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**How IT Governance should be established in order
to have a good alignment between IT, Business and
external Service Providers**

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VAASAN YLIOPISTO**Tekniikan ja innovaatiojohtamisen yksikkö**

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Tutkielman nimi:	Kuinka muodostaa IT hallintomalli, joka sovittaa yhteen liiketoiminnan, IT:n sekä ulkoiset palveluntarjoajat.	
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TIIVISTELMÄ:

IT hallintomalli huolehtii, että liiketoiminnan painopistealueet ja IT johtaminen ovat linjassa. Selkeän hallintomallin tavoite on varmistaa, että IT investoinnit luovat aitoa arvoa liiketoiminnalle. IT hallintomalli määrittellään prosesseina, rakenteina, ja suhteellisina mekanismeina, jotka varmistavat toimivan ja tehokkaan IT:n käytön ja auttamalla organisaatiota saavuttamaan tavoitteensa. IT:n ja liiketoiminnan yhteensovittaminen alkaa ja päättyy hyvään IT hallintomalliin. Liiketoiminnan ja IT:n liitto on Liiketoiminta- ja IT strategian sekä liiketoiminnan ja IT:n rakenteiden yhteen nivoutuminen. Tutkimukset ovat osoittaneet yhteyden liiketoiminnan ja IT liittouman sekä organisaatioiden innovatiivisen kyvyn välillä, osoittamalla että organisaatiot jotka pystyvät yhteensovittamaan IT- strategiansa ja toiminnan liiketoiminnan strategiaan ja toimintaan, osaavat paremmin hyödyntää uutta teknologiaa ja ovat innovatiivisempia.

Tämän työn tavoitteena on selvittää mitkä ovat hyvän IT hallintomallin elementit ja ymmärtää mitä tarvitaan tehokkaan liiketoiminnan ja IT:n yhteensovittamiseen. Tämä tutkimus etsii vastaukset seuraaviin kolmeen tutkimuskysymykseen: (Kysymys1) "Mitkä ovat hyvän IT hallintomallin elementit", (Kysymys2) "Kuinka saavutetaan aito liitto IT:n, liiketoiminnan ja ulkoisten palveluntarjoajien kesken.", sekä (Kysymys3) "Mitkä ovat nykyisen IT hallintomallin heikkoudet kohdeorganisaatiossa". Tämä tutkimus sisältää sekä teoreettisen että empiirisen osan. Teoriaosiossa käydään läpi tutkimuskirjallisuutta, jossa esitellään keskeisimmät käsitteet ja viitekehukset. Empiirinen osa kuvaa tutkimusmenetelmät. Tutkimusmenetelmiksi valikoitui kvalitatiivinen ja kvantitatiivinen menetelmä. Data kerättiin internet kyselylomakkeella kohdeorganisaatiossa, jossa allekirjoittanut työskentelee. Kysymykset kyselylomakkeella pohjautuvat teoreettiseen Strategisen yhteensovittamisen viitekehukseen. Kysely toteutettiin helmikuussa 2020. Kysely lähetettiin esivalikoidulle joukolla henkilöitä IT- ja liiketoiminnan yksiköissä. Kyselyllä kartoitettiin nykyisen IT hallintomallin heikkouksia sekä liiketoiminnan ja IT:n liittouman nykytilaa. Lopputulemana kaikkiin tutkimuskysymyksiin löytyi vastaukset. Kohdeorganisaatiolle tehdyn kyselyn tuloksien pohjalta löytyi selkeitä kehityskohteita, kuten IT- ja liiketoimintaprosessien ymmärrys, roolit ja vastuut, prosessit ja yhteistyö. Kohdeyritykselle luotiin suosituksia, joiden avulla liiketoiminnan ja IT:n yhteistyötä ja liittoumaa voidaan parantaa, varsinkin operatiivisella ja taktisella tasolla.

AVAINSANAT: IT hallintomalli, liiketoiminnan ja IT:n yhteensovittaminen, liiketoiminnan ja IT:n liitto, Strateginen yhteensovittamisen malli, IT hallintomallin yhteys liiketoiminnan ja IT:n yhteensovittamiseen

UNIVERSITY OF VAASA**School of Technology and Innovations****Author:** Taya Karos**Title of the Thesis:** How IT Governance should be established in order to have a good alignment between IT, Business and external Service Providers**Degree:** Master of Science in Economics and Business Administration**Programme:** Digital Business Development**Supervisor:** Ahm Shamsuzzoha**Year:** 2020 **Pages:** 66

ABSTRACT:

IT governance deals with connections between business focus and IT management. The goal of clear governance is to assure that investment in IT generates true value to business. IT governance is defined as the processes, structures and relational mechanisms that ensure the effective and efficient use of IT in enabling an organization to achieve its goals. IT and business alignment begins and ends with good IT governance. Business-IT alignment is the fit and integration among business strategy, IT strategy, business and IT structures. Research has shown that organizations where IT strategies and operations are aligned with business strategies and operations seem to be more innovative in use of new information technologies. The objectives for this research are to find out the elements for a good IT governance and understand what are the components and requirements for an effective Business- IT alignment. The study will seek answers to the following three research questions: (RQ1) "what are the elements for a good IT Governance" , (RQ2) "How to achieve a real alignment between IT, business and external service providers", and (RQ3) "what are the drawbacks in the current IT Governance in the case company". The research includes theoretical part and the empirical part. Theoretical part through literature review introduces the main concepts and frameworks. Empirical part describes the research methods. This study was conducted by using a qualitative and quantitative methods. The data was gathered via web survey in a case company where the author is currently working. The questions in the survey are based on theoretical framework called the Strategic Alignment Model. The survey was conducted in February 2020, the survey was sent to preselected persons in IT and Business. With the web survey, the target was to get the understanding what are the drawbacks with the current IT Governance and Business-IT alignment.

