Aligning ICT with Financial Budgeting and Forecasting Business Process

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**Abstract**

Focusing on improvement of budgeting and forecasting process has direct and critical impact on organizational fiscal health. Pinning the future state timely drives efficiency, improves planning, and puts down the building stone for long term success and higher profit margins.

The following research is based on the same principles. The research was done with organization’s business and IT team with a focus of providing suggestions that enable IT to be better aligned with financial budgeting and forecasting business process.

The research was initiated by interviewing people from business and IT scoring the key factors based on capability maturity model (CMM), pointing out process related problems and issues, and finally laying down expectations from the IT systems and software. All the areas fall in the standardized category as per CMM.

Some of the key findings were, budgeting and forecasting process was rigid and slow, there was need of process harmonization and system integration to reduce the cost and speed up the process.

Development suggestions were based on removing the challenges mentioned by the interviewees. Some of the key suggestions were of using leaner process, harmonization, adapting rolling forecast for budgeting and forecast process to get real time business facts, agile principals for IT delivery, working with short iterations and development based on release.

Overall plan of change management will ensure acceptability of new process and IT development.

**Keywords**

Lean, Agile, IT development, Rolling forecast, Budgeting and Forecasting, Planning, CMM.
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### Abbreviations

<table>
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<th>Description</th>
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<tr>
<td>TOGAF</td>
<td>The Open Group Architecture Framework</td>
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<td>ICT</td>
<td>Information and communications technology</td>
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<td>CMMI</td>
<td>Capability Maturity Model Integration</td>
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<td>DAD</td>
<td>Disciplined agile development</td>
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<td>TPS</td>
<td>Toyota Production Systems</td>
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<td>PWC</td>
<td>PricewaterhouseCoopers</td>
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<td>HFM</td>
<td>Oracle Hyperion Financial Management</td>
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<tr>
<td>C2R</td>
<td>Close to report</td>
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<tr>
<td>FIDO</td>
<td>Financial data as opportunities - Financial data warehouse</td>
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<tr>
<td>FINA</td>
<td>Oracle Financial – book keeping system</td>
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<tr>
<td>MAXIMO</td>
<td>Enterprise Asset Management technology solution</td>
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<td>LOMAX</td>
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1 Introduction

Accurate financial budgeting and forecasting is essential for enabling executives, managers, and the line of business to have confidence when making investments and informed decisions (Castellina, 2013). In today’s competitive world for business to survive and prosper in dynamic environment the concepts of budgeting and forecasting are more crucial than ever. Well calculated budget and forecast are extensions of the organization’s business strategy. It empowers the decisions for effective future planning, investing decisions and predicting business results.

An efficient planning process could make all the difference to the growth of the business. It is a critical component that can transform any finance organization, making the best use of critical data to form key decisions and strategies. The ability to budget and forecast are critical dimensions of companies’ effort to meet demand and serve customers while maintaining hard-won operating efficiencies. As per PWC’s report 69% of the financial executives reported that planning, budgeting, and forecasting would become higher priorities for improvement in next two years.(Apanaschik Gary & Sharma Amit & Fuzzard W. & Ritter Matthew 2011, 5). In figure 1, a complete list of priorities are mentioned.

![Figure 1. List of financial areas which need most improvement. (Source: Apanaschik Gary & Sharma Amit & Fuzzard W. & Ritter Matthew 2011, 5)](image-url)
A disconnect between budget and strategy can result in dreary budgeting and poor strategy implementation, which could lead to disaster for any business. To align the two, business should have long term vision, monitor performance indicators, keeping the budget realistic and finally tweak up the strategy when required. (Cravenho, 2014)

Information Communication Technology (ICT) has been playing key role of business process enabler for decades and the role seems to be getting complex as ever. There are ever new software and systems that keep flooding the markets each claiming to be better and latest than the other. IT teams are in continuous pressure from the business to keep the ICT elevated in terms with the growing needs of the business, technology and business strategy. ICT empowers the financial planning process and helping companies to make faster and more accurate financial budgets and forecasts by using data from different source systems.

This development based thesis was aimed at providing suggestions to improve financial budgeting and forecasting process to be better aligned with ICT. In this study author aims to find how well ICT is supporting planning and forecasting process and what are key issues. Does business and IT have similar future goals and expectations? How does the customer rate them in the area of satisfaction?

The researched company uses traditional financial planning process and system that take a structured approach for scoping uncertainties within a specified timeframe. Those predictions work reasonable accurate when conditions are less volatile, however the results vary when considering the volatility. As mentioned earlier, the financial budgeting and forecasting process is one of the most significant process of an organization. Successful businesses invest time and money to create and manage budgets, prepare and review business plans and regularly monitor finance and performance.

Is it enough to use the traditional financial planning when a business is operating in a volatile market and looking for new growth opportunities? May be not.
2 Research Questions and Objectives

2.1 Research Questions

What is the state of current financial budgeting and forecasting process in the researched organization? Does ICT support the process to fullest or both need more alignment?

- How satisfied is the business/business customers with financial budgeting and forecasting process? What could be improved?
- Does the financial process provides business with real time data?
- Does business and IT agree that financial budgeting and forecasting process is one of the crucial business process?
- How well the IT tools and systems empower the financial budgeting and forecasting process? How efficient is the IT development process?
- Is the financial process and IT well streamlined?

2.2 Reason for research

Having accurate financial budgeting and forecasting is essential for enabling executives, managers, and the line of business to have confidence when making investments and informed decisions (Castellina, 2013).

In the researched organization planning IT application is used to make financial budgets and forecasts. Planning application owners measure customer satisfaction on yearly basis. From the customer survey user dissatisfaction was clearly visible.

IT and business have had some idea about the reason behind the unhappiness and looking to upgrade the IT system to solve most of their problems. It was crucial for the company to identify improvement areas and look for development suggestions that would help to improve the quality of the service. Company aims to improve the efficiency of whole process in delivering expected business results after the upgrade.

The author of the thesis has over 10 years of experience working in the area of IT. This motivated the author to do a research on the aspects of how ICT can be better enabled for financial budgeting and forecasting business process.

The aim is to explore and learn how latest technology and processes would help to bring more value in the field of budgeting and forecasting. This was a good opportunity to understand how to connect various important business components and what level
of integration between different IT applications are required to deliver the expected results. A great opportunity to understand what are the business requirements and their expectations from IT.

