner and when IT companies become huge success stories over night because of ingenious business ideas with low-cost production information technology equipment.

There are different improvement steps and innovations in budgeting to encounter the future, each suffering from different cons and enjoying from different pros. Also that research thematic is moving more towards innovations like the beyond budgeting model that have more to do with the managing culture of the organization than with budgeting techniques, views or perspectives. The beyond budgeting model also puts people as the most valuable asset to the forefront with the ultimate goal being liberation from dictatorship, micromanagement, number worshipping, calendar periods, hierarchies, secrecy, sticks and carrots, and all the other management myths about what is the best for achieving great performance in teams and organizations.

As stated in the theory part of this thesis, rolling forecasting can be used as a stepping stone in improving investor communication and operational efficiency, getting rid of budgeting, realizing strategy and staying on the right track. Good managing, right mind-set of staff and suitable IT systems are needed and all of these were analyzed in the empirical part which clarified the case of rolling forecasting FiRe Ltd. The research findings did not contradict with these nowadays' rather managerial research based statements of rolling forecasting. As additive findings for rolling forecasting's requirements can be stated topics such as positioning and role-setting of rolling forecasting, creating a systematic way of improving the process and understanding forecasting deviations, building constructive causal relationships between real business and the forecasting process and having the ability to push the timely forecast through with good quality and speed combination. Additionally, of course, the contribution to present research is presenting a practical case on how rolling forecasting was implemented and used and what kind of positive results and successes as well as negative challenges or failures were to be found. Brief guidance for encountering these matters are given next in the conclusions of this study.

Conclusions

The conclusions in this thesis can be categorized as pure theoretical findings, as findings and guidance stemming from FiRe Ltd.'s rolling forecasting case, as admitted limitations of the study and in that way as alignments and directions for future studies.

Based on the theory framework and empirical findings, a new accounting change model presented in figure 35 below has grown as a distinction from earlier research. It is fitting the quite hard existing models from both ends, the step-by-step models and the broad accounting change model, into the same picture. It is evident that an accounting change model only to analyze and gaze at the accounting change at hand is insufficient nowadays, if accountants are to make the cultural shift from bean counters to business partners happen. Analyzing the operating environment is not enough, one has to suit and balance the levels of expectation for quality, speed and cost of accounting change to be contingent with the organization's leaders, i.e. individuals, characteristics in order to create the potential for change. At that point zero change has happened and one only begins the journey towards the expected quality level with the granted time and costs.

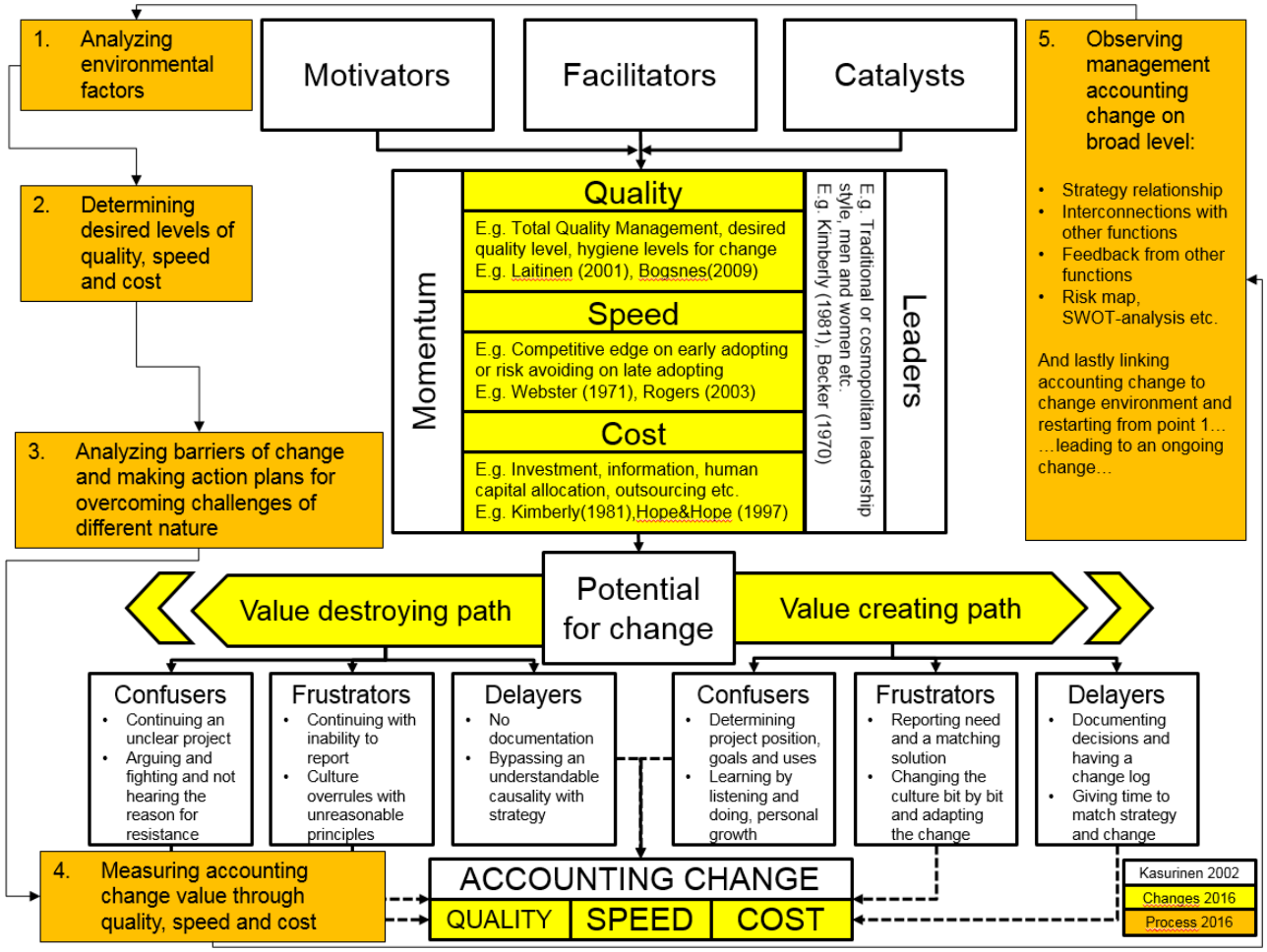


Figure 35: Proposed accounting change model and model process

This thesis claims that the model of Kasurinen can be developed further by introducing the nexuses between quality, speed and cost craving into the model, i.e. itemizing the momentum part of that model. Now the model can be used to analyze an accounting change situation but the model is a little bit rigid since it is not giving proper weight on the trade-off aspect of quality, speed and costs, i.e. resources. It is bypassing what innovation diffusion researchers noticed already in the late 1970's according to Kimblerly (1981); the research field had awakened to the myth of unlimited resources. When analyzing an organization's portfolio of projects, business environment and accounting methods, supposedly some accounting changes could be preferably very hastily accomplished with left hand realization, e.g. a piloting project of new budgeting method concerning strategic outcomes for coming years or company inside project follow-up process, whereas some accounting changes might need very careful consideration with full quality realization, e.g. new investment accounting model, accounts payable or receivable processes. The developed model of Innes and Mitchell (1990), Cobb et al. (1995) and Kasurinen (2002) can be seen in figure 35 above.

Kasurinen's (2002) model has been presented in chapter 2.3 and the white not colored parts in the figure above include those factors that have not changed in the proposed model. The yellow parts include the changes whereas the orange boxes introduce a step-by-step method into the model by clarifying how the model can be encountered in practice. These changes are needed so that there would be a model somewhere in between clear-cut step-by-step procedures which overlook life's complexity and the existing accounting change models which interlineally assume that change in itself is beneficial. Changes compared to Kasurinen's model, i.e. breaking the momentum into pieces and showing the different value paths from the potential for change are elaborated next.

Momentum stands for the state of expectation for continuing change. This thesis suggests that defining the momentum would give answers for example for rolling forecasting's role in the company. Naturally expectations concerning the accounting change could also be adjusted and split into subcategories, namely quality expectation, speed expectation and cost expectation. These expectation categories are without a doubt strongly linked with each other. Of course sometimes there could be exceptions like keeping up the optimal pace with the change will lead to better quality since then issues are not forgotten and like spending more costs for consultants in the beginning might prove to be less expensive than doing those things with own resources. In general, however, it can be assumed that the correlations between quality, speed and costs can be seen as listed below.

- the more quality, the less speed and the more costs (and vice versa)
- the more speed, the less quality and the more costs (and vice versa)
- the more costs, the more quality and the more speed (and vice versa)

Expected quality level for accounting change cannot be determined on its own. Laitinen (2001) mentioned that management accountant is dealing nowadays with many management tools such as just-in-time (JIT), flexible manufacturing systems (FMS), computer-integrated manufacture (CIM), total quality management (TQM), time-based management (TBM), business process re-engineering (BPR). According to him management accounting (MA) systems are followingly also under pressures to change, which has led to the rise of activity-based cost management (ABCM), life-cycle accounting (LCA) and balanced scorecard (BC). In an ever-changing and complex world the accounting change has to bend to the environment. For example logistics innovations are regularly looked through the glasses of total quality management definitions such as the six sigma and so on.

The accounting change has to be there to serve the company, not the other way around. According to Bogsnes (2009), the advocate for the beyond budgeting model presented in chapter 3.3, it is of utmost importance to determine, which control level we're talking about: controlling the right picture of the present state of the business, controlling over what people shall do and what they shall not do or controlling the future. Precise quality and control, according to him, is needed more with the first one and less with the two latter ones. Malmi (2002) stated that first priority should be carrying out the strategy and achieving the set goals and it is really important already at the early stage of adoption of new systems to determine precisely what the desired end products are. That is determining the expected quality level. This thesis claims that the expected quality of accounting change should never be set without having looked at desired levels for speed and costs.

Speed of accounting change on the other hand has indirectly the connotation that the speedier the change is the more valuable the change is. In nowadays' business world pace is desired in many places, which is natural since many of us want to believe that once we have changed something we have earned our salary and changed the company for better. That kind of thinking guides personnel to change those biggest matters that are the easiest to change, not giving value to supervising or core activities which do not leave a track behind. Tackling this topic was one of the findings of this thesis, which found out that in FiRe Ltd. determining job descriptions and what rolling forecasting was all about in the practice and where its real value lay were accounting change topics that did not get sufficient answers even after many years of implementation.

Webster (1971) and Rogers (2003) provided one with some tools for analyzing the speed of innovation change. In accounting change, it would be suggestible for decision maker to make a proper analysis of those benefits, downsides, opportunities and threats of pushing the accounting change forwards. In practice, FiRe Ltd. rushed into implementation of rolling forecasting, maybe on purpose since the change might have not been seen as critical process in the company and maybe because the Finnish culture has always been so that the great victory is achieved through learning from many failures and maybe existing information flows needed a shook up.

What FiRe Ltd. failed with, following the hasty implementation of rolling forecasting, was that it was unsuccessful in relaxing the team leader and subordinate levels concerning the change. There was a rather negative atmosphere in the company concerning rolling forecasting, many controllers saying ironically the statement "do work that has a purpose". Feedback for the rolling forecasting process was asked every year through a survey, which was one of the rare signs of systematical tries to improve the process. However, the number of open comments were quite few and year after year they became fewer. The unrelaxed feeling in the company occurred in strong change resistance and in sacrificing support for business people who complained they needed assistance with other topics than that of rolling forecasting. Time-wise it looks like that FiRe Ltd. implemented rolling forecasting quite fast but it failed in developing the process since the whole process for each round lasted over two months. This thesis claims that the expected speed of accounting change should never be set without having looked at desired levels for quality and costs.

Costs of accounting change have been absent in many management accounting studies so far. By rule no estimated implementation costs have been mentioned in currency or by stating those resources that are needed to accomplish the change. There have been only shallow statements such as Kaplan and Norton who agreed with the claim of BSC functioning best and most often in organizations that are driving the process of organizational change due to unprofitable and unsuccessful status of current situation and Dean and Cowen (1979) who concluded that in some situations corporations are using ZBB selectively when there is a special need for cost stabilization or budgeting process problems, however the tremendous resource craving sets the bar very high since in nowadays' organizations training budgets and number of personnel in support functions are squeezed towards minimum levels.

On practical level there could be such things listed as system costs, project team resource craving, consultant fees, training fees et cetera. It is good to bear in mind that in the accounting change

model by Innes and Mitchell (1990) the facilitators such as accounting staff and systems play a hygienic and not an executor role in management accounting changes. That is not to be mixed with the updated model's costs of accounting change, which are change specific dedicated resources and expectation level for costs that balance the whole momentum with the quality and speed aspects. As for the rolling forecasting case in FiRe Ltd., the different levels' practical working time and nature was examined and that shall be presented in the conclusions part of this thesis. Also the empirical part of the thesis found out that the consultant support for FiRe Ltd.'s first separate forecasting system, BPS, was severely under resourced and had surely effects on the undesired results. In addition, wrongly understood idea of rolling forecasting led to subordinate level's frustration and fear feelings, which definitely destroyed value in the company's operations.

In the accounting change model, it would be very interesting to examine the leaders' part of the model more precisely. Concerning the diffusion of management control systems, Kimberly (1981) synthesized the studies examining the characteristics of administrators and other organizational members and found out wide research evidence that it cannot be ignored when analyzing diffusions. For example, if the decision maker in the organization represents the executive culture in Hope&Hope's (1997) discussion about the behavioral school in knowledge management, accounting change might easily be under resourced and lead to those kind of changes, which automate tasks even at high costs and which make a lot of accounting personnel redundant. On the contrary, if the decision maker represents operator culture in behavioral school which believes in people's power and in their collaboration, the accounting change might lead to over resourcing accounting change projects and to no development in automating routine tasks. This thesis claims that the expected costs of accounting change are strongly dependent on leaders' characteristics and should never be set without having looked at desired levels for quality and speed.

Having dealt with the first addition to Kasurinens' (2002) revised accounting change model, the categorization of momentum into quality, speed and costs, it is suitable to present the second addition, which is dealing with the barriers that hinder the change, the confusers, the frustrators and the delayers, as Kasurinen expanded the Cobb et al.'s (1995) model. In figure 35 this is depicted as the yellow arrows pointing left and right from the potential for change, i.e. the value destroying path and value creating path in encountering these barriers. In the theory summary in chapter five the value destroyers were introduced as those who value change in itself and who drive change through with bad quality, no reasoning, insufficient resources, inadequate analysis and with no personal risk

embedded. On the contrary, value creator would be the one who is encountering the change challenges seriously and overcoming them efficiently and in good balance.