2.3 Objectives

The objective of this research was to provide holistic view to align ICT and budgeting and forecasting process to improve the user satisfaction and reducing cost. Identifying improvement areas and development ideas to improve the budgeting and forecasting as well as IT. The following areas were focused on:

- Agile and lean IT
- Business capabilities shared across the organization
- Improved business productivity
- Lower software development, support, and maintenance costs
- Increased portability of applications

2.4 Scope

Due to the time and resource constraints the scope is limited to Planning IT application which is supporting company’s budgeting and forecasting process. The main aim is to find how well IT is supporting the business and map the following steps:

- Model current state (baseline)
- Model future state (target)
- Discover what changes are needed (gap-analysis)
- Create possible development scenarios.

Discuss the opinions of business teams such as business controllers from the business units and divisions. Understand various aspects such as technology and integrations which are important to the business.
3 Theoretical Background

This chapter describes various theories that are used in this study. For quantitative analysis questionnaire was designed by using CMM assessment. Study is done by using Agile and Lean principles which are also described in this chapter one by one.

3.1 Financial budgeting and forecasting process

Financial budgeting and forecasting process is used for determining and specifying an organization's long- and short-term financial goals. The process is usually managed by organization's finance department. Planning, budgeting and forecasting is not only critical but the area where there is no margin for error. 71% of the top performing organizations continuously update their forecast to reflect current business situation. (Castellina, 2013)

There are various pressures on the planning, budgeting and forecasting that illustrates the need for agility.

![Figure 2: Pressure in planning, budgeting, and forecasting. (Source: Aberdeen Group, 2013)](image)

Planning - sketches the company's financial direction and expectations for the next three to five years. Budgeting documents how the overall plan will be executed on monthly bases and even specify expenditures. Forecasting is the predictive based on the historical data to predict financial outcomes for future years. (Rouse, 2015)
3.2 Capability Maturity Model CMM

Capability Maturity Model (CMM) broadly refers to a process improvement approach that is based on a process model. The model describes a five-level evolutionary path for organized and systematic mature processes.

According to Bell & Orzan, 2011, [82] individuals and organizations should have clear targets to stay focus on improving efforts and assessing their progress. Clear targets also help them to stay motivated for the change. The term best practice is often used for the expected improvement of process development and information systems by the companies (Bell & Orzan, 2011, 82). Therefore, it is important to understand the meaning of best practices and how are they applied to ongoing improvements. Competitive advantage comes from differentiating an organization through continuous learning, improvements, and innovation (Bell & Orzan, 2011, 82).

In the knowledge based economy innovation is key to the competitive advantage. In many companies the majority of knowledge is stored inside the minds of employees and not explicitly documented, causing everyone to perform the same work differently. It is difficult to improve inconsistent behavior since there is no established stable baseline from which to start. It is very risky for the organization when process and practice knowledge belongs only to certain people, outcomes remain inconsistent, and there is great risk of losing the knowledge when employees leave (Bell & Orzan, 2011, 82).

A foundation for continuous improvements and innovation starts when the knowledge is stored and managed that is required to run the core. In this study “The Capability Maturity Model (CMM)” is used and is described in the figure.
Figure 3: Capability Maturity Model - (Source – Bell & Orzan, 2011, 83)

CMM provides a theoretical continuum along which process maturity can be developed incrementally from one level to the next.

Level 1 - Unpredictable (Chaotic)

Processes at this level are (typically) undocumented and in a state of dynamic change, tending to be driven in ad-hoc, uncontrolled and reactive manner by users or events. This provides a chaotic or unstable environment for the process.

Level 2 – Loosely Defined

At this level some processes are repeatable, possibly gives consistent results. Process discipline is unlikely to be rigorous, but where it exists it may help to ensure that existing processes are maintained during times of stress.

Level 3 – Standardized

At this level processes are defined and documented to create standard processes. With some degree of improvement over time. These standard processes are in place (i.e., they are the AS-IS processes) and used to establish consistency of process performance across the organization.
Level 4 – Quantitatively Managed

It is characteristic of processes at this level using process metrics, management can effectively control the AS-IS process (e.g., for software development). In particular, management can identify ways to adjust and adapt the process to particular projects without measurable loss of quality or deviations from specifications. Process capability is established from this level.

Level 5 – Continuously Improving

It is a characteristic of processes at this level that the focus is on continually improving process performance through both incremental and innovative technological changes/improvements.
3.3 Operating Model

Operating model is a theoretical representation of various activities undertaken by organization in order to accomplish its function. According to Ross, Weill and Robertson there are four operating models for how a company addresses business process integration and business process standardization. (Ross & Weil, 2006: 27-29)

![Diagram of operating models]

Figure 4: Types of operating model (Source Ross, Weil, 2006: 29)

According to Ross, Weill, and Robertson, companies adopt different models at different levels. For example, they might adopt one operating model at the enterprise level, but there can be different model at the division, business unit, and regional level. To get a clarity of which of the model is being used by the organization the following questions can be asked: (Ross and Weil, 2006, 30)

1. Is successful completion of one business unit’s transactions dependent on the availability, accuracy, and timeliness of other business units' data?
2. Does the company benefit by having business units run their operations in the same way?
3.4 Agile Development

Agile manifesto established the set of principles for lean software development which focuses on the principles of

- Individuals and interactions over principles and tools.
- Working software over comprehensive documentations.
- Customer collaboration over contract negotiation.
- Responding to change over following a plan. (Bell and Orzen 2011, 169)

The lean software management is more than just a name change to agile but set of development, lifecycle management and methods focused on just in time development of quality software, it addresses the environment in which the software operates and the value system of the enterprises.

The agile principle focus on development of software based on the overall design and the value preposition expected from the client. Lean principles focus on viewing the whole development from the aspect of the end customer rather than from the aspect of the designer or developer. A lean organization focus on complete delivery and satisfaction and acceptability of the customer from the point of receiving an order to address a customer need to the point where the software is deployed, at any point if the focus is not paid to providing complete benefit to the value system the project cannot be successful.

12 Principles of Agile are:

- Satisfying ‘customers’ through early and continuous delivery of valuable work.
- Breaking big work down into smaller components that can be completed quickly.
- Recognizing that the best work emerges from self-organizing teams.
- Providing motivated individuals with the environment and support they need and trust them to get the job done.
- Creating processes that promote sustainable efforts.
- Maintaining a constant pace for completed work.
- Welcoming changing requirements, even late in a project.
- Assembling the project team and business owners on a daily basis throughout the project.
- At regular intervals, having the team reflect upon how to become more effective, then tuning and adjusting behavior accordingly.
- Measuring progress by the amount of completed work.
• Continually seeking excellence.
• Harnessing change for competitive advantage.