The big beef of this second addition to the accounting change model is that the barriers of change categorized as frustrators, confusers and delayers could and should be seen often as positive things that have real background reasons. Along the way by wrestling with those issues the company is actually making the accounting change happen perhaps slower than what the momentum would be. However, the change would be on much firmer ground and as a matter of fact the company would be dealing with those issues that might be on the discomfort zone but once overcome, issues that would turn eventually into value-creating factors concerning the accounting innovation being implemented. Vice versa, too slow change might blow the whistle on examining the issues too meticulously and too hasty change might indicate that the hierarchical organization's leaders are favoring changes at any cost and thus pushing them by downplaying the real issues concerning the accounting innovation's successful implementation and development.

As for rolling forecasting studies, Hansen (2011) found out that rolling forecasting generates a set of complex interactions between functions, which was similar to the case study findings in this thesis when examining the complex network of arranging the forecasting process and the end products rolling forecasting was providing. In other words, there are many leaders and barriers of change present in the accounting change situation. By setting correct levels for desired quality, speed of change and costs, i.e. resources to be used, the barriers can be encountered more efficiently and thus the company can be guided to a value creating path, along which the real issues are tackled and other interactive linkages between functions improved.

All this wants to ground the fact that two additions, momentum categorization and value creating or destroying path of encountering barriers of change, are both needed since they're so obviously intertwined with each other. One might believe that this would be the proper point for adding the counterarrow from accounting change to momentum in figure 35 in the same way as Cobb et al. (1995) did it and what Kasurinen (2002) surprisingly made disappear in his model. This research, in turn, suggests another way of ensuring the accounting change process is running around and that the actual change happening is in turn affecting the momentum and its subparts. It suggests the following five point process not only to conceptualize the accounting change model but to see the model constantly in motion.

1. **Analyze environmental factors**
    a. Motivators (business, competition and market environment)
    b. Facilitators (is change even possible with present staff and systems)
    c. Catalysts (company financial performance)
2. **Determine and adjust expectation level of momentum**
    a. Desired level of quality of accounting change (minimum level, what as indicators)
    b. Desired level of speed of accounting change (delay and avoid risk or vice versa)
    c. Desired level of costs of accounting change (project follow-up, direct costs etc.)
3. **Analyze barriers of change and make action and project plans for overcoming those**
    a. Confusers (e.g. dealing with change resistance and promoting learning)
    b. Frustrators (e.g. cultural adaptability and reporting suitability)
    c. Delayers (e.g. strategy matching and documentation requirements)
4. **Measure accounting change through set expectation levels for quality, speed and costs**
5. **Observe accounting change through broad level perspective**
    a. Strategy relationship
    b. Other functions' needs and goals and how the change is serving those
    c. Feedback received from other functions
    d. Risk maps, strategy maps, other accounting systems, SWOT-analysis

Reanalyze points 1-5 at frequent intervals, constantly improve and reset weight areas

At this point, one has to realize that the accounting change can lead to consequences which either destroy or create value by answering those challenges the barriers of different nature are bringing up. In order to avoid situations, in which accounting projects either proceed to goal no matter what or stop permanently because of the pedantic desire for turning every stone on the way, a follow-up is needed in respect of measuring the change's quality, speed and cost. That happens along the way, whether the project has a starting point and end point or whether the accounting change is of permanent kind. Once the status of accounting change has been analyzed, the accounting change cannot be isolated from what has happened in other frameworks of the organization and it cannot deny the feedback and guidance it is getting because accounting function is there to serve the organization, not the other way around. Once this broader picture has been clarified, the model's process can restart and adjust every detail or alignment to better match the ultimate goal of this model: either maximize the value created by the accounting change or stop changes in time that would destroy value.

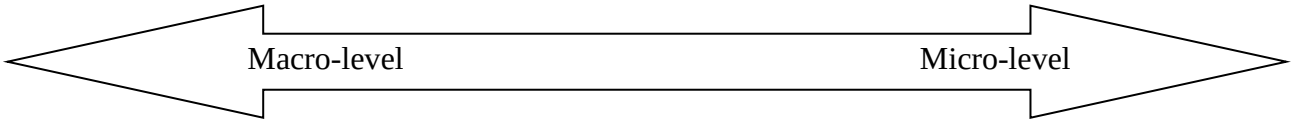
Counted as one of the conclusions of this thesis are naturally the answers provided concerning rolling forecasting in relationship with the research question stated in chapter 1.2: "How does rolling forecasting function in everyday operations, how does it bring the aimed results, and how are the results viewed in different levels of an organization?" These answers presented in table 16 below represent in their part the distinction from earlier research which did not include such implementation or continuous usage studies of rolling forecasting.

Management represented the macro-level understanding of rolling forecasting due to its responsibility to make sure that the organization matched with strategy and other broader picture topics. Subordinates stood for the micro-level and knew stories from the details and how they affected the big picture delivered by rolling forecasting. Middle-management was responsible for making the rolling forecasting process roll around and deliver the results management desired with the subordinates' skills and time. There is no need to repeat what is stated in table 16. Nevertheless, the most surprising observations are brought into the light.

On the question how does rolling forecasting function it was surprising to find out that the subordinate level was really occasionally using the rolling forecasting process to evaluate the past. One of the key points in rolling forecasting is the emphasis on the future. John F. Kennedy's famous quote said followingly: "Change is the law of life. And those who look only to the past or present are certain to miss the future." This sentence has so much meaning for rolling forecasting when thought carefully. Firstly, rolling forecasting was indeed used for learning the past. Secondly, it often failed to create new insights as the forecasting was so heavily based on near history actuals. FiRe Ltd., as learned in chapter 7.5, made continuously many systematic forecasting errors for some region and division combinations. That was a sign that rolling forecast was actually a bad quality plan that resembled the yearly traditional budgeting, at least from the eyes of the subordinates.

On the question "everyday" the cost of having rolling forecasting around was measured through its resource craving on different levels. Surprisingly, it was revealing that the subordinate level had to accomplish those forecasts in the same time as month end process and reporting was going on. As surprising was that the management level was practically always somehow tied to rolling forecasting, always being forced to be aware of the latest budget, i.e. RP2, latest forecasting round and the coming forecasting round. As for the middle-management level, it was surprising that even though they spent two months every round, they did not devote their time a lot for improving the process nor systematically following the deviations. If they would have analyzed a longer time-span of account and region and division combinations, they would have found the results accomplished in this thesis, and surely they would have taken action in order to correct those systematic failures.

In different levels of an organization? (Macro- vs. micro-level)



	Management (CEO, board & CFO)	Middle-management (Business controllers, team leaders)	Subordinates (Business people, controllers)
How does rolling forecasting function? (basics of rolling forecasting)	Assuring an updated view on business environment, sensitivity analysis of business actions and the link to strategy	Important tool in thinking things through, finding of causalities and pushing real business onwards with the help of rolling forecasting	Budgeting four times a year. Sometimes finding real money actions when forecasting based on near history actuals
Work during one round (on average) Everyday? (time-span of rolling forecasting and resource burden)	3 months, guiding role, 5 full work days, a lot of off-work time	2 months, active role, 2 weeks of full work days, moderately off-work time	2 weeks, executor role, 2 weeks of full work days, little off-work time
Operations? (micro-level work)	Work done mainly in meetings and all-alone Early phase meeting giving focus areas and targets and late phase meeting reviewing and summarizing	Work done in mixed environments Managing the whole forecasting process, key role in understanding management's ideas and making sure their inclusion	Work done with spread-sheets and systems Taking care of details in all respects, gathering graspable figures behind actions and putting in figures for cost centers
Aimed results? (promised results, SWOT and their correspondence to the reality)	+ Guidance guaranteed for board work and owners. Modernizing management. - Never-ending responsibility and stiff action-coincidence relationship	+ Two-storey assurance of running business (actuals versus last year and versus rolling forecast) - Drowned in matching teamwork with chronically changing situations	+ Observations of possible real business actions, clear-cut responsibility areas - Distorted by repetition of same non-value producing tasks. Same big amount of work needed always

Table 16: Research question posed in a table with summed up answers

On the question “operations” which looked though a microscope the actual work done by different levels, it can be stated that even today the dominance of spreadsheets as the actual forecasting tool is quite overwhelming. The systems used were nowhere near what could be done in a versatile manner in spreadsheets. Often the forecasting IT solution was used only for storing and saving the forecasting figures and also for consolidating the results so that subparts would match with FiRe Ltd.’s company view. Even in reporting, figures were often imported straight to spreadsheets, through which presentations were prepared. Ready reports from the system were of quite bad quality suffering from unreadability, slow navigation tree and low level of flexibility.

On the question “aimed results” FiRe Ltd. should seek for answers the most in the future. This can be best seen in the middle-management level who was drowned in the chronically changing situations concerning the process which had to be changed round after round. Fire Ltd. aimed for a 12 months rolling outlook to inform board and owners, two-storey assurance for running the business and systematic and real planning of the future. In practice it got mixed results.

As straightforward advice as the researcher dares to point to FiRe Ltd.’s decision makers concerning its management model and rolling forecasting, it can be formulated in the following way. In the future it’s time to seriously consider, whether the rolling forecast would be crafted four times a year. Almost every level of the organization showed signs of becoming numb with the whole process. Presumably devoting one round per year to process development, analyzing of accomplished rounds’ deviations or actuals or other business areas would be rewarding and would boost the quality of all the three rounds that would continue to exist. For example having a change log of forecasting principles and special guidance would be highly beneficial since now the subordinates forgot the made decisions round after round.

Another thing is giving much more both freedom and responsibility to those who forecast the figures into the system and to those who organize the process from middle-management. An eager regional manager would have to be able to enter his or her figures into the system two years ahead. Then there would be the responsibility to update the figures every month if the view on the future had changed for some reason. If there were no changes on the outlook, the regional manager and the cooperative accounting professional would save a lot of working time and could use the time to run the business as efficiently as possible.

Different deadlines for different division and region combinations could easily be launched, copying the lean-thinking ideology from logistics in a sense so that the finalized figures and returned templates could be analyzed smoother instead of having a lot of bottle necks in the process. As for the owners and board, it would be surely enough to state that the outlook on the future has not changed for the rest of the calendar year or coming 12 months. Owners would steer FiRe Ltd.'s board surely otherwise if they knew how rolling forecasting was functioning inside the company, from that the researcher is sure of. They would guide the process towards less-is-more thinking and make people care for those figures they estimate. Now the reality proved two things: firstly the accounting personnel are that type of people who employ themselves when they are given a ledger and responsibility to forecast. Secondly figures did not matter on too many levels since there was only one month when the new rolling forecasting process began once the latest one had finished.

For envisioning the future of rolling forecasting, the researcher suggests getting to know with the beyond budgeting model. If not implemented as such, it gives at least a lot of thinking tools to overcome those budgeting deficiencies that have followed FiRe Ltd. even though it has abandoned the traditional yearly budget. The finding here is that those weaknesses of the yearly budget can follow rolling forecasting and that shifting to rolling forecasting does not guarantee anything if not positioned and used with the correct mind-set owning accounting personnel. One sign of this is the target setting process that relies heavily on one of the rounds, the RP2, which is called the budget for some reason. This leads to a biased view on the future since business responsible managers are trying to lie their capability of bringing in results. Thus it is highly suggestible to detach the rewarding system from the rolling forecasting process as much as possible.

Now rolling forecasting is playing a multitude of roles in FiRe Ltd. and often it is surrounded with mixed opinions depending on who one asks, whether it is used for rewarding, operational planning, realistic view on the future, performance evaluation, communication of goals or for strategy formation. Clarifying the aimed results would be the proper starting point in improving rolling forecasting in FiRe Ltd., after which of utmost importance would be to relax the atmosphere around the process, thus releasing people from the bane of being fed up with number crunching and irrelevant tiny deviations and giving them the possibility to concentrate on issues having the most value and to be real business partners whose work would be evaluated by the business unit directors whose functions could benefit from the services of the accounting professionals.

As for the limitations of this study, they are many. While getting access to extensive data, the researcher had a working relationship with the case company which might have had a blinding effect on the examined topic due to being too close on the research subject. Also, working as a subordinate possesses a risk of having diverged results to be favorable to the subordinate level and unfavorable to the middle-management and management levels. Also, threatening the external validity of the study, the research results consisted only of one case company, which was, however, studied in a deep and extensive manner. Additionally, only one industry, the retail business, was examined with only two different markets, the DIY market and the grocery market.

Yet another limitation was that rolling forecasting related interviews, totaling 13 interviews, were heavily accounting personnel weighted with only two interviews that were held with non-accounting people, the investment manager and the consultant ordered by the management to examine rolling forecasting. The scope of studied financial figures was extensive but not without limitations: only operating profit items were under the loop, leaving thus other results items, balance sheet items, e.g. investments, unnoticed. Another limitation of the study was that there were few academic studies concerning rolling forecasting and that no studies of this kind concerning rolling forecasting had taken place to date.

The study accepted the contingency theory and admits that there might be different results with other kind of environments, organization structures and technological aspects. There is assumedly a weak possibility for replication to take place with this kind of a study, which is the prerequisite for a study to be of generalizable nature. For management accounting research field it is exactly the studies that can show how rolling forecasting function in different kinds of settings that are needed before there are better grounds for stating the right questions for statistical studies.

This study, "Micro-level diffusion of management control systems: rolling forecasting in the Finnish Retail Ltd.", challenges the upcoming studies to test the proposed accounting change model and model process both with accounting innovations and ongoing accounting change situations. It would be very interesting to gather more knowledge on how successful and unsuccessful accounting changes are managed. In what components would the differences, if any, be found: motivators, facilitators, catalysts, momentum – i.e. quality, speed and cost – leaders, and barriers of change – i.e. frustrators, confusers and delayers. The quantification of at least some of these components would enable further opportunities for studying accounting change. More concretely, it might be fruitful to find out how accounting change differs, if it differs, in wealthy versus suffering

companies, with men versus women and elderly versus young leaders, in speedy vs calm realizations, in small versus big accounting departments or organizations, in clear-cut versus impenetrable strategy companies and in European versus American companies. The questions that arise are almost limitless.