(Agile Manifesto, 2001)

Agile software development must integrate and synchronize with all business process, management systems and kaizen activity, supporting the Lean transformation of the overall enterprise. (Bell and Orzen, 2011, 171)

Compared to the waterfall or traditional software development methods, lean development focuses on identifying the 20% of the code that provided 80% of the value, and deliver it just in time. Lean development focuses on the pull rather than the push scheduling, engaging the customer with requirement definition and testing at every iteration. The approach of “write less code” and “test early, learn rapidly and fail fast”. (Bell and Orzen 2011, 175)

Agile development doesn’t follows a rigid prescriptive model which has check list or command control push schedule but has iterative approach where the developers are encouraged to learn quickly and solve problems. It focuses on nurturing an environment where ideas are promoted. Collaboration and experimentation are considered critical and feedback are taken seriously.

Agile development is a way of managing IT development software and projects. Agile software development could be defined as an iterative development methodology where the software solution evolve through association between self-organizing cross function teams. Agile process is based on the disciplined project management process where continuous testing and feedback is taken on the development project and required changes are made accordingly, the leadership philosophy encourages teamwork and accountability; the engineering best practices allow quick delivery of high quality software which is in alignment with the customer need and companies goals.

Agile development provides options to assess the development advancement throughout the development lifecycle. The regular pace of update and monitoring of the development is called Sprints or iterations, at the end the teams present a possibly shippable product. As compared to the traditional waterfall method where the flow is progressive and not iterative. The ‘inspect and adapt’ approach to development reduces development cost and time to market. The teams can develop software at the same time when the requirement analysis is done and the chances of analysis paralysis is low. (Agile Methodology, 2015)
**Agile development methodology**

There are various options of methodologies that the organizations can choose from while selecting agile development process of project management such as Scrum, Extreme Programming, Dynamic software development method (DSDM) etc.

**Scrum:** Scrum is an agile framework which is focused on delivering high-quality software products in chunks within short iterations and modified by feedback from users. Short iterations are also known as sprints which are usually 2 weeks to 30 days sprint. Like other frameworks Scrum methodology helps to define clear roles and responsibilities that focuses on following roles:

![Scrum roles and responsibilities](image)

**Figure 5: Scrum roles and responsibilities**

1. **Scrum Master:** Scrum master is a person who is champion of the Scrum framework and process. Scrum master acts as a facilitator, coach and teach the organization Scrum principles to maximize business value. It is an important role and maintain the focus of the team to implement improvements and requirements set by the business.

2. **Product owner:** Product owner is a person responsible for creating the vision of the product and maintaining the product backlog. Product owner is responsible for delivering product value to the business. Product owner does not control the Scrum team.

3. **Team:** The Scrum team is ultimately the main team who is committed to deliver what is agreed in each sprint. Scrum teams are self-organized and must deliver...
what they have promised for each sprint. Scrum teams are responsible for maintaining sprint backlogs.

In Scrum stakeholders are usually persons providing funding for the project. In Scrum framework stakeholders’ role is also to communicate their needs and play an active role in the project. Stakeholders’ are part of the sprint planning meetings and their responsibility is to remove roadblocks for the team, Product owner and Scrum master.

In Scrum small iterations are known as sprints which creates rhythm for the delivery team. Items from the product backlog are picked for the sprint and included into the sprint backlog. Sprints are usually 2-4 weeks long and scrum teams are responsible for delivering the shippable product incrementally.

![Scrum sprint overview](image)

**Figure 6: Scrum sprint overview**

Finally Scrum is about value creation through “think big, act small, fail fast and learn rapidly”. Define clearly how to measure the value in an early stage. Create a value table and establish long term metrics to support the project.

**Agile development challenges**

Transitioning teams from non-agile to Agile can face a bit of challenge like honoring the new process and procedures. There could be a resistance to accept the new procedure of meeting and iterative model. The continuous interactions with the stakeholders and business owners can be time consuming and stressing. The agile managers need to keep in mind to what extend the suggested changes be included in the development, as sometimes it could add undue stress to the development deadlines and budget.
3.5 Lean Enterprise and Process development

Lean principles were first used into manufacturing world, where companies decided to focus their strategy to understand and increase customer value by removing waste throughout the value stream. Lean principles are derived from Toyota Production Systems.

Value stream

The aim is to create value stream throughout the process life cycle which bring services, products and information from concept to customer. All products and services must be created from customer’s perspective and the system must encourage people to see the whole process. Value is simply defined as what the customer wants and what he is willing to pay for. In general there are some activities that add value for the customers while others do not (Bell and Orzan, 2011, 33). Identifying the element and process which have no value addition for the customer can help in removing waste.

The Three Ms: Mura, Muri and Muda

The three Ms bring a comprehensive perspective to waste reduction and reinforce a cycle of continuous improvement (Bell, Orzan, 2011, 36). Lean principles can be applied to process development and to software development.

Reducing the cycle time occurs by eliminating all forms of Muda, which is a Japanese term for “waste,” Muri, which is “overburdening of people and machines,” and Mura, which is “unevenness in the workflow or unevenness in demand.” Both Mura and Muri might be the root causes of Muda (waste) in many organizations.

**Mura:** Disproportion and disparity represent inconsistency in the flow of work, caused by changes in volume (uneven demand), mix (variation), and quality (Bell, Orzan, 2011, 34). Irregularity in the flow of work can be caused by several reasons such as uneven demand.

**Muri:** Overburden represents placing unrealistic workloads on people and equipment, which leads to stress, mistakes, rework, and poor morale (Bell, Orzan, 2011, 34). Management would need to find new solutions that demands management to support the value stream. Muri effects are usually created because of Mura. Example, in many companies we see a high push for “make the numbers” at the end of reporting period, this
results in high workloads on people. Such cycle are regular and management’s job is to even out the unrealistic workloads which leads to stress, mistakes etc.

**Muda:** Waste is work which is not creating any value for the customer. In the mid-1950s, Taiichi Ohno introduced the concept of systematic elimination of waste at Toyota (Bell & Orzan, 2011, 35).

Seven way to eradicate waste, by watching the following

1. Overproduction: producing more or sooner than is needed by the customer.
2. Inventory: having more than the minimum levels of raw materials, work in process, and finished goods required to support flow and pull.
3. Waiting: stopping or slowing down for work to arrive
4. Transportation: movement of work product, information, and materials
5. Over processing: excessive or unnecessary work
6. Motion: unnecessary physical movement
7. Correction: reworking defects and mistakes, inspection, and scrap

Lean principles in general are followed in this study to simplify process related issues. Lean principles does not only talks about standardization where as Lean focus on agility through waste reduction, visual management, standard work, and ongoing process improvement.