In the information wave's era businesses have more data available than ever and businesses are constantly under turbulent changes. Thus more agile accounting models are needed so the change could be steered and relevant data could be distinct from irrelevant data. The beyond budgeting model tries to provide answers for these issues and suggests that budgets are the "biggest roadblock to the future" that give focus too much on the short-term. Therefore, especially from rolling forecasting's perspective, studying how rolling forecasting is used within the beyond budgeting model might be worth examining because of the different breeding ground for rolling forecasting compared to this thesis, in which the case company transformed from traditional yearly budgeting to rolling forecasting without having heard a single word of the beyond budgeting model. Could the beyond budgeting model perish those shadows of the traditional yearly budget that followed the case company in this thesis as it transformed to rolling forecasting?

As a final note and recommendation for researching rolling forecasting even more, would be the chance to look into what other functions than accounting have to say about rolling forecasting. For which functions is it most worth of and for which is it only an occasional compulsory bad? Is it any good for store managing, strategy work, CEO level work, real estate operations, IT operations, treasury operations, PR work, marketing, risk management or internal audit? Interest groups, some as information vendors and some as customers, may have different views by possessing natural interest or disinterest and thus accounting function could handle them differently as for taking care of rolling forecasting's process. For decades, the biggest pitfall traditionally for a management accountant has been self-employing encapsulation in the accounting function, beancounting oneself to exhaustion without any real value. Today, with vast amount of data available and management accountants already on the streets, the biggest pitfall for a management accountant is misinterpreting the data through not knowing the information vendor nor the customer. In nowadays' organizations management accountants carry a huge responsibility of delivering timely, correct, relevant and understandable data in order to secure fact-based managing of the business.

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Interviews

(13, of which 5 in the implementation phase and of which 8 in the phase of continuous use)

Implementation phase interviews:
Director of Finance, Grocery Division, 23.3.2006
Business controller, Grocery Division 23.3.2006
Assistant controller, Grocery Division 23.3.2006
Controller, Grocery Division 30.3.2006
Business controller, Grocery Division 7.4.2006

Phase of continuous use of rolling forecasting:
Director of Finance, Grocery Division, 2.3.2010, 38 min, transcribed
Business controller, Grocery Division, 22.2.2010, 122 min, transcribed
Controller (Forecasting system main user), Grocery Division, 10.3.2010, 59 min, transcribed
Investment manager, Grocery Division, 20.4.2010, 54 min, transcribed
Business controller, DIY Division, 16.2.2010, 38 min, transcribed
Controller, DIY Division, 24.2.2010, 107 min, transcribed
Business controller, FiRe Ltd. HQ, 20.4.2010, 117min, transcribed
Consultant (report for FiRe Ltd.’s HQ),31.3.2010,interview 60 min, no permission to be recorded

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APPENDICES

Appendix 1 – Interview template 1 (implementation phase)

The interview will last for maximum 2 hours. Interview method is theme interview, i.e. discussion about chosen topics which need extra information.

The following questions and claims can be examined by the interviewee in order to be prepared.

Questions:

- What is your own position in realizing rolling forecasting in the company?
- Who is the father of rolling forecasting in your company and with what groundings did the company entitle the implementation phase of such budgeting method?
- Please name 3 essential advantages and 3 most difficult issues concerning rolling forecasting.
- What kind of role does rolling forecasting have in your company?
    - Supporting management's decisions or operational cause?
    - What is rolling forecasting's position in relation with other information or controlling systems?
- Does rolling forecasting bring also other changes to the budgeting process of the company?
- Is rolling forecasting implemented through a pilot project in some certain department? Would it be advantageous to implemented it first through a pilot.
- Has rolling forecasting already caused any concrete changes concerning business actions of FiRe Ltd.?
- How should one measure the success of rolling forecasting as a budgeting method (what factors)?
- Who are the responsible persons of running rolling forecasting? Should you broaden or narrow this responsibility? Whose absence (e.g. due to sick leave) would cause the most headache in accomplishing and how would he or she be replaced?
- How does FiRe Ltd. conduct the actual forecasting?
    - With special cases (huge market distractions or occasions?)
    - With what kind of forecasting systems?
    - Who is doing the actual forecasting work?
    - Are the forecasts modified later on and who has this modification or alterion right?
- Are you having other major projects than rolling forecasting ongoing in your department or in the company?

- Have you experienced rolling forecasting as extra burden?
    - if no, why not?
    - if yes, for what reason?

- How is rolling forecasting resonating with other organization levels? How remarkable is their effect on forecasts and how the necessity of rolling forecasting has been justified?

- Is rolling forecasting linked with some particular information system? Have the consequences of maintaining of such system been analyzed? How are you taking care of training employees?

- What kind of rewarding system you're having in your company and how do you think rolling forecasting is affecting it?

- You have now accomplished rolling forecasting two times in FiRe Ltd. Have you recognized any learning or possibly any shortening in the completion process of rolling forecasting?

Claims:

- Rolling forecasting weakens the motivation level of lower organization levels because the sense of surveillance grows too much. In this relation creativity and sense for entrepreneurship suffer.

- Rolling forecasting is aiming for success in too short a period of time and that leads to distraction of the company's mission and the journey towards the vision becomes more difficult.

- The ultimate meaning of rolling forecasting is to put all organization levels in one line as for understanding that information brings competitive advantage and that's why fostering information advantages is important.

- It is beneficial to time rolling forecasting to other time slots than financial statements for the financial year or quarters since then there is lack of time. Always when there's time it is worth preparing the next round for rolling forecasting.

- Management's commitment to the project is the most vital factor in succeeding with rolling forecasting's implementation and usage.

Appendix 2 – Interview template 2 (continuous usage phase)

Contents of the interview:

Introduction to the research and interview (about 5 min)

Interview Questions (about 30 min)

1. Basics of rolling forecasting:

- What role ➔ For what is it used and who is using it?
- What outcomes ➔ What does one get out of rolling forecasting and why is one using it?
- What is rolling forecasting's position in the organization (financial administration / other departments)?

2. Background of rolling forecasting

- When was the implementation and with what forewords?
- Wow has it developed along the years?
- Have rolling forecasting's methods stabilized or are things still changing a lot?

3. The actual planning

- What kind of a process/period is rolling forecasting? How do you see your own contribution to the forecast? What practical job tasks do you do during the process and how do you succeed?

4. Rolling forecasting in other departments

- What do other interest groups do in the forecasting process? What is the cooperation like?
- What is your superiors/colleagues/subordinates doing in the forecasting process?
- How do the interest groups or superiors/colleagues/subordinates take rolling forecasting?

5. How could you improve the present system? What shortcomings do you see in the process or outcomes of rolling forecasting?

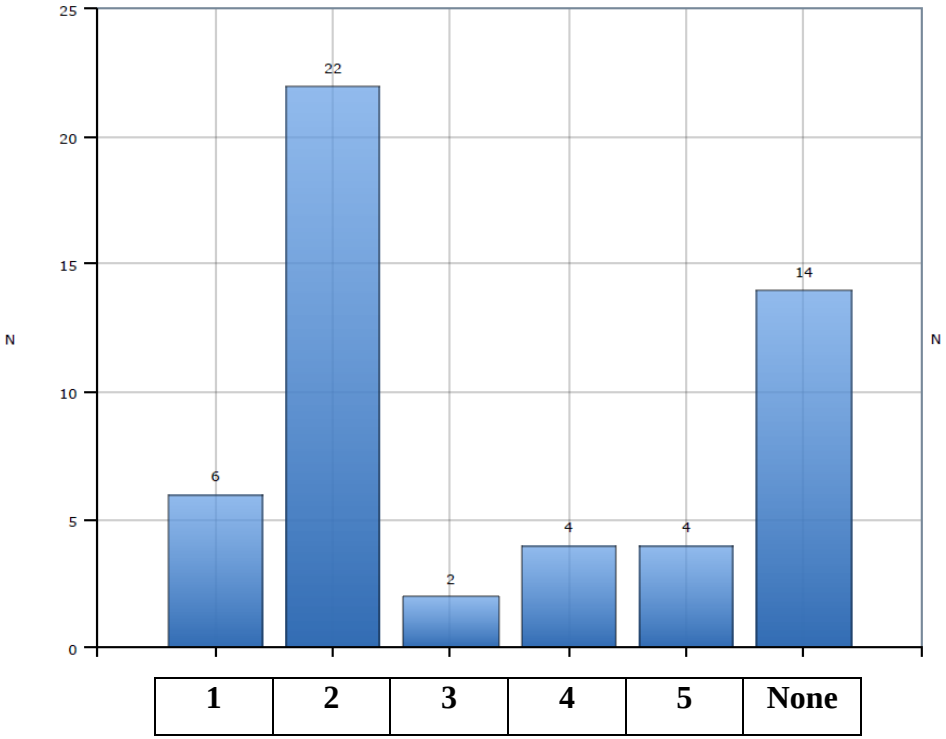
- What kind of forecasting errors are there?
- What were the reasons for errors or for the lacking forecasting process?
- What opportunities are there still to take profit of?
- How are you going to overcome shortcoming and errors and how are you going to take advantage of the still unfulfilled promises of rolling forecasting?
- What would happen if rolling forecasting was abandoned and the business would be planned otherwise?

Free discussion about rolling forecasting (about 15 min):

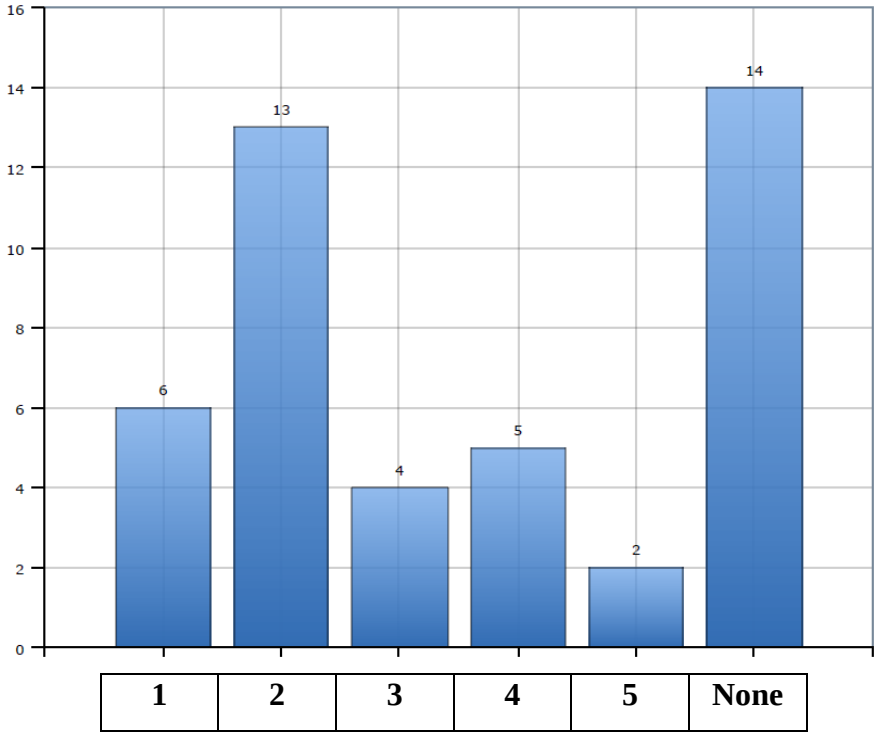
Appendix 3 – Customer satisfaction rate

“Im satisfied with rolling forecasting instructions and reporting templates”

2013



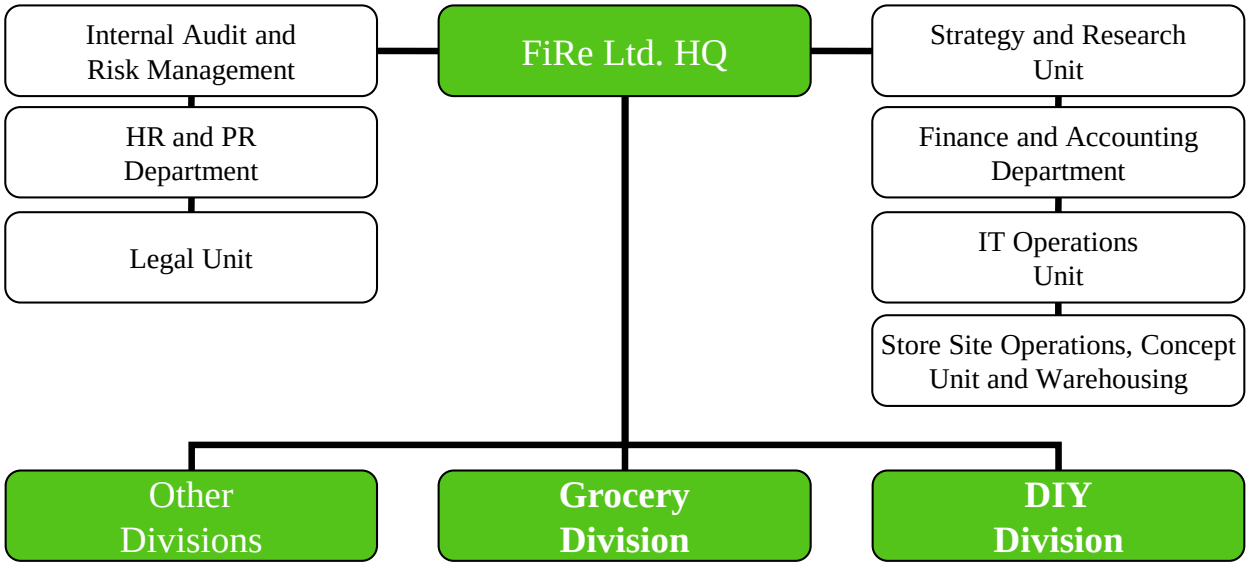
2012



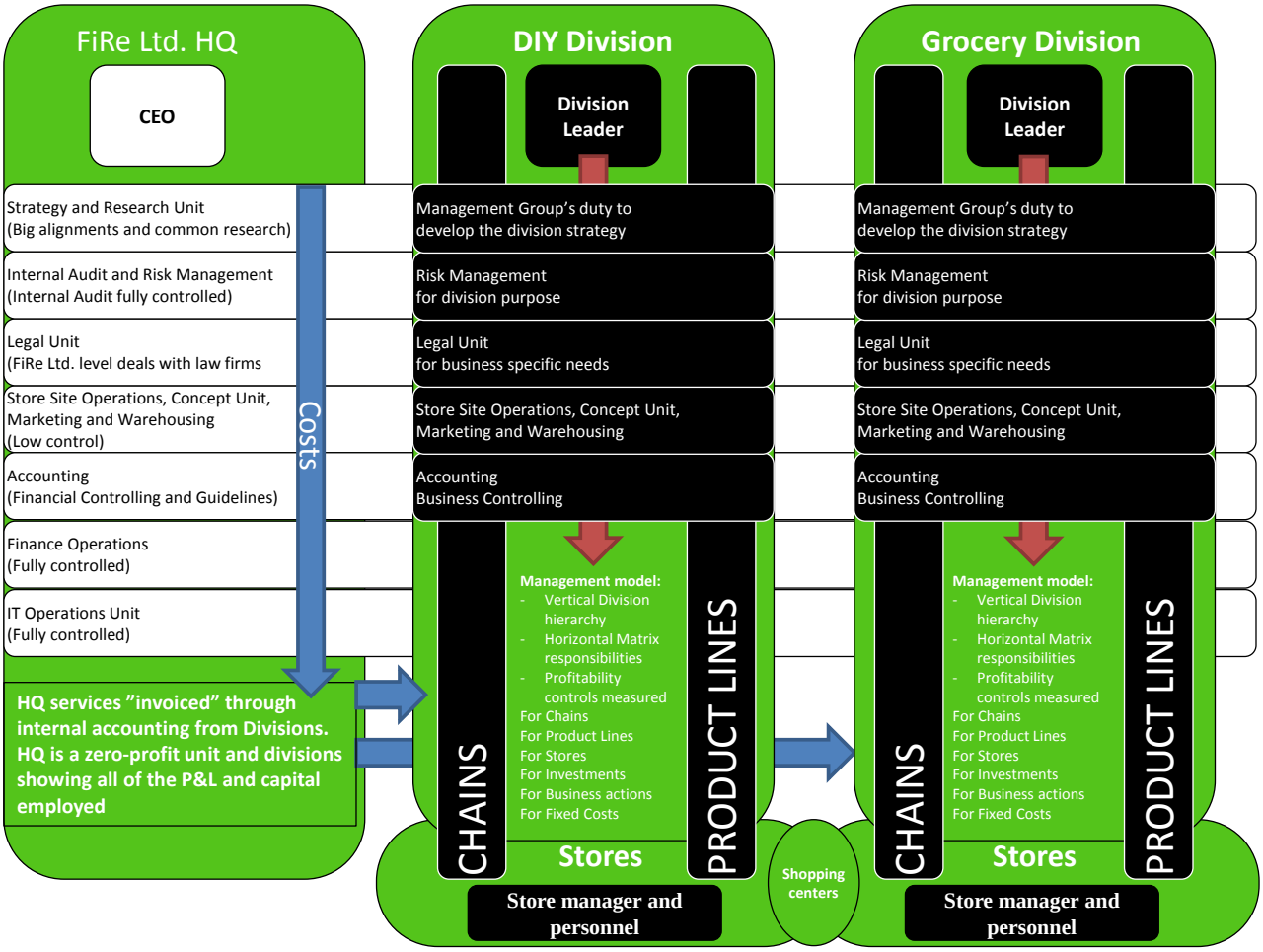
Totally Agree	Partly Agree	Yes and No	Partly disagree	Totally disagree	Have not used
1	2	3	4	5	None

Appendix 4 – Finnish Retail Ltd. Organization charts

Organization chart of the case company:



HQ functions fully controlling or supporting the divisions:



Appendix 5 – Finnish Retail Ltd. Rolling Forecast financial data

FiRe Ltd. (Full year accuracy)

	Full year accuracy 2009-2014* 1st RP1 (12mths)	Full year accuracy 2008-2014 RP2 (12 mths)	Full year accuracy 2008-2014 RP3 (9mths)	Full year accuracy 2008-2014 RP4 (6 mths)	Full year accuracy 2008-2014 2nd RP1 (3 mths)
Sales Deviations in units					
On Average	-184,1	-118,0	-100,2	-73,6	-21,8
On Average (with absolute values)	239,7	155,4	140,4	87,1	39,4
Standard Deviation	376,8	187,4	173,6	97,4	53,4
Standard Deviation (with absolute values)	337,1	152,3	137,2	83,3	39,8
Range	1 041,7	570,9	575,3	265,2	167,8
Maximum	133,1	130,9	140,8	47,4	44,7
Minimum	-908,7	-440,0	-434,4	-217,8	-123,1
Sales Deviations in %					
On Average	-5,6 %	-3,8 %	-3,0 %	-2,4 %	-0,7 %
On Average (with absolute values)	7,8 %	5,3 %	4,7 %	2,9 %	1,4 %
Standard Deviation	11,8 %	6,1 %	5,5 %	3,1 %	1,8 %
Standard Deviation (with absolute values)	10,2 %	4,6 %	3,9 %	2,5 %	1,2 %
Range	33,4 %	18,1 %	18,4 %	8,9 %	5,7 %
Maximum	5,5 %	5,4 %	5,8 %	1,9 %	1,8 %
Minimum	-27,9 %	-12,7 %	-12,6 %	-7,0 %	-3,9 %
Gross Margin Deviations in units					
On Average	-45,0	-34,9	-29,1	-21,6	-6,0
On Average (with absolute values)	48,9	35,8	31,5	21,6	7,2
Standard Deviation	65,2	34,6	27,6	21,4	9,8
Standard Deviation (with absolute values)	61,7	33,5	24,3	21,4	8,8
Range	183,4	99,6	83,0	58,3	29,7
Maximum	11,8	3,1	8,4	-3,0	4,2
Minimum	-171,6	-96,4	-74,6	-61,2	-25,5
Gross Margin Deviations in %					
On Average	-10,0 %	-8,3 %	-7,0 %	-5,3 %	-1,4 %
On Average (with absolute values)	11,0 %	8,5 %	7,6 %	5,3 %	1,8 %
Standard Deviation	13,6 %	7,5 %	6,1 %	4,8 %	2,3 %
Standard Deviation (with absolute values)	12,6 %	7,2 %	5,1 %	4,8 %	2,0 %
Range	39,1 %	20,1 %	17,8 %	13,0 %	7,2 %
Maximum	3,1 %	0,8 %	2,2 %	-0,8 %	1,3 %
Minimum	-36,0 %	-19,3 %	-15,6 %	-13,7 %	-6,0 %

FiRe Ltd. (Full year accuracy)

	Full year accuracy 2009-2014* 1st RP1 (12mths)	Full year accuracy 2008-2014 RP2 (12 mths)	Full year accuracy 2008-2014 RP3 (9mths)	Full year accuracy 2008-2014 RP4 (6 mths)	Full year accuracy 2008-2014 2nd RP1 (3 mths)
Other Operating Income Deviations in units					
On Average	3,0	3,9	2,6	2,6	0,9
On Average (with absolute values)	5,3	6,1	5,6	3,8	3,5
Standard Deviation	5,6	5,7	6,7	4,9	4,9
Standard Deviation (with absolute values)	2,8	2,8	4,0	3,8	3,2
Range	13,5	15,8	17,6	13,3	15,3
Maximum	8,1	8,9	11,1	9,7	7,7
Minimum	-5,4	-6,9	-6,5	-3,6	-7,6
Other Operating Income Deviations in %					
On Average	2,8 %	4,0 %	2,8 %	2,6 %	0,9 %
On Average (with absolute values)	4,9 %	5,8 %	5,4 %	3,7 %	3,2 %
Standard Deviation	5,2 %	5,3 %	6,3 %	4,8 %	4,4 %
Standard Deviation (with absolute values)	2,5 %	2,7 %	4,0 %	3,9 %	2,9 %
Range	12,3 %	14,5 %	15,6 %	13,4 %	13,4 %
Maximum	7,3 %	8,9 %	10,2 %	10,2 %	6,9 %
Minimum	-4,9 %	-5,6 %	-5,3 %	-3,2 %	-6,5 %
Personnel Expenses Deviations in units					
On Average	11,3	7,6	7,6	8,6	2,5
On Average (with absolute values)	14,2	7,9	9,1	8,8	2,9
Standard Deviation	29,2	12,0	9,2	9,0	3,7
Standard Deviation (with absolute values)	27,6	11,7	7,5	8,7	3,3
Range	75,5	26,2	27,3	25,7	10,6
Maximum	70,5	25,4	22,4	24,9	9,3
Minimum	-5,1	-0,8	-4,9	-0,8	-1,3
Personnel Expenses Deviations in %					
On Average	-5,1 %	-3,9 %	-4,0 %	-4,4 %	-1,3 %
On Average (with absolute values)	6,7 %	4,1 %	4,8 %	4,5 %	1,6 %
Standard Deviation	13,3 %	6,2 %	4,7 %	4,3 %	1,9 %
Standard Deviation (with absolute values)	12,4 %	6,1 %	3,7 %	4,1 %	1,6 %
Range	34,8 %	14,9 %	13,2 %	12,4 %	5,4 %
Maximum	2,9 %	0,5 %	2,8 %	0,5 %	0,8 %
Minimum	-31,9 %	-14,4 %	-10,4 %	-12,0 %	-4,6 %

FiRe Ltd. (Full year accuracy)

	Full year accuracy 2009-2014* 1st RP1 (12mths)	Full year accuracy 2008-2014 RP2 (12 mths)	Full year accuracy 2008-2014 RP3 (9mths)	Full year accuracy 2008-2014 RP4 (6 mths)	Full year accuracy 2008-2014 2nd RP1 (3 mths)
Rent Expenses Deviations in units					
On Average	-1,5	-2,1	-0,1	1,3	-0,4
On Average (with absolute values)	2,9	2,2	1,5	2,2	1,6
Standard Deviation	3,7	2,2	2,0	3,8	2,1
Standard Deviation (with absolute values)	2,5	2,0	1,1	3,3	1,4
Range	8,9	6,7	5,4	12,3	6,6
Maximum	2,7	0,4	1,4	9,4	4,1
Minimum	-6,3	-6,3	-4,0	-2,8	-2,5
Rent Expenses Deviations in %					
On Average	1,8 %	2,6 %	0,1 %	-1,3 %	0,5 %
On Average (with absolute values)	3,5 %	2,7 %	1,8 %	2,3 %	1,8 %
Standard Deviation	4,5 %	2,7 %	2,4 %	3,9 %	2,5 %
Standard Deviation (with absolute values)	3,1 %	2,5 %	1,4 %	3,3 %	1,6 %
Range	10,7 %	8,2 %	6,3 %	12,7 %	7,8 %
Maximum	7,4 %	7,7 %	4,7 %	3,3 %	3,4 %
Minimum	-3,3 %	-0,4 %	-1,6 %	-9,4 %	-4,4 %
IT Costs Deviations in units					
On Average	1,2	1,5	1,3	1,1	0,3
On Average (with absolute values)	1,3	1,7	2,1	1,7	0,4
Standard Deviation	1,0	1,5	2,4	1,6	0,4
Standard Deviation (with absolute values)	0,9	1,4	1,6	0,9	0,2
Range	3,1	4,0	8,2	4,9	1,3
Maximum	2,8	3,7	5,4	2,9	0,7
Minimum	-0,3	-0,3	-2,9	-2,0	-0,6
IT Costs Deviations in %					
On Average	-5,2 %	-6,4 %	-4,3 %	-4,0 %	-1,1 %
On Average (with absolute values)	5,5 %	7,0 %	9,3 %	7,3 %	2,0 %
Standard Deviation	3,8 %	6,4 %	11,0 %	7,5 %	2,1 %
Standard Deviation (with absolute values)	3,2 %	5,7 %	6,5 %	3,5 %	1,1 %
Range	11,7 %	15,2 %	36,0 %	22,6 %	6,4 %
Maximum	1,0 %	1,3 %	17,4 %	11,7 %	3,2 %
Minimum	-10,8 %	-13,8 %	-18,6 %	-10,8 %	-3,2 %

FiRe Ltd. (Full year accuracy)

	Full year accuracy 2009-2014* 1st RP1 (12mths)	Full year accuracy 2008-2014 RP2 (12 mths)	Full year accuracy 2008-2014 RP3 (9mths)	Full year accuracy 2008-2014 RP4 (6 mths)	Full year accuracy 2008-2014 2nd RP1 (3 mths)
Marketing Expenses Deviations in units					
On Average	3,1	1,0	0,9	1,3	0,8
On Average (with absolute values)	5,2	3,3	2,9	2,0	1,3
Standard Deviation	7,3	4,1	3,4	2,0	1,5
Standard Deviation (with absolute values)	5,7	2,3	1,7	1,2	1,0
Range	20,3	11,5	9,7	4,9	4,5
Maximum	16,1	6,7	6,1	3,5	3,1
Minimum	-4,2	-4,8	-3,6	-1,4	-1,5
Marketing Expenses Deviations in %					
On Average	-6,1 %	-1,8 %	-1,5 %	-3,0 %	-1,8 %
On Average (with absolute values)	11,5 %	8,4 %	7,3 %	4,7 %	3,1 %
Standard Deviation	16,0 %	10,6 %	8,6 %	4,7 %	3,6 %
Standard Deviation (with absolute values)	11,9 %	5,9 %	3,8 %	2,6 %	2,3 %
Range	44,7 %	29,3 %	24,0 %	11,3 %	10,9 %
Maximum	10,7 %	15,3 %	11,1 %	3,5 %	3,9 %
Minimum	-33,9 %	-14,0 %	-12,9 %	-7,8 %	-7,0 %
Maintenance Costs Deviations in units					
On Average	4,4	4,7	2,8	2,2	1,1
On Average (with absolute values)	4,4	4,7	2,8	2,2	1,1
Standard Deviation	4,8	3,6	1,7	1,5	0,9
Standard Deviation (with absolute values)	4,8	3,6	1,7	1,5	0,8
Range	12,8	9,7	4,7	4,2	2,5
Maximum	13,4	10,6	4,7	4,3	2,4
Minimum	0,7	0,8	0,0	0,1	-0,1
Maintenance Costs Deviations in %					
On Average	-10,5 %	-11,6 %	-7,3 %	-5,7 %	-2,9 %
On Average (with absolute values)	10,5 %	11,6 %	7,3 %	5,7 %	3,1 %
Standard Deviation	10,7 %	8,6 %	4,4 %	3,7 %	2,5 %
Standard Deviation (with absolute values)	10,7 %	8,6 %	4,4 %	3,7 %	2,2 %
Range	28,6 %	23,1 %	13,3 %	9,4 %	6,3 %
Maximum	-1,7 %	-2,4 %	0,0 %	-0,3 %	0,4 %
Minimum	-30,3 %	-25,5 %	-13,3 %	-9,8 %	-5,8 %