Customer needs change and new opportunities keep emerging, the organization needs to be efficient and responsive to the customer needs which leads to efficient delivery and service. The focus has to be on finding an appropriate balance between efficiency and flexibility. Efficiency means performing work well without wasted effort, while flexibility involves responding to change quickly with limited disruption (Bell & Orzan, 2011, 79). This relationship is illustrated in Figure 7.
Figure 7: Agility: Balancing efficiency and flexibility (Source - Bell, Orzan, 2011, 79)

**Process and Practice:**

Process is a series of actions or operations that are performed and supported by structured information. Process activities are routine, repetitive, well-defined, and controllable and standardized. Whereas practices are not routine, highly variable, loosely defined and require a degree of judgement and experience to carry out (Bell & Orzan, 2011, 80).

For example, a visit to the pediatrician. The nurse first performs standard, routine procedures (records babies’ weight and height)—this is process work. When the doctor arrives, she reviews the growth chart and asks for current issue. Prescribe medicine based on kids’ symptoms and medical history, supported by her experience and professional judgment—this is practice work.

Applying the 80/20 rule, simplifying and automating the 20 percent of core processes that account for 80 percent of the volume and burden can make a significant and immediate impact on efficiency, freeing up human capacity for practices that require experience and judgment (Bell & Orzan, 2011, 81).

The information used in organizations is unstructured and based on experiment. When improving practices, the focus is on supporting a learning organization through an accessible collection of knowledge of past experiences to enable situation-specific decision making (Bell & Orzan, 2011, 81). System should be designed to learn from both unstructured and structured data.
3.6 Rolling Forecast

Rolling forecast is a process in which key business drivers forecast on a continual basis. In dynamic business environment rolling forecast provides a company the luxury to foresee the risk and opportunities where as traditional forecast process take a structured approach to scope uncertainties within a specific timeframe. If the market is volatile it is difficult to map the uncertainties well in advance. The best way to scope uncertainties is to advance in time to go as far as possible.

![Figure 8: Coping with Uncertainty (Source Banham Russ. 2011)](chart)

In recent years rolling forecast methodology has been adopted by many companies. Rolling forecast, also called continuous planning, is a leading planning technique that will help organizations find opportunities amid persistent volatility and intense competition. (Garlapati & Durga 2011, 1)

“We used to have what we called the annual plan, and we’d spend six months of the previous year putting it together,” says Neal Vorcheimer, senior vice president of finance for North America at consumer-products giant Unilever.

“As soon as the budget was approved it was out of date. So we decided to do away with it.” Banham Russ. 2011.
It is up to the individual company to decide what type of forecast model is best for the company. Driver based rolling forecast provides options for multiple budgets and iterations and it needs a robust technology. We need technology that would bring statistical techniques and predictive models to understand real time data. With the help of technology it is possible to do what-if analysis and scenario planning.

Benefits of Rolling forecast:

Predictive analysis and if-then analysis is critically based on the accuracy of data provided. Market fluctuations, change in cost of related items, change in HR cost etc. are various volatile factors that keep effecting the data on daily base. It is not wise to base the predictive decisions on outdated or old figures. There are two main factors speed and accuracy which will affect the profit of any organization. Rolling forecast is one on the efficient solutions to keep the data real, updated as possible.

Best organizations across the globe continuously update the figures based on market conditions as shown in the figure below.

Figure 9: Best in class organization continually update (Castrellia, 2013)

With rolling forecast company can view the pulse of the changing conditions and always have the freedom to refocus the business accordingly.

Technology and architecture has huge impact on quality of business software and return on investment. Automation enable standardization, adopting to dynamic business needs, cost reductions, reducing possibility of human error and efficiency across the business
process. Some of the critical budgeting and planning process components could be automated to reap the benefits.

Figure 10: Making it easier to forecast. (Castellina, 2013)

Based on the above figure rolling forecast also empowers business user to be able to create charts and reports for self-service capacity. 71% users can reap the benefits of budget template, and can use to communicate and manage input.
3.7 Change Management

Change management is a systematic approach of dealing with change both from the perspective of an organization and the individual. (Rouse, 2015)

Success and failure of any project largely depends on how effectively change was introduced, lead and managed in the organizations. Some of the key principles of efficient change management are focusing on the following:

- Improve an organization’s health and effectiveness through whole system change.
- Systematically introduce planned interventions.
- Apply top-down strategies and get all employees committed to change.
- Introduce change incrementally and base planned change on empirical data.
- Use a specialist change agent to manage change.
- Achieve lasting rather than temporary change within an organization. (Patrick & Constantine, 294)

Core set of values that leads to effective change management are:

- The importance of people
- Treat all individuals with respect
- Identifying solutions to people issues through a process of open communication and collaboration
- Employee involvement is therefore key, as is the development of a climate of trust and openness.

Based on Kotter’s model change could be implemented by following 8 steps.

![Kotter's Change Model Diagram]
Figure 11. Kotter’s 8 step process for change management. (Source Kotterinternational, 2015)

Step 1: Create Urgency

For change to happen it is helpful if everyone in the organization aims for the same. The focus should be on motivating people to accept change, sharing what could happen in future, why is it important to change. Addressing the issues and concerns and giving people reason to openly thinking and sharing suggestions.

Step 2: Form a Powerful Coalition

Convince people that change is necessary. This phase of managing change requires good leadership and getting support from key people. To bring change it is critical to have a coalitions of people who can motivate the teams and lead the group towards organizational goal.

Step 3: Create a Vision for Change

Creating a clear vision can help everyone understand what is expected. Having a clear goal set for the future. It starts by defining the organizational vision and mission for future.

Step 4: Communicate the Vision

The most important feature of change management is communication. Talking to the teams openly about visions. Addressing the anxiety, concerns, encourage training and performance reviews.

Step 5: Remove Obstacles

Removing obstacles can empower people you need to execute your vision, and it can help the change move forward. Identifying people who are resisting the change, and help them see what's needed. Rewarding the people who accept and motivate others to accept change are effective ways to motivate people.

Step 6: Create Short-Term Wins

Success is the biggest reward. In the earlier stages it could be better to have achievable projects and assignment. Look for sure-fire projects that you can implement without help.
from any strong critics of the change. Aim at winning the first goals and this could be huge motivation for the whole team.