FiRe Ltd. (Full year accuracy)

	Full year accuracy 2009-2014* 1st RP1 (12mths)	Full year accuracy 2008-2014 RP2 (12 mths)	Full year accuracy 2008-2014 RP3 (9mths)	Full year accuracy 2008-2014 RP4 (6 mths)	Full year accuracy 2008-2014 2nd RP1 (3 mths)
Other Operating Costs Deviations in units					
On Average	8,9	5,4	5,6	2,3	0,2
On Average (with absolute values)	8,9	7,2	7,5	5,0	2,4
Standard Deviation	6,2	6,7	6,2	6,2	3,3
Standard Deviation (with absolute values)	6,2	4,2	3,1	4,0	2,1
Range	14,2	22,5	20,2	20,1	10,2
Maximum	16,9	16,3	13,5	11,1	4,1
Minimum	2,7	-6,3	-6,7	-9,0	-6,1
Other Operating Costs Deviations in %					
On Average	-15,9 %	-10,3 %	-10,5 %	-4,7 %	-0,9 %
On Average (with absolute values)	15,9 %	13,6 %	14,1 %	10,0 %	5,0 %
Standard Deviation	10,9 %	12,5 %	11,8 %	12,5 %	6,8 %
Standard Deviation (with absolute values)	10,9 %	7,9 %	6,0 %	8,0 %	4,1 %
Range	24,4 %	41,9 %	39,0 %	40,7 %	20,7 %
Maximum	-5,2 %	11,8 %	12,6 %	17,9 %	11,5 %
Minimum	-29,6 %	-30,2 %	-26,4 %	-22,8 %	-9,3 %
Depreciations and Impairments Deviations in units					
On Average	1,4	-6,1	-5,8	-5,8	0,4
On Average (with absolute values)	2,0	7,4	6,9	6,9	1,0
Standard Deviation	2,3	16,9	16,1	16,4	1,4
Standard Deviation (with absolute values)	1,7	16,3	15,6	15,9	0,9
Range	7,0	46,8	44,1	45,2	3,6
Maximum	5,3	2,4	1,9	2,4	2,3
Minimum	-1,7	-44,4	-42,2	-42,8	-1,4
Depreciations and Impairments Deviations in %					
On Average	-3,3 %	16,9 %	15,2 %	15,5 %	-0,5 %
On Average (with absolute values)	4,4 %	19,7 %	17,4 %	17,6 %	1,9 %
Standard Deviation	5,3 %	46,4 %	41,6 %	42,9 %	2,6 %
Standard Deviation (with absolute values)	4,2 %	45,0 %	40,6 %	41,9 %	1,6 %
Range	15,9 %	127,0 %	113,0 %	117,0 %	7,6 %
Maximum	3,4 %	121,7 %	109,4 %	112,6 %	3,1 %
Minimum	-12,5 %	-5,2 %	-3,6 %	-4,4 %	-4,6 %

FiRe Ltd. (Full year accuracy)

	Full year accuracy 2009-2014* 1st RP1 (12mths)	Full year accuracy 2008-2014 RP2 (12 mths)	Full year accuracy 2008-2014 RP3 (9mths)	Full year accuracy 2008-2014 RP4 (6 mths)	Full year accuracy 2008-2014 2nd RP1 (3 mths)
Operating Profit Deviations in units					
On Average	-13,7	-13,0	-7,8	-2,2	-1,2
On Average (with absolute values)	27,9	22,2	18,8	11,4	8,8
Standard Deviation	31,8	29,3	25,5	14,7	11,3
Standard Deviation (with absolute values)	17,4	21,9	17,6	8,3	6,3
Range	89,1	92,6	75,2	42,9	32,7
Maximum	29,6	22,9	19,7	15,1	12,4
Minimum	-59,5	-69,6	-55,5	-27,8	-20,3
Operating Profit Deviations in %					
On Average	75,6 %	49,5 %	47,0 %	35,5 %	33,1 %
On Average (with absolute values)	75,6 %	49,5 %	47,0 %	35,5 %	33,1 %
Standard Deviation	32,7 %	19,8 %	19,4 %	16,1 %	22,4 %
Standard Deviation (with absolute values)	32,7 %	19,8 %	19,4 %	16,1 %	22,4 %
Range	87,0 %	53,9 %	55,8 %	51,6 %	67,5 %
Maximum	116,9 %	66,1 %	64,3 %	59,2 %	77,3 %
Minimum	29,9 %	12,2 %	8,5 %	7,6 %	9,8 %

FiRe Ltd. (Consecutive months' accuracy, periodic)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 1st month	RP2,RP3,RP4 and 2nd RP1 2008-2014 2nd month	RP2,RP3,RP4 and 2nd RP1 2008-2014 3rd month	RP2,RP3,RP4 2008-2014 4th month	RP2,RP3,RP4 2008-2014 5th month	RP2,RP3,RP4 2008-2014 6th month	RP2,RP3 2008-2014 7th month	RP2,RP3 2008-2014 8th month	RP2,RP3 2008-2014 9th month	RP2 2008-2014 10th month	RP2 2008-2014 11th month	RP2 2008-2014 12th month
Sales Deviations in units												
On Average	-6,7	-5,2	-8,8	-7,2	-9,7	-14,2	-11,7	-12,9	-16,7	-13,4	-18,3	-22,5
On Average (with absolute values)	10,4	10,9	16,2	8,8	12,4	13,4	7,9	10,1	11,8	4,7	6,4	7,8
Standard Deviation	19,3	14,2	18,6	14,7	20,2	19,9	18,0	25,8	26,7	23,3	32,5	36,2
Standard Deviation (with absolute values)	16,6	10,5	13,0	11,0	14,7	16,2	12,7	17,4	18,6	12,0	16,7	18,9
Range	107,2	66,7	81,5	54,0	81,2	73,9	76,5	105,0	115,1	75,7	104,0	115,9
Maximum	18,6	18,5	24,6	17,5	18,9	15,1	16,8	24,9	31,5	17,9	25,4	30,8
Minimum	-88,5	-48,3	-56,9	-36,5	-62,3	-58,7	-59,7	-80,2	-83,6	-57,8	-78,6	-85,1
Sales Deviations in %												
On Average	-2,8 %	-2,4 %	-3,6 %	-2,6 %	-3,3 %	-5,5 %	-4,2 %	-4,5 %	-6,4 %	-4,9 %	-7,2 %	-9,1 %
On Average (with absolute values)	4,1 %	4,4 %	6,6 %	3,4 %	4,8 %	5,4 %	3,0 %	3,9 %	5,2 %	1,8 %	2,7 %	3,7 %
Standard Deviation	6,3 %	5,5 %	7,5 %	5,6 %	7,7 %	7,9 %	6,3 %	9,8 %	11,9 %	8,2 %	12,5 %	17,1 %
Standard Deviation (with absolute values)	5,1 %	4,0 %	5,2 %	4,1 %	5,3 %	6,2 %	4,3 %	6,3 %	7,8 %	4,2 %	6,4 %	8,5 %
Range	34,7 %	27,4 %	36,8 %	22,2 %	32,9 %	32,9 %	26,4 %	41,0 %	54,6 %	26,5 %	40,9 %	54,5 %
Maximum	8,7 %	8,2 %	11,1 %	8,1 %	9,4 %	6,6 %	7,8 %	12,7 %	20,9 %	8,4 %	13,0 %	20,4 %
Minimum	-26,0 %	-19,2 %	-25,7 %	-14,1 %	-23,5 %	-26,3 %	-18,7 %	-28,3 %	-33,7 %	-18,2 %	-27,9 %	-34,1 %

Gross Margin Deviations in units												
On Average	-2,2	-2,2	-2,6	-2,4	-3,3	-3,5	-3,7	-3,9	-4,0	-4,2	-3,3	-3,1
On Average (with absolute values)	2,6	2,7	3,5	2,2	2,6	3,1	1,9	2,2	2,4	1,1	1,2	1,0
Standard Deviation	4,9	2,6	3,6	2,8	3,2	3,7	3,5	4,6	5,0	5,1	6,2	6,0
Standard Deviation (with absolute values)	4,3	2,1	2,5	2,3	3,0	3,1	3,0	3,6	3,7	3,0	3,1	3,1
Range	26,7	12,3	14,7	13,3	10,9	14,9	12,6	16,7	16,9	13,2	17,2	18,2
Maximum	3,8	3,1	4,9	4,2	1,2	4,4	1,0	2,8	3,3	0,3	2,2	3,2
Minimum	-22,9	-9,2	-9,8	-9,1	-9,7	-10,5	-11,6	-13,8	-13,6	-12,9	-15,0	-15,0
Gross Margin Deviations in %												
On Average	-5,4 %	-6,7 %	-7,5 %	-6,6 %	-8,8 %	-9,6 %	-9,7 %	-10,1 %	-10,7 %	-13,0 %	-11,3 %	-9,1 %
On Average (with absolute values)	7,1 %	8,2 %	9,9 %	6,0 %	7,1 %	8,8 %	5,1 %	6,1 %	6,9 %	3,3 %	3,7 %	3,3 %
Standard Deviation	9,7 %	7,5 %	9,7 %	7,5 %	8,4 %	10,1 %	8,9 %	11,7 %	13,2 %	11,1 %	14,7 %	16,2 %
Standard Deviation (with absolute values)	7,7 %	5,9 %	6,7 %	6,2 %	7,8 %	8,2 %	7,7 %	9,0 %	9,7 %	7,7 %	8,2 %	8,2 %
Range	49,3 %	38,0 %	42,9 %	35,0 %	29,7 %	40,1 %	29,5 %	44,0 %	46,1 %	29,4 %	43,5 %	48,0 %
Maximum	11,6 %	12,7 %	17,0 %	12,8 %	3,5 %	15,1 %	3,3 %	10,3 %	13,1 %	1,1 %	7,9 %	12,9 %
Minimum	-37,8 %	-25,3 %	-25,9 %	-22,2 %	-26,3 %	-25,1 %	-26,2 %	-33,8 %	-32,9 %	-28,3 %	-35,6 %	-35,2 %

FiRe Ltd. (Consecutive months' accuracy, periodic)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 1st month	RP2,RP3,RP4 and 2nd RP1 2008-2014 2nd month	RP2,RP3,RP4 and 2nd RP1 2008-2014 3rd month	RP2,RP3,RP4 2008-2014 4th month	RP2,RP3,RP4 2008-2014 5th month	RP2,RP3,RP4 2008-2014 6th month	RP2,RP3 2008-2014 7th month	RP2,RP3 2008-2014 8th month	RP2,RP3 2008-2014 9th month	RP2 2008-2014 10th month	RP2 2008-2014 11th month	RP2 2008-2014 12th month
Other Operating Income Deviations in units												
On Average	-0,5	0,1	1,0	0,3	0,2	0,8	-0,2	0,1	1,2	0,3	0,5	1,4
On Average (with absolute values)	1,1	0,9	1,3	0,7	0,7	1,2	0,3	0,5	1,0	0,2	0,2	0,7
Standard Deviation	2,1	1,5	1,9	1,1	1,2	2,4	0,7	1,3	2,6	0,9	1,1	3,2
Standard Deviation (with absolute values)	1,6	1,2	1,6	0,7	0,8	1,8	0,4	0,7	1,7	0,4	0,5	1,5
Range	10,6	8,4	10,0	4,8	5,4	11,8	2,9	4,1	10,8	2,4	3,0	9,9
Maximum	3,0	2,9	6,7	3,2	2,9	7,9	1,3	1,7	7,0	1,4	1,4	6,3
Minimum	-7,6	-5,5	-3,4	-1,6	-2,4	-3,9	-1,6	-2,4	-3,8	-1,0	-1,5	-3,5
Other Operating Income Deviations in %												
On Average	-2,3 %	1,5 %	12,3 %	4,0 %	3,1 %	14,0 %	-2,1 %	1,7 %	18,2 %	0,8 %	0,1 %	21,9 %
On Average (with absolute values)	10,1 %	10,0 %	16,3 %	7,2 %	7,9 %	16,5 %	2,8 %	6,3 %	13,2 %	1,4 %	3,0 %	9,4 %
Standard Deviation	16,1 %	14,7 %	28,3 %	12,1 %	13,5 %	42,6 %	7,3 %	14,6 %	40,4 %	7,7 %	15,0 %	47,1 %
Standard Deviation (with absolute values)	11,0 %	10,9 %	25,0 %	8,1 %	8,9 %	34,8 %	4,4 %	8,0 %	27,9 %	3,4 %	6,4 %	22,9 %
Range	74,9 %	76,3 %	160,6 %	51,8 %	52,4 %	223,9 %	29,5 %	46,5 %	179,3 %	24,6 %	39,6 %	149,4 %
Maximum	32,1 %	28,2 %	118,0 %	35,5 %	27,4 %	177,6 %	13,7 %	22,0 %	133,8 %	14,0 %	16,4 %	105,4 %
Minimum	-42,8 %	-48,1 %	-42,6 %	-16,3 %	-24,9 %	-46,3 %	-15,8 %	-24,4 %	-45,5 %	-10,5 %	-23,3 %	-44,0 %
Personnel Expenses Deviations in units												
On Average	1,1	0,5	0,7	0,8	0,9	0,9	0,8	1,0	1,2	0,7	0,8	1,6
On Average (with absolute values)	1,0	0,7	0,9	0,6	0,8	1,0	0,6	0,7	0,8	0,3	0,4	0,5
Standard Deviation	2,5	0,8	1,3	0,8	1,1	1,5	1,2	1,6	1,9	1,4	2,2	3,1
Standard Deviation (with absolute values)	2,4	0,7	1,0	0,8	0,9	1,2	0,9	1,1	1,3	0,7	1,1	1,6
Range	13,3	3,1	6,1	2,6	3,8	7,2	4,4	5,4	7,0	3,4	4,9	7,3
Maximum	13,1	2,6	5,1	2,4	3,2	5,4	3,4	3,8	5,9	3,0	4,0	6,4
Minimum	-0,3	-0,5	-1,1	-0,2	-0,6	-1,8	-1,0	-1,6	-1,1	-0,4	-0,9	-0,9
Personnel Expenses Deviations in %												
On Average	-6,0 %	-3,5 %	-4,4 %	-5,1 %	-5,4 %	-5,3 %	-5,2 %	-6,4 %	-6,5 %	-4,6 %	-4,4 %	-8,2 %
On Average (with absolute values)	5,6 %	4,5 %	5,9 %	4,1 %	5,0 %	6,0 %	3,5 %	4,7 %	4,6 %	1,5 %	2,2 %	3,1 %
Standard Deviation	9,7 %	4,7 %	7,1 %	5,1 %	6,7 %	9,2 %	7,4 %	10,0 %	10,7 %	8,0 %	12,9 %	17,2 %
Standard Deviation (with absolute values)	9,2 %	3,9 %	5,7 %	4,7 %	5,5 %	6,9 %	5,2 %	6,9 %	7,5 %	4,2 %	6,1 %	8,6 %
Range	51,6 %	17,0 %	34,3 %	16,0 %	21,4 %	42,3 %	26,1 %	33,8 %	37,3 %	18,8 %	31,4 %	40,7 %
Maximum	2,0 %	2,6 %	7,9 %	1,7 %	4,4 %	14,7 %	7,3 %	11,8 %	7,7 %	2,4 %	5,9 %	6,8 %
Minimum	-49,6 %	-14,4 %	-26,4 %	-14,3 %	-17,1 %	-27,5 %	-18,8 %	-22,0 %	-29,6 %	-16,4 %	-25,5 %	-33,9 %

FiRe Ltd. (Consecutive months' accuracy, periodic)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 1st month	RP2,RP3,RP4 and 2nd RP1 2008-2014 2nd month	RP2,RP3,RP4 and 2nd RP1 2008-2014 3rd month	RP2,RP3,RP4 2008-2014 4th month	RP2,RP3,RP4 2008-2014 5th month	RP2,RP3,RP4 2008-2014 6th month	RP2,RP3 2008-2014 7th month	RP2,RP3 2008-2014 8th month	RP2,RP3 2008-2014 9th month	RP2 2008-2014 10th month	RP2 2008-2014 11th month	RP2 2008-2014 12th month
Rent Expenses Deviations in units												
On Average	0,3	-0,1	0,0	0,0	0,0	-0,1	0,0	-0,2	-0,2	-0,2	-0,5	-0,6
On Average (with absolute values)	0,5	0,4	0,4	0,2	0,3	0,3	0,1	0,2	0,2	0,1	0,1	0,2
Standard Deviation	1,5	0,7	0,6	0,3	0,6	0,6	0,2	0,7	0,6	0,3	0,8	1,2
Standard Deviation (with absolute values)	1,2	0,6	0,5	0,2	0,4	0,4	0,1	0,5	0,4	0,1	0,4	0,6
Range	7,8	4,4	3,1	1,2	2,8	3,4	0,7	2,6	2,7	0,7	2,3	3,0
Maximum	6,2	1,0	1,2	0,7	1,0	1,4	0,4	0,3	0,8	0,3	0,0	0,7
Minimum	-1,5	-3,4	-1,8	-0,4	-1,8	-1,9	-0,3	-2,3	-1,9	-0,4	-2,3	-2,2
Rent Expenses Deviations in %												
On Average	-2,4 %	1,4 %	0,9 %	-0,3 %	0,7 %	1,8 %	-0,2 %	3,2 %	3,4 %	2,0 %	7,1 %	6,7 %
On Average (with absolute values)	4,9 %	6,1 %	6,0 %	2,6 %	3,8 %	4,3 %	1,3 %	2,7 %	3,0 %	0,8 %	1,8 %	2,7 %
Standard Deviation	12,2 %	13,5 %	8,4 %	3,9 %	8,4 %	9,0 %	3,0 %	10,4 %	9,2 %	3,6 %	13,1 %	14,9 %
Standard Deviation (with absolute values)	9,1 %	12,0 %	6,5 %	2,1 %	6,2 %	6,5 %	1,7 %	7,1 %	6,1 %	1,8 %	6,9 %	7,3 %
Range	68,1 %	80,8 %	42,0 %	13,9 %	42,9 %	48,4 %	10,3 %	40,2 %	40,5 %	9,8 %	36,4 %	46,2 %
Maximum	21,8 %	64,8 %	26,6 %	6,3 %	26,0 %	28,4 %	5,1 %	36,1 %	28,8 %	5,8 %	36,1 %	35,0 %
Minimum	-46,3 %	-16,0 %	-15,4 %	-7,6 %	-16,9 %	-20,0 %	-5,2 %	-4,1 %	-11,7 %	-4,0 %	-0,3 %	-11,1 %
IT Costs Deviations in units												
On Average	0,3	0,2	0,1	0,2	0,2	0,1	0,1	0,2	0,0	0,0	-0,1	-0,1
On Average (with absolute values)	0,3	0,3	0,3	0,2	0,2	0,2	0,1	0,1	0,2	0,0	0,1	0,1
Standard Deviation	0,3	0,2	0,3	0,2	0,3	0,4	0,2	0,3	0,4	0,2	0,3	0,3
Standard Deviation (with absolute values)	0,3	0,2	0,2	0,1	0,2	0,3	0,1	0,2	0,2	0,1	0,1	0,1
Range	1,5	1,0	1,4	0,7	1,3	1,8	0,6	1,2	1,5	0,6	0,7	0,9
Maximum	1,3	0,8	1,0	0,5	0,9	1,1	0,4	0,8	0,7	0,3	0,3	0,5
Minimum	-0,2	-0,3	-0,4	-0,2	-0,4	-0,7	-0,2	-0,4	-0,8	-0,3	-0,4	-0,4
IT Costs Deviations in %												
On Average	-13,4 %	-8,0 %	-6,2 %	-7,8 %	-6,3 %	-1,5 %	-6,5 %	-6,9 %	2,9 %	0,9 %	1,6 %	7,1 %
On Average (with absolute values)	14,8 %	13,3 %	13,8 %	7,5 %	10,4 %	10,8 %	4,4 %	7,9 %	8,5 %	1,7 %	3,2 %	3,7 %
Standard Deviation	12,3 %	12,9 %	16,2 %	9,0 %	16,1 %	19,9 %	9,6 %	17,5 %	23,2 %	10,1 %	15,4 %	16,5 %
Standard Deviation (with absolute values)	10,0 %	7,2 %	10,0 %	7,0 %	10,6 %	13,2 %	6,8 %	10,4 %	13,7 %	4,5 %	6,5 %	7,7 %
Range	51,8 %	55,2 %	67,5 %	35,4 %	67,9 %	91,8 %	33,5 %	61,6 %	85,1 %	32,4 %	38,1 %	46,7 %
Maximum	12,9 %	22,5 %	28,5 %	13,0 %	30,9 %	48,7 %	14,8 %	32,4 %	54,4 %	12,7 %	20,7 %	21,2 %
Minimum	-38,8 %	-32,7 %	-39,0 %	-22,4 %	-37,0 %	-43,0 %	-18,7 %	-29,2 %	-30,7 %	-19,8 %	-17,3 %	-25,4 %

FiRe Ltd. (Consecutive months' accuracy, periodic)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 1st month	RP2,RP3,RP4 and 2nd RP1 2008-2014 2nd month	RP2,RP3,RP4 and 2nd RP1 2008-2014 3rd month	RP2,RP3,RP4 2008-2014 4th month	RP2,RP3,RP4 2008-2014 5th month	RP2,RP3,RP4 2008-2014 6th month	RP2,RP3 2008-2014 7th month	RP2,RP3 2008-2014 8th month	RP2,RP3 2008-2014 9th month	RP2 2008-2014 10th month	RP2 2008-2014 11th month	RP2 2008-2014 12th month
Marketing Expenses Deviations in units												
On Average	0,3	0,3	0,1	0,1	0,2	-0,1	0,4	0,2	-0,3	0,4	0,0	-0,5
On Average (with absolute values)	0,5	0,5	0,6	0,4	0,3	0,6	0,2	0,3	0,4	0,1	0,1	0,3
Standard Deviation	0,6	0,5	0,8	0,7	0,6	0,9	0,4	0,7	1,0	0,3	0,5	1,5
Standard Deviation (with absolute values)	0,4	0,4	0,4	0,4	0,4	0,5	0,3	0,4	0,6	0,2	0,2	0,7
Range	2,4	2,1	3,6	2,4	2,6	3,2	1,5	2,8	3,2	0,8	1,5	4,1
Maximum	1,5	1,7	1,7	1,2	1,8	1,2	1,2	1,6	1,3	0,8	0,9	1,9
Minimum	-0,9	-0,4	-1,9	-1,1	-0,9	-2,0	-0,3	-1,1	-1,9	0,0	-0,6	-2,2
Marketing Expenses Deviations in %												
On Average	-9,0 %	-7,9 %	-0,2 %	-6,1 %	-5,5 %	7,6 %	-14,3 %	-5,8 %	12,9 %	-9,6 %	-5,0 %	21,9 %
On Average (with absolute values)	17,6 %	12,5 %	18,3 %	13,9 %	9,1 %	18,2 %	8,2 %	8,0 %	13,5 %	2,4 %	3,6 %	10,0 %
Standard Deviation	20,4 %	13,5 %	23,0 %	23,1 %	16,1 %	29,6 %	18,2 %	20,9 %	31,9 %	9,7 %	18,1 %	46,4 %
Standard Deviation (with absolute values)	12,4 %	9,6 %	13,4 %	14,9 %	11,4 %	18,8 %	14,0 %	12,7 %	19,7 %	6,2 %	8,1 %	22,3 %
Range	74,6 %	51,6 %	104,3 %	86,6 %	63,8 %	106,5 %	60,2 %	82,1 %	103,5 %	28,2 %	47,1 %	133,0 %
Maximum	24,3 %	14,9 %	70,6 %	35,4 %	27,8 %	77,7 %	13,5 %	37,6 %	71,7 %	0,6 %	18,9 %	93,1 %
Minimum	-50,3 %	-36,7 %	-33,8 %	-51,2 %	-36,0 %	-28,8 %	-46,7 %	-44,5 %	-31,9 %	-27,6 %	-28,2 %	-39,8 %
Maintenance Costs Deviations in units												
On Average	0,4	0,4	0,3	0,3	0,4	0,3	0,4	0,4	0,2	0,4	0,5	0,3
On Average (with absolute values)	0,4	0,4	0,4	0,3	0,3	0,4	0,2	0,2	0,2	0,1	0,1	0,2
Standard Deviation	0,5	0,3	0,4	0,3	0,3	0,4	0,4	0,3	0,5	0,3	0,4	0,8
Standard Deviation (with absolute values)	0,4	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,4
Range	2,3	1,3	1,5	1,0	1,1	1,7	1,2	1,2	1,8	0,9	1,2	2,5
Maximum	2,1	0,8	0,8	0,7	1,1	1,0	1,1	1,1	0,9	1,0	1,2	1,7
Minimum	-0,2	-0,5	-0,7	-0,3	0,0	-0,7	-0,2	-0,1	-0,8	0,0	0,0	-0,8
Maintenance Costs Deviations in %												
On Average	-11,8 %	-11,2 %	-8,9 %	-9,1 %	-13,8 %	-9,8 %	-12,1 %	-13,4 %	-6,8 %	-12,6 %	-13,7 %	-4,9 %
On Average (with absolute values)	12,4 %	12,5 %	12,5 %	9,0 %	10,4 %	10,3 %	6,7 %	6,9 %	6,8 %	3,2 %	3,4 %	3,4 %
Standard Deviation	11,0 %	9,1 %	11,5 %	10,7 %	7,6 %	12,5 %	11,5 %	9,7 %	14,6 %	11,2 %	11,0 %	17,9 %
Standard Deviation (with absolute values)	8,4 %	6,8 %	7,0 %	8,1 %	9,0 %	9,0 %	9,7 %	9,4 %	8,9 %	7,7 %	8,0 %	8,1 %
Range	49,2 %	40,7 %	40,2 %	30,3 %	30,9 %	45,3 %	38,3 %	37,3 %	49,9 %	29,9 %	32,5 %	57,2 %
Maximum	7,8 %	15,6 %	17,8 %	8,5 %	-0,4 %	20,7 %	5,8 %	3,5 %	24,3 %	-1,3 %	-0,1 %	23,4 %
Minimum	-41,5 %	-25,1 %	-22,4 %	-21,7 %	-31,3 %	-24,6 %	-32,4 %	-33,8 %	-25,6 %	-31,2 %	-32,6 %	-33,8 %