Step 7: Build on the Change

According to Kotter that many change projects fail because victory is declared too early. Real change runs deep. Quick wins are only the beginning of what needs to be done to achieve long-term change. The organization needs to analyses and work in what needs improvement. The idea here is continuous improvement.

Step 8: Anchor the Changes in Corporate Culture

Finally, to make any change stick, it should become part of the core of your organization. Your corporate culture often determines what gets done, so the values behind your vision must show it in day-to-day work.
4 Research Method

Research is usually carried out with an aim to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within mutually accepted framework (Easterby-Smith & Thorpe & Jackson 2008, 9). The aim of the action research was to experiment with the organizational challenges and providing structured outputs that could lead to solving the issue. This involves an iterative process of problem identification, planning, action, and evaluation.

According to Gibbons there are two types of research, first concentrates on the production of knowledge by scientists focusing on theoretical questions and problems; whereas second research is characterized by the production of knowledge through direct engagement with social practices and problems (Easterby-Smith & Thorpe & Jackson 2008, 8-9). This research is based on the second method of production of knowledge through direct engagement via interviews. The empirical part of the thesis has qualitative data collected.

Qualitative data was collected via one-to-one semi-structured interviews with the key business people such as core business controllers and ICT architects. Interview questions were fixated to find out how to improve the budgeting and forecasting process with ICT. For the research this seemed to be the best possible research method as the topic is complex and would be difficult to limit it to the questionnaire format. A face to face interview seemed to be the best option of exploring human behavior, as it is shaped by two forces in any social system; forces that drives for change which is called driving forces and restraining forces that attempt to maintain the status quo.

Also, the research aims at providing the possible alternative solutions and suggestions to improve the budgeting and forecasting process. The interview was the best way to find out issues and what are the expectations of the people. Based on Lewin’s model in order to get clear answers to the interview questions and to achieve long lasting results three aspects were considered when the research questions were formed: unfreezing, changing and refreezing.
Figure 12: Lewin’s three stage change process (Dawson Andriopoulos 2014, 158-159)

Stage 1. Unfreezing: creating a motivation to change and determine what needs to change.

- Lack of confirmation of disconfirmation.
- Induction of guilt-anxiety.
- Creation of psychological safety by reduction of threat or removal of barriers.


- Cognitive redefinition through identification: information from a single source.

Stage 3. Refreezing: Stabilizing and integrating the changes into the culture.

- Integrating new responses into personality.
- Integrating new responses into significant ongoing relationships through reconfirmation.

(Dawson Andriopoulos 2014, 158-159)
5 Data Collection

5.1 Interviews

Interviews started in February 2015 and first phase of Interviews were completed in March 2015 as planned. Interviewees were selected from two groups, financial controllers and IT architects. Corporate accounting team responsible for group level reporting and they are stakeholders in this project. Interviews were semi-structured and questionnaire based. Each interview was about one hour long.

5.2 Interview questions

Interview questions were designed to find out why user satisfaction is going down and what areas are required to improve the overall budgeting and forecasting. The interview questions were designed keeping in mind the CMM model and Operating model.

- How satisfied is the business/business customers with financial budgeting and forecasting process? What could it be improved?
- Does the financial process provides business with real time data?
- Does business and IT agree that financial budgeting and forecasting process is one of the crucial business process?
- How well the IT tools and systems empower the financial budgeting and forecasting process? How efficient is the IT development process?
- Is the financial process and IT well streamlined?

The assessment was done to understand the following five main areas to provide a holistic view to improve the customer satisfaction.

- Vision and Strategy: Goals and plans linked to the business strategy?
- People: Are roles and responsibilities clear?
- Process: Is process well-defined & proactive? How we could improve it?
- Technology: Is current system and technology working well? Are we using technology effectively to support business and continual improvement?
- Interfaces: How effectively and efficiently do the interfaces exist between different systems? Are the interdependencies fully understood?

There was an interest to use TOGAF model in the start but the model looked quite big and heavy. Whereas, CMM model was a perfect fit for the thesis requirement. Interviewee were asked to rate each area on the scale of 1 to 5, where 5 being continuously improving
based on CMM model (referring to Figure 3). Each area was discussed in detailed to find the improvement area and development suggestions. Vision and strategy, roles and responsibilities were clearly defined and working well. Whereas improvements were required in process, technology and interfaces. Each area is explained more in detail later in the report.

Budgeting and forecasting could be implemented in many ways using different operating models. Interviewees were asked about the current and future operating model they would need in the budgeting and forecasting to map the current state and future.

5.3 Limitations

Due to the time constraints and busy schedules 8 interviews were conducted. Unfortunately, one of the interviewee was not directly involved in the budgeting process and therefore inputs are not used in results, hence only 7 inputs are used when making the results and findings.

The finding and the conclusions are based on data collected from the interviews. However, the results may slightly vary in case of larger group interview. Secondly, it is human nature to present the positive side of things in smaller interactions and they not always report their dissatisfactions or issues in a study related interview. Nevertheless, the effort was made to collect the best possible inputs from the interviewee.
6 Researched Organization

Due to confidentiality of the data and the material, the author has chosen not to use the organization name in the research. However, the information is true and authentic, based on the understanding of the author and his work area. To protect the sensitivity of the nature of financial budgeting and forecasting minor alterations for general reading purposes are done.

Note: To understand the results and development plan based on the interview the researched organizational structure is explained here:

6.1 Company Introduction

The researched organization is a big company operating in the area of Nordic, Baltic, Russia and Poland. Company has 4 divisions.

6.2 Close to report cycle

Company is using multiple IT systems for financial activities to record and report every penny spend and invested in the business. Like other international companies the researched company is using close to report framework.

Typically a close to report (C2R) cycle consist of following structured framework

![Diagram of Close to report cycle]

Figure 13: Framework for Close to report cycle (Source: Bishop B. & Strey R & Rupprecht D. PWC 2010, 5)

6.2.1 Transaction Processing and Sub-Ledger Close

In this phase every financial transaction is successfully and accurately recorded and processed into general ledger. Common accounting definitions are used to have common data structures. Standardization and first-time accuracy is critical for accurate reporting.

Company is using two main financial IT systems Oracle EBS (FINA) and SAP for its book keeping activities for transaction processing and sub-ledger closure phase.
6.2.2 Corporate Close and Consolidation

In monthly closing all transactions, journal entries and financial statements are processed. Control and accountability are critical to ensure that nothing is missed during this time-sensitive closing period. (Bishop B. & Strey R. & Rupprecht D. PWC 2010, 5). Companies use standard procedures to ensure monthly financial statements are accurate and timely. In this phase books are closed and group level consolidation of financial data is performed. Automatic consolidation activities, including eliminations and data validation are completed in this phase.

As documented earlier, company is using two different financial systems and therefore it needs a financial consolidation system at the group level. There are different solutions available in the market for financial consolidation such as Oracle Hyperion. Company is using Hyperion Financial Management (HFM) IT system for financial consolidation at the group level. It provides financial managers the ability to rapidly consolidate and report financial results.

6.2.3 Analysis and Reporting

After the books are closed companies are reporting its performance and doing various financial analysis based on the results. Company wants to know whether its strategy is translated into financial benefits and how they have performed against expected results. This phase represents the output of the process.

Leading companies are using corporate performance management system to link its strategy with performance by integrating budgeting, planning, reporting and analytical solutions. The financial analysis is done to make intelligent decisions based on the facts.

FIDO: Company is using a financial data warehouse system FIDO for reporting and analysis. Main source of FIDO data is Oracle EBS – financial system which is described earlier.

Planning: Application for making budgets and forecasts.

TopView: It is a high level reporting application for top management.
NOTE: The research will be focusing on FIDO, Financial DW and Planning components of the whole system interface.

In this study the scope is budgeting and forecasting process. Figure 14 gives the overview of how it is interlinked with other important systems which are overall needed for financial reporting.

6.3 Author's team and role

The author has been working in the researched organisation from last 6 years in the financial reporting team. Budgets and forecasts are made in planning application which is managed by financial reporting team. Author has also contributed towards implementing changes in the planning models and responsible for developing financial reports which included budget and forecast figures.
7  Results

The result of the interviews is divided into two categories.

Firstly, result analysis based on CMM model (as explained in Chapter 3, 3.2). Scoring the factors such as People, Process, Integrations, Vision & Strategy and Technology and pointing out the reasons for the score, in addition to what are the main challenges and how the same could be improved.

Secondly, the results are evaluated on the bases on operating model (as explained in Chapter 3, 3.3). Where the interviewees rank the current position of the organizations and what the better position for long run is, how that can be achieved.

7.1  Results based on CMM

Interviews were conducted to evaluate key areas such as vision and strategy, people, process, technology and integrations to find the improvement areas of the budgeting and forecasting process for the upgrade. Interviewees were asked to rate each area on the scale of 1 to 5 as per CMM assessment model.

Out of the five areas that was evaluated “People” got the best average score of 4 out of possible 5, with interviewees adding that roles and responsibilities are clearly defined and they are getting good service from IT and people are very committed and focused on the value creation. The customer service is quantitatively measured time to time (Figure 3).

Interviewees mentioned that process is rigid and slow which could be improved. Improvements are required in process, technology and integrations. Integrations are required to improve the budgeting and forecasting. In figure -15 average score of each area is presented. All the areas fall in the standardized category as defined in the figure 3.

Figure 15: Average score of CMM evaluation.
7.1.1 Technology

Technology is playing an important role in empowering the business. Business users are satisfied with the technology support; whereas IT team members would like to upgrade the technology. IT team believes that administration of the current planning tool is not very user friendly and it does bring slowness when it comes to implementing the change.

On the other side business users feel that issue is not with the technology it is how we are using the technology, for example with 16 accounting dimensions it is challenging to build financial budgeting models.

52% interviewees scored technology with 4. But 48% feel there is need of improvement as this sector needs to be treated critically.

![Technology Rating Chart]

Figure 16: Technology rating

As the organization aim to implement a new tool as they are positive that it would increase business satisfaction. IT aims for better technology and achieving its true potential to support “if-then” analysis and rolling forecasts.

Predictive Analytics: There is requirement to model profitability with predicted changes in volume, pricing, raw material costs etc. and allow management to adjust their strategy before the competition. Predictive analytics enable organizations to leverage latest technology such as big data to develop more accurate and timely forecasts.
In the researched organization forecasting is based on prices from external data sources. However the prices have fluctuations based on market conditions. In the long budgeting and forecasting process the prices used become redundant. So, having forecast models based on real time data and possibility to include data from historical trends and other macroeconomic data sources, would help management to adjust their strategy in real time. (Essig Jonathan, 2014).
7.1.2 Process

Majority of interviewees from business units thinks budgeting and forecasting process is slow, heavy and stiff. Current budgeting and forecasting process is too long and resource-intensive. Sometimes it takes long time to plan the budget as there are multiple iterations. Process is bottom-up when started and after the management reviews it follows top-down approach. Thus, making the process ad-hoc and time consuming.

Only 39% interviewees scored Process with 4 and above points, giving it an average score of 3.3. Over 70% of the interviewed want the process to be improved and simplified.

Figure 17: Process rating

Some additional comments that were bought to light at the interview were:

- Internal invoicing makes process complicated.
- Forecast model is not easy.
- Fixed cost planning should be done once in a year.
- Use of rolling forecast and predictive analytics.
- Real time profit & loss statement.
In addition there were suggestion reported like: Harmonizing models: Building harmonized planning models in planning tool would help reduce the amount of work IT is doing and it would significantly reduce the cost.

Master data: Use HFM as a master data repository for modeling company structure.

Head count forecast: In the current stage business units are very independent and they are giving head count forecast numbers at the very high level. Apparently the data is not 100% accurate due to the fact that any change in the business organization structure will make the manual forecast number old. Therefore, it is seen as a great advantage to have robust head count forecast process for the whole company.
7.1.3 Integration

System integration required for budgeting and forecasting are working effectively and efficiently. Integrations are well documented and gives consistent outcomes. However, for long run there is a continuous need of improvement between the systems to keep it competent. 50% interviewed scored integrations area with score 4. Half of the interviewed believe that the integrations requires improvement.

Figure 18: Integrations rating

New integrations that are needed:

- Hyperion group consolidation (HFM) and Planning IT application: In the present situation budgeting data is going to HFM via financial data warehouse (DW). Business would like to have a direct connection between HFM (group consolidation system) and Planning IT applications because business wants to see the results of planning application into HFM as quickly as possible.

- FOMAX, LOMAX and FIDO: Create new integrations between Maximo system with financial DW in order to reach complete cost and investment forecast. For example, when a purchase invoice is received it becomes updated into financial DW with its actual value whereas business would like to have purchase order data into financial DW in order to support the cost forecasts. A purchase order (PO) is a commercial document and first official offer issued by a buyer to a seller, indicating
types, quantities, and agreed prices for products or services. Purchase orders are created in Maximo system and having PO data for accurate budgeting is a crucial factor.