FiRe Ltd. (Consecutive months' accuracy, periodic)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 1st month	RP2,RP3,RP4 and 2nd RP1 2008-2014 2nd month	RP2,RP3,RP4 and 2nd RP1 2008-2014 3rd month	RP2,RP3,RP4 2008-2014 4th month	RP2,RP3,RP4 2008-2014 5th month	RP2,RP3,RP4 2008-2014 6th month	RP2,RP3 2008-2014 7th month	RP2,RP3 2008-2014 8th month	RP2,RP3 2008-2014 9th month	RP2 2008-2014 10th month	RP2 2008-2014 11th month	RP2 2008-2014 12th month
Other Operating Costs Deviations in units												
On Average	0,6	0,2	0,4	0,7	0,4	0,4	0,5	0,1	0,3	0,6	0,1	1,4
On Average (with absolute values)	0,9	0,9	1,2	0,6	0,7	1,2	0,3	0,4	0,8	0,1	0,3	0,6
Standard Deviation	1,0	1,1	1,6	0,8	1,1	2,0	0,7	1,0	2,1	0,7	1,4	2,7
Standard Deviation (with absolute values)	0,6	0,7	1,1	0,7	0,7	1,3	0,5	0,6	1,2	0,4	0,6	1,3
Range	5,0	5,1	7,3	2,8	5,3	7,7	2,7	3,9	7,5	2,1	4,1	7,5
Maximum	3,1	2,2	3,7	2,4	2,1	4,0	2,0	1,3	4,0	2,0	1,6	4,2
Minimum	-1,8	-2,9	-3,6	-0,4	-3,2	-3,6	-0,7	-2,7	-3,5	-0,1	-2,5	-3,3
Other Operating Costs Deviations in %												
On Average	-12,4 %	-5,9 %	-8,9 %	-15,1 %	-7,4 %	-7,4 %	-11,9 %	-3,1 %	-5,9 %	-11,5 %	-2,9 %	-19,7 %
On Average (with absolute values)	20,9 %	20,5 %	26,3 %	13,4 %	16,3 %	24,8 %	8,3 %	8,3 %	17,5 %	3,1 %	6,4 %	10,6 %
Standard Deviation	20,5 %	24,6 %	36,0 %	16,1 %	27,3 %	43,3 %	16,4 %	22,2 %	46,1 %	13,3 %	31,8 %	51,6 %
Standard Deviation (with absolute values)	11,5 %	14,7 %	25,8 %	13,6 %	17,9 %	28,1 %	11,4 %	13,0 %	26,9 %	8,0 %	13,6 %	24,0 %
Range	97,8 %	118,0 %	184,3 %	54,2 %	128,9 %	185,4 %	55,8 %	88,0 %	180,3 %	38,2 %	92,6 %	163,6 %
Maximum	51,5 %	68,9 %	87,7 %	8,7 %	80,8 %	88,6 %	20,0 %	60,0 %	83,5 %	2,7 %	53,3 %	66,6 %
Minimum	-46,3 %	-49,1 %	-96,6 %	-45,6 %	-48,1 %	-96,8 %	-35,8 %	-28,0 %	-96,8 %	-35,6 %	-39,3 %	-97,0 %
Depreciations and Impairments Deviations in units												
On Average	0,2	0,1	-1,7	0,1	0,1	-2,3	0,2	0,2	-3,3	0,3	0,3	-0,1
On Average (with absolute values)	0,2	0,2	2,0	0,1	0,2	1,9	0,1	0,1	1,9	0,1	0,1	0,2
Standard Deviation	0,4	0,3	8,8	0,2	0,3	10,1	0,2	0,2	12,5	0,2	0,2	0,9
Standard Deviation (with absolute values)	0,2	0,2	8,7	0,1	0,2	8,7	0,1	0,2	8,8	0,1	0,2	0,4
Range	2,2	1,6	47,8	0,6	1,8	48,1	0,6	1,0	48,2	0,5	0,6	2,5
Maximum	2,0	0,6	1,4	0,5	0,8	1,6	0,5	0,8	1,6	0,4	0,6	1,5
Minimum	-0,2	-1,0	-46,4	-0,1	-1,0	-46,4	-0,1	-0,3	-46,6	0,0	0,0	-1,0
Depreciations and Impairments Deviations in %												
On Average	-5,1 %	-1,8 %	51,8 %	-4,0 %	-2,5 %	68,4 %	-5,4 %	-4,1 %	107,1 %	-6,1 %	-6,5 %	-2,4 %
On Average (with absolute values)	4,9 %	5,1 %	58,2 %	3,5 %	4,3 %	57,8 %	2,9 %	2,9 %	59,0 %	1,6 %	1,7 %	3,7 %
Standard Deviation	8,2 %	7,3 %	264,1 %	4,3 %	8,6 %	307,7 %	4,1 %	7,0 %	403,9 %	4,2 %	6,5 %	21,9 %
Standard Deviation (with absolute values)	4,9 %	5,5 %	262,7 %	3,8 %	6,3 %	265,2 %	3,8 %	4,8 %	284,4 %	3,3 %	4,2 %	9,7 %
Range	41,7 %	42,3 %	1439,8 %	18,5 %	48,3 %	1455,8 %	16,8 %	30,2 %	1554,9 %	11,6 %	19,6 %	70,7 %
Maximum	6,4 %	24,8 %	1397,3 %	3,6 %	25,2 %	1409,6 %	2,5 %	7,9 %	1509,1 %	0,5 %	1,2 %	26,6 %
Minimum	-35,3 %	-17,5 %	-42,5 %	-14,9 %	-23,0 %	-46,2 %	-14,3 %	-22,3 %	-45,9 %	-11,2 %	-18,4 %	-44,1 %

FiRe Ltd. (Consecutive months' accuracy, periodic)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 1st month	RP2,RP3,RP4 and 2nd RP1 2008-2014 2nd month	RP2,RP3,RP4 and 2nd RP1 2008-2014 3rd month	RP2,RP3,RP4 2008-2014 4th month	RP2,RP3,RP4 2008-2014 5th month	RP2,RP3,RP4 2008-2014 6th month	RP2,RP3 2008-2014 7th month	RP2,RP3 2008-2014 8th month	RP2,RP3 2008-2014 9th month	RP2 2008-2014 10th month	RP2 2008-2014 11th month	RP2 2008-2014 12th month
Operating Profit Deviations in units												
On Average	0,8	-0,5	-0,4	0,1	-1,1	-1,4	-1,5	-1,8	-1,8	-1,7	-1,6	0,0
On Average (with absolute values)	2,1	2,1	2,3	1,5	2,0	2,2	1,1	1,8	1,6	0,8	1,2	0,8
Standard Deviation	2,6	3,2	2,9	2,9	3,7	3,6	3,0	5,0	4,1	4,3	6,8	4,3
Standard Deviation (with absolute values)	2,0	2,5	1,8	1,9	2,6	2,5	2,1	3,2	2,7	2,0	3,1	1,9
Range	13,3	17,5	11,1	13,7	16,2	15,0	11,6	19,1	14,5	12,4	19,4	12,8
Maximum	6,9	4,7	5,1	7,0	4,5	4,9	1,7	3,7	3,5	2,6	4,0	4,8
Minimum	-6,4	-12,8	-6,1	-6,8	-11,7	-10,0	-9,9	-15,4	-11,1	-9,7	-15,4	-8,0
Operating Profit Deviations in %												
On Average	-20,9 %	8,8 %	-69,2 %	-125,8 %	-144,1 %	-485,1 %	-27,7 %	-157,7 %	-96,9 %	-44,2 %	-225,9 %	28,9 %
On Average (with absolute values)	101,2 %	87,0 %	86,5 %	166,4 %	121,1 %	366,9 %	18,8 %	88,5 %	67,0 %	17,4 %	56,5 %	27,2 %
Standard Deviation	262,3 %	136,3 %	148,2 %	733,1 %	343,2 %	1967,2 %	51,3 %	272,7 %	266,3 %	75,7 %	158,2 %	130,1 %
Standard Deviation (with absolute values)	243,6 %	126,6 %	139,1 %	617,8 %	296,9 %	1705,9 %	36,1 %	201,4 %	185,4 %	38,3 %	124,4 %	56,6 %
Range	1814,3 %	698,2 %	802,7 %	3905,5 %	1467,9 %	9081,8 %	211,5 %	843,5 %	1163,6 %	247,5 %	420,5 %	345,2 %
Maximum	618,1 %	384,6 %	89,7 %	650,5 %	109,6 %	17,6 %	42,7 %	64,2 %	187,9 %	88,8 %	-68,6 %	190,4 %
Minimum	-1196,2 %	-313,7 %	-712,9 %	-3255,0 %	-1358,3 %	-9064,3 %	-168,8 %	-779,3 %	-975,7 %	-158,7 %	-489,1 %	-154,8 %

FiRe Ltd. (Consecutive quarters' accuracy, periodic and cumulative)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 First 6 mths	RP2,RP3 2008-2014 First 9 mths	RP2 2008-2014 First 12 mths	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 Second 3 mths	RP2,RP3 2008-2014 Third 3 mths	RP2 2008-2014 Last 3 mths
Sales Deviations in units								
On Average	-20,7	-51,4	-81,6	-117,2	-20,7	-31,0	-41,3	-54,2
On Average (with absolute values)	34,1	70,0	113,1	154,6	34,1	42,7	56,5	75,4
Standard Deviation	42,5	81,2	138,7	188,0	42,5	49,4	68,9	91,0
Standard Deviation (with absolute values)	34,1	70,0	113,1	154,6	34,1	42,7	56,5	75,4
Range	180,1	285,5	575,3	570,9	180,1	203,1	296,6	295,7
Maximum	44,7	67,7	140,8	130,9	44,7	45,6	73,1	74,2
Minimum	-135,4	-217,8	-434,4	-440,0	-135,4	-157,5	-223,4	-221,5
Sales Deviations in %								
On Average	-3,0 %	-3,1 %	-3,3 %	-3,8 %	-3,0 %	-3,8 %	-5,0 %	-6,9 %
On Average (with absolute values)	4,6 %	4,5 %	4,9 %	5,3 %	4,6 %	5,6 %	7,6 %	10,7 %
Standard Deviation	5,2 %	5,0 %	5,6 %	6,1 %	5,2 %	6,3 %	8,8 %	12,1 %
Standard Deviation (with absolute values)	4,6 %	4,5 %	4,9 %	5,3 %	4,6 %	5,6 %	7,6 %	10,7 %
Range	37,1 %	37,4 %	54,6 %	54,5 %	37,1 %	35,7 %	35,1 %	54,5 %
Maximum	11,1 %	11,1 %	20,9 %	20,4 %	11,1 %	9,4 %	9,4 %	20,4 %
Minimum	-26,0 %	-26,3 %	-33,7 %	-34,1 %	-26,0 %	-26,3 %	-25,7 %	-34,1 %
Gross Margin Deviations in units								
On Average	-7,0	-16,6	-25,7	-32,7	-7,0	-9,2	-11,6	-10,5
On Average (with absolute values)	8,2	17,6	27,2	33,6	8,2	10,0	12,6	11,8
Standard Deviation	9,1	15,8	23,5	35,8	9,1	8,7	12,3	16,3
Standard Deviation (with absolute values)	8,2	17,6	27,2	33,6	8,2	10,0	12,6	11,8
Range	45,1	68,1	83,0	99,6	45,1	30,9	43,5	46,5
Maximum	6,3	6,8	8,4	3,1	6,3	4,3	4,5	3,6
Minimum	-38,8	-61,2	-74,6	-96,4	-38,8	-26,7	-39,0	-42,9
Gross Margin Deviations in %								
On Average	-6,8 %	-7,7 %	-7,9 %	-8,3 %	-6,8 %	-8,4 %	-10,2 %	-11,3 %
On Average (with absolute values)	7,8 %	8,2 %	8,5 %	8,5 %	7,8 %	9,2 %	11,5 %	12,7 %
Standard Deviation	7,2 %	6,6 %	6,7 %	7,5 %	7,2 %	7,7 %	10,3 %	12,9 %
Standard Deviation (with absolute values)	7,8 %	8,2 %	8,5 %	8,5 %	7,8 %	9,2 %	11,5 %	12,7 %
Range	54,8 %	52,8 %	46,9 %	48,4 %	54,8 %	41,3 %	43,3 %	48,4 %
Maximum	17,0 %	15,1 %	13,1 %	12,9 %	17,0 %	15,1 %	17,0 %	12,9 %
Minimum	-37,8 %	-37,8 %	-33,8 %	-35,6 %	-37,8 %	-26,3 %	-26,3 %	-35,6 %

FiRe Ltd. (Consecutive quarters' accuracy, periodic and cumulative)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 First 6 mths	RP2,RP3 2008-2014 First 9 mths	RP2 2008-2014 First 12 mths	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 Second 3 mths	RP2,RP3 2008-2014 Third 3 mths	RP2 2008-2014 Last 3 mths
Other Operating Income Deviations in units								
On Average	0,6	1,9	2,6	4,7	0,6	1,4	1,1	2,2
On Average (with absolute values)	2,4	3,3	4,6	6,9	2,4	2,4	2,6	4,1
Standard Deviation	3,6	3,8	5,0	6,6	3,6	3,1	3,4	4,3
Standard Deviation (with absolute values)	2,4	3,3	4,6	6,9	2,4	2,4	2,6	4,1
Range	17,4	15,5	17,6	19,3	17,4	13,6	11,9	10,0
Maximum	7,7	9,7	11,1	12,5	7,7	9,6	8,3	6,5
Minimum	-9,7	-5,9	-6,5	-6,9	-9,7	-4,1	-3,5	-3,5
Other Operating Income Deviations in %								
On Average	3,0 %	3,9 %	3,5 %	4,0 %	3,0 %	5,8 %	5,0 %	6,4 %
On Average (with absolute values)	9,2 %	6,3 %	5,6 %	5,8 %	9,2 %	9,6 %	10,6 %	13,6 %
Standard Deviation	13,0 %	7,3 %	6,1 %	5,3 %	13,0 %	14,1 %	14,9 %	16,3 %
Standard Deviation (with absolute values)	9,2 %	6,3 %	5,6 %	5,8 %	9,2 %	9,6 %	10,6 %	13,6 %
Range	166,1 %	225,7 %	181,9 %	153,5 %	166,1 %	223,9 %	160,6 %	149,4 %
Maximum	118,0 %	177,6 %	133,8 %	105,4 %	118,0 %	177,6 %	118,0 %	105,4 %
Minimum	-48,1 %	-48,1 %	-48,1 %	-48,1 %	-48,1 %	-46,3 %	-42,6 %	-44,0 %
Personnel Expenses Deviations in units								
On Average	2,3	4,8	6,0	7,4	2,3	2,6	3,0	3,1
On Average (with absolute values)	2,6	5,4	6,8	8,0	2,6	3,0	3,9	4,6
Standard Deviation	3,9	6,4	7,5	12,1	3,9	3,2	4,3	6,8
Standard Deviation (with absolute values)	2,6	5,4	6,8	8,0	2,6	3,0	3,9	4,6
Range	19,4	28,1	27,3	26,2	19,4	13,2	16,0	15,3
Maximum	18,1	24,9	22,4	25,4	18,1	10,6	12,3	13,4
Minimum	-1,3	-3,2	-4,9	-0,9	-1,3	-2,6	-3,7	-1,9
Personnel Expenses Deviations in %								
On Average	-4,8 %	-4,9 %	-4,2 %	-3,9 %	-4,8 %	-5,3 %	-6,1 %	-5,9 %
On Average (with absolute values)	5,3 %	5,5 %	4,8 %	4,1 %	5,3 %	6,3 %	8,1 %	8,7 %
Standard Deviation	6,6 %	5,9 %	5,2 %	6,2 %	6,6 %	6,3 %	8,6 %	12,7 %
Standard Deviation (with absolute values)	5,3 %	5,5 %	4,8 %	4,1 %	5,3 %	6,3 %	8,1 %	8,7 %
Range	57,5 %	64,3 %	44,3 %	48,6 %	57,5 %	42,3 %	34,3 %	40,7 %
Maximum	7,9 %	14,7 %	14,7 %	14,7 %	7,9 %	14,7 %	7,9 %	6,8 %
Minimum	-49,6 %	-49,6 %	-29,6 %	-33,9 %	-49,6 %	-27,5 %	-26,4 %	-33,9 %