- Implement depreciation analysis to forecast depreciation of group assets in book keeping system FINA.
7.1.4 Vision and Strategy

Budgeting has to be driven by the vision and strategic planning. If the vision and strategy is clearly defined and understood then it is more likely that the company would succeed in achieving its objectives. The focus is on aligning organizational resources to bridge the gap between present conditions and the envisioned future.

All the interviewees agree that the vision and strategy is clearly defined and understood. Vision and strategy is quantitatively managed according to the metrics. 100% of the interviewees answered rating of strategic planning is about influencing the future rather than simply preparing or adapting to it. 64% of the people scoring it at 4.

Figure 19: Vision & Strategy rating
7.1.5 People

People involved in both IT and business are dedicated and focused. All interviewee believed that the roles and responsibilities are clearly assigned to both business and IT teams, and there is no need for role changes. The customer service is quantitatively measured time to time.

85% interviewees scored people with 4 and above points, giving it a highest average score of 4 out of 5. Business is happy and satisfied with the level of service being delivered by IT. IT is quick to implement the changes and always ready to help when required.

However, there is need to develop competence in IT team to deliver services. As currently there are two main resources in IT who knows how to implement business critical changes. In addition, the solutions could be well documented.

![People rating](image)

Figure 20: People rating
7.2 Operating Model findings

From the interviews it was evident that the current operating model of budgeting and forecast is diversified in nature with low level of integrations and standardization. Whole process is slow and costly to maintain.

Corporate accounting team would like to have high level of standardization and therefore they would like to use the replication model. Whereas business units would like to have high level of integration because their application landscape is very big and they have to rely on manually process. High level of standardization would come from harmonization.

![Figure 21. Future operating model](image-url)
Based on the finding of the interviews and the principle of Agile and Lean there are few suggestive developments that could be used by the researched organizations. The developments are aimed at providing solution to the problems and issues which came to light during the interview and have been reported in chapter 7 results.

Overall development is focused on three many area – **process harmonization, application integration and agile development** for IT systems and software. The development will help to eliminate redundancies and inconsistencies among the multiple processes that the company uses to conduct its budgeting and forecasting.

![Diagram showing Business process development](image)

**Figure 22: Business process development**

Development part is divided into two parts, process development and IT development with goal of aligning ICT with budgeting and forecasting process.
8.1 Process development

The development is done based on the requirement generated by the business need, the creation is always aimed at value creation. The company's budgeting and forecasting process is agile in nature and strategy is clearly defined and understood. Despite the positives the current budgeting and forecasting process is too long and resource-intensive. The interviewees wanted the process to be leaner, automated with the help of IT that would make it more efficient.

The power of Lean IT also includes knowing when not to use technology, because at times the problem is created by faulty process and not people or technology (Bell and Orzan, 2011, 70). It is worth improving the existing process before investing in technology. Focusing on root causes, creatively improving processes before considering investments in information systems will make organization more Lean.

Technology should be measured on the ability to support work processes but not mainly based on distracting attentions from the value-added activities. Once the existing process is improved and company can quickly implement the new technology.

Based on the above mentioned challenges step by step development are mentioned below.

8.1.1 Lean - Harmonization of planning models

Different business units use different budgeting applications for similar purposes which is not highly recommendable. For example during the research we learned that having a common model for budgeting staff cost is considered more cost effective rather than having separate models for staff cost for each division or business unit. Having own tools for the same purpose in different divisions is not a good idea and this approach only adds extra cost and from Lean perspective it’s considered as a waste.

Multiple models and systems disturb the zen of the organizations and leads to confusions and dissatisfaction. Having common planning models for fixed cost e.g. staff cost for whole company would save lot of time and cost for the development of models. During the study some recommendations were considered and a pilot project had been started to implement the hominization of existing fixed cost models such as staff cost.
8.1.2 Rolling Forecast and Agile

The second critical process based requirement was to bring agility in forecasting, and adapting to rolling forecast could be one quick solution to this problem (as explained in chapter 3, 3.6). Not only the rolling forecast procedure will make the data available at real time it would also enable the managers to use self-service tools that would make decision making much faster and accurate. Leading to more accurate and precise decision based on real time data.

One of the clear issues discussed during interviews was that the budgeting and forecasting process being slow, rigid and not fast enough to change according to market volatility. As discussed in theory topic above there is zero percent margin of error when it comes to financial data and figures. Rolling forecasting focuses on reforecasting when market conditions change, keep the data real time and accurate to base future decisions on.

Rolling forecast will also facilitate agile development an iterative development and decision making process based on the value preposition expected from the customer. Based on the rolling forecast figure 10, it enables business managers to automate and also use self-service tools to get real time data.

“Organizations that enables rolling forecasts are 4.4 times more likely than those that do not to have the ability to perform “what if” scenarios and change analysis.” (Castellina, 2013. 3-4)
8.1.3 Lean Accounting

Lean accounting focuses on measuring and understanding the value created for the customers, and uses this information to enhance customer relationships, product design, product pricing, and lean improvement (Maskell and Baggaley, 2005).

Researched company is using traditional accounting system in which detailed transactions are often captured simply to drive cost allocations. This is one area in which Lean principles would help company to achieve significant amount of saving by reducing the number of unnecessary transactions and streamlining the whole process.

8.1.4 Change Management

In the end, a successful transformation requires the aligned, cooperative behavior of executives, management, and systems. This is enabled by strategic deployment, and supported by communications, knowledge management, collaboration, and performance measurement systems that focus on value creation, hence a successful change management. Good decisions and effective aligned action require simple, understandable, and actionable information.

A Lean management system communicates quality information throughout the organization, accompanied by the steady pace of leader’s standard work. By decentralizing problem solving, decision making, and encouraging everyone to take responsibility for Lean performance, an organization cultivates a sustaining Lean culture. (Bell and Orzan, 2011, 144)

Core set of values for effective change management would finally ensure that the changes made in the budgeting process are well accepted and the teams involved like IT and other business units will welcome change. Some of the key steps based on effective change management will be

- Treating all individuals with respect.
- Identifying key leader who can lead by example.
- Identifying solutions to people issues through a process of open communication and collaboration and apply Kotter’s 8 step model as in figure 11.
8.2 IT Development

The second phase of development focuses on further empowering the IT team, systems and IT development. Even though interviewees believed that IT has been doing a good job at enabling the budgeting and forecasting process, but there were some improvements needed in the area of system integrations that could decrease the expenses and increase the customer usability.

Technology: Aim for better technology and achieve its true potential to support “if-then” analysis and rolling forecasts. IT must aim for better technology and achieve its true potential to support “if-then” analysis and rolling forecasts.

8.2.1 Need Driven and Agile Development

Since, the IT teams work on more customer driven inputs and requirements. It does follow the principles of Agile, focusing on what is really of value to the customer. IT teams operate as the backbone of the whole organizations and is under the regular pressure of keeping up with the technology and ensuring that the best possible systems are in place. IT needs to continuously update, upgrade and integrate all the systems and keep an eye on what is latest available in the market.

Keeping in mind that IT is just enabler for the business and not a core functions of the researched organizations. IT implementations and upgrades have to be triggered by business need and not by choice.

Agile Development of new planning models and yearly changes could be implemented using Agile Scrum methodology. Shorter iterations, complete interaction with business need, regular testing the release with end customer and making the required changes and finally training for effective change management and better acceptability of the new release and deployment. IT should plan the development of different planning models well in advance and agree the release dates.
Figure 23: Sprint Model

The development and upgrade could be done in small iterations with continuous testing and improvement as per the business needs.
8.2.2 System Integration

Integrations are backbone of the whole system and it is important to have robust integrations between various key systems. Interviews revealed a need of new integrations to strengthen and improve the data transfer from main source systems for budgeting and forecasting. System integration suggestion based on the interviews are described below (reference chapter 7, 7.1.3):

- Hyperion group consolidation (HFM) and Planning IT application: In the present situation planning data is going to HFM via financial data ware house (DW). Business would like to have a direct connection between HFM and Planning IT applications because business wants to see the data of planning application in HFM which is a consolidated system.

- FOMAX, LOMAX and FIDO: Integrate Maximo system with financial DW in order to reach complete cost and investment forecast.

- Forecast depreciation: In book-keeping system FINA implement what-if depreciation analysis to forecast depreciation for groups of assets in different scenarios without making changes to your Assets data. Create an interface to add forecast depreciations data from FINA into Financial DW to fetch depreciation forecast concerning old investments. Use depreciation data to do more accurate budgeting and forecasting.
8.2.3 IT Team competence development

The IT team should be competent in its way of doing business. The team members should be trained to support and refill each other’s place in case of business need, entire responsibility of the critical implementations and updates should not be restrained on any one member of the team.

Documentation of the activities is also a key component that was mentioned not being focused on. Missing documentations can also lead to confusions and misguidance in time of urgencies, licenses/certifications (ISO certifications) and key human resource absence.

Effective communications is at core of each business. Productive interactions between IT and business can keep both the parties focused on the organizational goal and business strategy.
9 Implementation

Based on the development plan in chapter 8, the researched organization has already started a project to harmonize the process by using common IT models for budgeting and forecasting fixed cost items such as staff costs in the new planning tool. New planning tool is partially used into production by few business units. Plan is to fully replace the current planning tool by 2016.

Another sub-project is initiated to create new integrations between HFM and planning applications. Also, author has built a pilot financial reporting application by using HFM structure reporting budgeting and real financial figures.

These two improvements are already considered as a big step forward and it would help the company to reduce its cost and build more real time budgeting and forecasting process.
10 Conclusion

Defining processes have not only become standard for the efficient organizations but they have become the need of time. It is correct to say that processes are critical to be defined, be it simple or complex. Each and every organizations big or small which has the processes well defined are considered efficient and operations conscious. IT these days enable automations, empower controlling and monitoring of the business processes.

Conversely, it becomes a challenge when IT implementations, software and systems become more valuable and critical than the organization processes and the business. The thesis started with finding out:

What is the state of current financial budgeting and forecasting process in the researched organization? Does ICT support the process to fullest or both need more alignment?

During the research it was evident that all the interviewees focused on the importance of budgeting and forecasting process. Standard processes are in place (i.e., they are the AS-IS process) and bring consistency of process performance across the organization. 100% of the interviewees believed in the criticality of focusing on continuous improvement on budgeting process for organizational fiscal health. Pinning the future state timely drives efficiency, improves planning, and puts down the building stone for long term success.

Few of the key finding being

- Harmonization: Use common budgeting applications for budgeting and forecasting fixed cost e.g. staff cost for all business units. This would save lot of time and cost for the development of models.
- Aiming at product automation, with focus on real time data access: Rolling forecast is the key to achieve this.
- Following the principles of Lean development and using the iterative models of keeping IT development in reach of the customer requirements.
- Focusing on material items, reducing costs, focusing on core benefit developments.
- Need driven IT upgrades and focus on long term strategy, not just upgrading to new systems.
- Reviewing and updating the system integrations.
Based on the above finding and expectations few process consolidations can reduce the amount of work which would result in significant amount of saving in context of time and money. To improve the efficiency of the process there is need to implement new ways of doing the things compared to the traditional methods like using Rolling forecast.

Role of technology is important and should be updated and support the business with real time accurate data and in addition should have the option to customize or automate as per the business strategy.

Lean principles should to be focused on identifying the key critical components where 20% of the process derives 80% of the process benefit or value additions. To achieve all of the above change management should be effective. People related or effected by change should be excited and open to accept the change. Timely training and open communications reduce stress and increase acceptability of change.

“Excellence is a continuous process and not an accident”

Dr.APJ Abdul Kalam
11 Reference


Measuring alignment with the principles of agile. URL: https://www.scrumalliance.org/community/articles/2014/january/measuring-alignment-with-the-principles-of-agile.aspx#sthash.wtFc4y9G.dpuf


Appendices

Questionnaire

1. What is your current role in relation to financial budgeting and forecasting process?

__________________________________________________________________________________

2. Based on CMM score the following out of 5 (1- Not satisfied 5- Very satisfied) and explain how it could be improved.

Technology ________________________________
Does the financial process provides business with real time data?

Process ________________________________
What are the issues with the budgeting process?

Integrations ________________________________
How well the IT tools and systems empower the financial budgeting and forecasting process? How efficient is the IT development process?

Vision and Strategy ________________________________
Does business and IT agree that financial budgeting and forecasting process is one of the crucial business process?

People ________________________________
How satisfied is the business/business customers with financial budgeting and forecasting process? What could it be improved?
3. Operating Model

What is the current operating model?

- **Coordination** – low process standardization but high process integration
- **Unification** – both high standardization and integration
- **Diversification** – businesses requiring low standardization and low integration
- **Replication** – high standardization but low integration

Notes:

4. What operating model do you want e.g. standardization or integration?

5. Does the company benefit by having business units run their operations in the same way?