FiRe Ltd. (Consecutive quarters' accuracy, periodic and cumulative)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 First 6 mths	RP2,RP3 2008-2014 First 9 mths	RP2 2008-2014 First 12 mths	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 Second 3 mths	RP2,RP3 2008-2014 Third 3 mths	RP2 2008-2014 Last 3 mths
Rent Expenses Deviations in units								
On Average	0,3	0,3	-0,5	-2,3	0,3	-0,1	-0,4	-1,3
On Average (with absolute values)	1,0	1,3	1,3	2,4	1,0	0,6	0,6	1,3
Standard Deviation	1,9	2,4	1,7	2,3	1,9	0,8	0,8	1,4
Standard Deviation (with absolute values)	1,0	1,3	1,3	2,4	1,0	0,6	0,6	1,3
Range	10,5	12,3	5,4	6,7	10,5	3,5	2,5	3,2
Maximum	8,0	9,4	1,4	0,4	8,0	1,4	0,4	0,1
Minimum	-2,5	-2,8	-4,0	-6,3	-2,5	-2,1	-2,1	-3,1
Rent Expenses Deviations in %								
On Average	-0,5 %	-0,5 %	0,9 %	2,6 %	-0,5 %	0,7 %	2,1 %	5,1 %
On Average (with absolute values)	4,4 %	2,9 %	2,2 %	2,7 %	4,4 %	2,9 %	3,0 %	5,2 %
Standard Deviation	7,2 %	4,7 %	2,7 %	2,7 %	7,2 %	3,9 %	4,1 %	5,8 %
Standard Deviation (with absolute values)	4,4 %	2,9 %	2,2 %	2,7 %	4,4 %	2,9 %	3,0 %	5,2 %
Range	111,1 %	74,8 %	52,9 %	53,0 %	111,1 %	48,4 %	45,3 %	47,2 %
Maximum	64,8 %	28,4 %	36,1 %	36,1 %	64,8 %	28,4 %	28,4 %	36,1 %
Minimum	-46,3 %	-46,3 %	-16,9 %	-16,9 %	-46,3 %	-20,0 %	-16,9 %	-11,1 %
IT Costs Deviations in units								
On Average	0,6	1,2	1,5	1,5	0,6	0,4	0,3	-0,2
On Average (with absolute values)	0,8	1,5	1,9	1,7	0,8	0,7	0,7	0,6
Standard Deviation	0,7	1,3	1,9	1,6	0,7	0,8	0,8	0,7
Standard Deviation (with absolute values)	0,8	1,5	1,9	1,7	0,8	0,7	0,7	0,6
Range	2,8	5,7	8,2	4,2	2,8	3,7	3,1	1,8
Maximum	2,0	3,7	5,4	3,7	2,0	2,4	1,7	1,1
Minimum	-0,7	-2,0	-2,9	-0,5	-0,7	-1,3	-1,4	-0,7
IT Costs Deviations in %								
On Average	-9,5 %	-8,5 %	-7,4 %	-6,4 %	-9,5 %	-5,3 %	-3,6 %	3,1 %
On Average (with absolute values)	12,9 %	12,5 %	10,7 %	7,0 %	12,9 %	11,8 %	12,5 %	10,7 %
Standard Deviation	11,2 %	11,4 %	10,8 %	6,4 %	11,2 %	13,8 %	15,4 %	12,3 %
Standard Deviation (with absolute values)	12,9 %	12,5 %	10,7 %	7,0 %	12,9 %	11,8 %	12,5 %	10,7 %
Range	67,5 %	91,8 %	97,4 %	76,2 %	67,5 %	91,8 %	69,9 %	46,7 %
Maximum	28,5 %	48,7 %	54,4 %	40,8 %	28,5 %	48,7 %	30,9 %	21,2 %
Minimum	-39,0 %	-43,0 %	-43,0 %	-35,3 %	-39,0 %	-43,0 %	-39,0 %	-25,4 %

FiRe Ltd. (Consecutive quarters' accuracy, periodic and cumulative)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 First 6 mths	RP2,RP3 2008-2014 First 9 mths	RP2 2008-2014 First 12 mths	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 Second 3 mths	RP2,RP3 2008-2014 Third 3 mths	RP2 2008-2014 Last 3 mths
Marketing Expenses Deviations in units								
On Average	0,6	0,8	0,9	0,8	0,6	0,2	0,3	-0,1
On Average (with absolute values)	1,1	1,8	2,6	3,5	1,1	1,1	1,4	1,7
Standard Deviation	1,2	2,0	3,0	4,3	1,2	1,4	1,5	2,0
Standard Deviation (with absolute values)	1,1	1,8	2,6	3,5	1,1	1,1	1,4	1,7
Range	5,1	7,1	9,7	11,5	5,1	5,2	4,1	5,4
Maximum	3,1	4,0	6,1	6,7	3,1	2,2	2,4	2,9
Minimum	-2,1	-3,2	-3,6	-4,8	-2,1	-3,0	-1,8	-2,6
Marketing Expenses Deviations in %								
On Average	-6,1 %	-3,3 %	-2,2 %	-1,8 %	-6,1 %	-1,6 %	-2,8 %	0,6 %
On Average (with absolute values)	10,7 %	9,0 %	8,9 %	8,4 %	10,7 %	11,5 %	14,3 %	15,8 %
Standard Deviation	11,6 %	10,3 %	10,3 %	10,6 %	11,6 %	14,9 %	16,2 %	18,8 %
Standard Deviation (with absolute values)	10,7 %	9,0 %	8,9 %	8,4 %	10,7 %	11,5 %	14,3 %	15,8 %
Range	120,9 %	128,9 %	122,9 %	139,8 %	120,9 %	128,9 %	121,8 %	133,0 %
Maximum	70,6 %	77,7 %	71,7 %	93,1 %	70,6 %	77,7 %	70,6 %	93,1 %
Minimum	-50,3 %	-51,2 %	-51,2 %	-46,7 %	-50,3 %	-51,2 %	-51,2 %	-39,8 %
Maintenance Costs Deviations in units								
On Average	1,1	2,2	3,2	4,8	1,1	1,1	1,0	1,2
On Average (with absolute values)	1,1	2,2	3,2	4,8	1,1	1,1	1,2	1,5
Standard Deviation	0,8	1,3	1,9	3,5	0,8	0,8	1,0	1,5
Standard Deviation (with absolute values)	1,1	2,2	3,2	4,8	1,1	1,1	1,2	1,5
Range	3,8	4,2	6,7	9,7	3,8	3,2	4,1	4,6
Maximum	3,5	4,3	6,7	10,6	3,5	2,5	3,1	3,9
Minimum	-0,3	0,1	0,0	0,8	-0,3	-0,7	-1,0	-0,8
Maintenance Costs Deviations in %								
On Average	-10,7 %	-11,0 %	-10,9 %	-11,6 %	-10,7 %	-10,9 %	-10,6 %	-10,0 %
On Average (with absolute values)	11,1 %	11,0 %	10,9 %	11,6 %	11,1 %	11,7 %	12,2 %	12,5 %
Standard Deviation	7,8 %	6,1 %	6,5 %	8,6 %	7,8 %	7,8 %	10,6 %	13,0 %
Standard Deviation (with absolute values)	11,1 %	11,0 %	10,9 %	11,6 %	11,1 %	11,7 %	12,2 %	12,5 %
Range	59,3 %	62,1 %	58,1 %	57,2 %	59,3 %	52,0 %	49,1 %	57,2 %
Maximum	17,8 %	20,7 %	24,3 %	23,4 %	17,8 %	20,7 %	17,8 %	23,4 %
Minimum	-41,5 %	-41,5 %	-33,8 %	-33,8 %	-41,5 %	-31,3 %	-31,3 %	-33,8 %

FiRe Ltd. (Consecutive quarters' accuracy, periodic and cumulative)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 First 6 mths	RP2,RP3 2008-2014 First 9 mths	RP2 2008-2014 First 12 mths	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 Second 3 mths	RP2,RP3 2008-2014 Third 3 mths	RP2 2008-2014 Last 3 mths
Other Operating Costs Deviations in units								
On Average	1,2	3,1	4,5	5,8	1,2	1,4	0,9	2,1
On Average (with absolute values)	2,2	4,2	5,7	7,6	2,2	2,6	2,1	3,8
Standard Deviation	2,6	4,5	5,2	6,6	2,6	3,1	2,6	4,0
Standard Deviation (with absolute values)	2,2	4,2	5,7	7,6	2,2	2,6	2,1	3,8
Range	12,9	20,4	19,0	22,5	12,9	14,9	9,9	10,9
Maximum	6,7	11,3	12,2	16,3	6,7	7,8	4,0	5,3
Minimum	-6,2	-9,1	-6,7	-6,3	-6,2	-7,1	-5,9	-5,5
Other Operating Costs Deviations in %								
On Average	-9,5 %	-10,9 %	-11,2 %	-10,3 %	-9,5 %	-10,1 %	-7,1 %	-11,6 %
On Average (with absolute values)	17,1 %	15,4 %	14,0 %	13,6 %	17,1 %	19,1 %	16,2 %	23,7 %
Standard Deviation	18,9 %	16,6 %	12,7 %	12,5 %	18,9 %	22,4 %	19,1 %	26,7 %
Standard Deviation (with absolute values)	17,1 %	15,4 %	14,0 %	13,6 %	17,1 %	19,1 %	16,2 %	23,7 %
Range	184,3 %	185,4 %	185,4 %	180,5 %	184,3 %	185,4 %	185,4 %	163,6 %
Maximum	87,7 %	88,6 %	88,6 %	83,5 %	87,7 %	88,6 %	88,6 %	66,6 %
Minimum	-96,6 %	-96,8 %	-96,8 %	-97,0 %	-96,6 %	-96,8 %	-96,8 %	-97,0 %
Depreciations and Impairments Deviations in units								
On Average	-1,5	-4,1	-6,2	-6,2	-1,5	-2,0	-2,9	0,5
On Average (with absolute values)	2,2	4,9	7,3	7,4	2,2	2,8	3,9	0,7
Standard Deviation	8,7	13,3	16,3	16,9	8,7	10,1	12,5	1,0
Standard Deviation (with absolute values)	2,2	4,9	7,3	7,4	2,2	2,8	3,9	0,7
Range	48,0	47,5	48,7	46,8	48,0	48,7	49,2	2,7
Maximum	2,3	2,4	1,9	2,4	2,3	2,9	2,8	2,4
Minimum	-45,7	-45,1	-46,8	-44,4	-45,7	-45,7	-46,3	-0,3
Depreciations and Impairments Deviations in %								
On Average	14,9 %	20,7 %	22,2 %	16,9 %	14,9 %	20,6 %	32,6 %	-5,0 %
On Average (with absolute values)	21,7 %	24,2 %	25,2 %	19,7 %	21,7 %	27,5 %	41,4 %	6,5 %
Standard Deviation	88,0 %	66,3 %	58,0 %	46,4 %	88,0 %	101,9 %	135,0 %	9,6 %
Standard Deviation (with absolute values)	21,7 %	24,2 %	25,2 %	19,7 %	21,7 %	27,5 %	41,4 %	6,5 %
Range	1439,8 %	1455,8 %	1554,9 %	1553,1 %	1439,8 %	1455,8 %	1439,8 %	70,7 %
Maximum	1397,3 %	1409,6 %	1509,1 %	1509,1 %	1397,3 %	1409,6 %	1397,3 %	26,6 %
Minimum	-42,5 %	-46,2 %	-45,9 %	-44,1 %	-42,5 %	-46,2 %	-42,5 %	-44,1 %

FiRe Ltd. (Consecutive quarters' accuracy, periodic and cumulative)

	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 First 6 mths	RP2,RP3 2008-2014 First 9 mths	RP2 2008-2014 First 12 mths	RP2,RP3,RP4 and 2nd RP1 2008-2014 First 3 mths	RP2,RP3,RP4 2008-2014 Second 3 mths	RP2,RP3 2008-2014 Third 3 mths	RP2 2008-2014 Last 3 mths
Operating Profit Deviations in units								
On Average	-0,1	-2,2	-7,2	-10,0	-0,1	-2,4	-5,1	-3,3
On Average (with absolute values)	5,2	9,3	15,7	20,1	5,2	7,0	7,8	10,1
Standard Deviation	6,7	11,7	21,0	29,8	6,7	8,4	10,9	14,6
Standard Deviation (with absolute values)	5,2	9,3	15,7	20,1	5,2	7,0	7,8	10,1
Range	32,7	42,9	75,2	92,6	32,7	34,0	42,2	41,2
Maximum	12,4	15,1	19,7	22,9	12,4	10,8	8,8	8,2
Minimum	-20,3	-27,8	-55,5	-69,6	-20,3	-23,2	-33,4	-33,1
Operating Profit Deviations in %								
On Average	-135,6 %	22,1 %	-5,9 %	-13,1 %	-135,6 %	85,0 %	-5234,7 %	-131,5 %
On Average (with absolute values)	172,9 %	56,0 %	31,5 %	49,5 %	172,9 %	161,2 %	5278,7 %	195,2 %
Standard Deviation	503,5 %	81,2 %	36,8 %	55,2 %	503,5 %	389,0 %	19483,2 %	222,1 %
Standard Deviation (with absolute values)	172,9 %	56,0 %	31,5 %	49,5 %	172,9 %	161,2 %	5278,7 %	195,2 %
Range	1814,3 %	9714,8 %	3905,5 %	3905,5 %	1814,3 %	9714,8 %	3378,3 %	679,6 %
Maximum	618,1 %	650,5 %	650,5 %	650,5 %	618,1 %	650,5 %	123,3 %	190,4 %
Minimum	-1196,2 %	-9064,3 %	-3255,0 %	-3255,0 %	-1196,2 %	-9064,3 %	-3255,0 %	-489,1 %

Helsinki, Finland 20.5.2016

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