As a result of the study, all research questions were answered. Based on the survey results in the case company, clear improvement areas were found in the areas of IT and business process understanding, roles and responsibilities, processes and collaboration. Recommendations for the case company are made to improve the Business-IT alignment especially on tactical and operational levels.

KEY TERMS: IT governance, Business- IT alignment, Strategic Alignment Model, IT Governance relationship with Business-IT alignment

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Abbreviations

CC	Critical capability
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CIO	Chief Information Officer
CMMI	Capability Maturity Model Integration
COBIT	Control Objectives for Information and Related Technologies
DMO	Development Management Office
EGIT	Enterprise Governance of IT
IT	Information Technology
IT CMF	IT Capability Maturity Framework
ITG	IT Governance
ITIL	IT Infrastructure Library
ITSM	Information Technology Service Management
PRINCE2	Projects In Controlled Environments
RPA	Robot Process Automation
SAM	Strategic Alignment Maturity
SVS	ITIL v4 Service Value System

1 Introduction

In many organizations, information technology (IT) has become crucial in the sustainability, support, and growth of the business. IT governance is seen as an important topic in IT world. Once the chosen IT governance model is implemented, it should enable that IT is aligned to the business needs. IT governance is situated at multiple layers in the organization: at strategic level where the board is involved, at management level within and finally at the operational level with operational IT and business management (De Haes, S. & Van Grembergen, W. ,2009).

The issues, opportunities and challenges of aligning information technology more closely with an organization, and effectively governing an organization's information technology investments, resources, major initiatives and superior uninterrupted service, is becoming a major concern of the Board and executive management in enterprises on a global basis. Information technology has become a vital function in most organizations and is fundamental to support and sustain innovation and growth (Selig, G. & Wilkinson, J., 2008).

Nowadays, fast and continuous innovations enable companies to succeed. The IT departments in the companies can be vital asset in releasing company's innovation potential. While more and more from companies' budget is consumed by IT, it is many times difficult to show the real business value through IT-driven innovations. (Whelan, Anderson, van den Hoof, Donnellan, 2015)

This research topic is in much interest of the author who has been working in IT for almost two decades in both Supplier's and Customer's side in different roles, e.g. consultant, project manager, service manager, delivery manager and currently as IT manager. These years in different organizations and services has shown how important role the IT Governance plays in engaging all the relevant parties in all levels (strategic, tactical and operational) focusing on business value, managing risks and decision-making power. To be able to create a real value to the business, there needs to be true IT and Business

alignment. The IT governance and IT -Business alignment should also cover the external IT service providers.

This study adds value obviously to the case company with clear results of the current stage and actions needed to achieve better IT Governance and Business-IT alignment which hopefully will lead to better value to business and improved innovations.

1.1 Research problems

The objectives for this research are to find out the elements for a good IT governance, understand what are the components and requirements for effective alignment between IT, Business and external service providers.

The research questions have been identified as follows :

RQ1: What are the elements for a good IT governance?

RQ2: How to achieve real alignment between IT, business and external service providers?

RQ3: What are the drawbacks in the current IT governance?

1.2 Outline of the study

This study focuses on IT governance and IT-business alignment via literature review. Current IT governance and IT-Business alignment are also investigated in the case company via web survey.

The thesis structure follows the instructions given by the university. The study is divided into six main chapters. First chapter introduces the research problems and the

motivation behind the study. The second chapter outlines the theoretical background of the study via literature review. The third part describes the research method following the fourth chapter that introduces the case company. The fifth chapter introduces the findings following by discussions in the sixth chapter. The seventh and final chapter concludes the study and gives suggestions for future development and research.

2 Literature review

2.1 IT Governance

According to Wikipedia, IT governance (ITG) “is a subset discipline of corporate governance, focused on information and technology and its performance and risk management. The primary focus of IT governance is the stewardship of IT resources on behalf of various stakeholders whose ranking is established by the organization's governing body”. IT governance primarily deals with connections between business focus and IT management. The goal of clear governance is to assure that investment in IT generates business value and mitigates the risks that are associated with IT projects (Smallwood, 2009). IT governance is defined as the processes that ensure the effective and efficient use of IT in enabling an organization to achieve its goals (Duranti, 2013).

Government processes can be lined up in three groups: Enterprise Governance, Corporate Governance, and IT Governance.

Enterprise Governance has been described as “the set of responsibilities and practices exercised by the Board and executive management with the goal of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the enterprise’s resources are used responsibly” (Gheorghe, 2010).

Corporate Governance has been defined as “the ethical corporate behavior by directors or others charged with governance in the creation and pre-servation of wealth of all stakeholders” (Gheorghe, 2010).

In the Figure 1 the relations between these three governance groups are visualized.

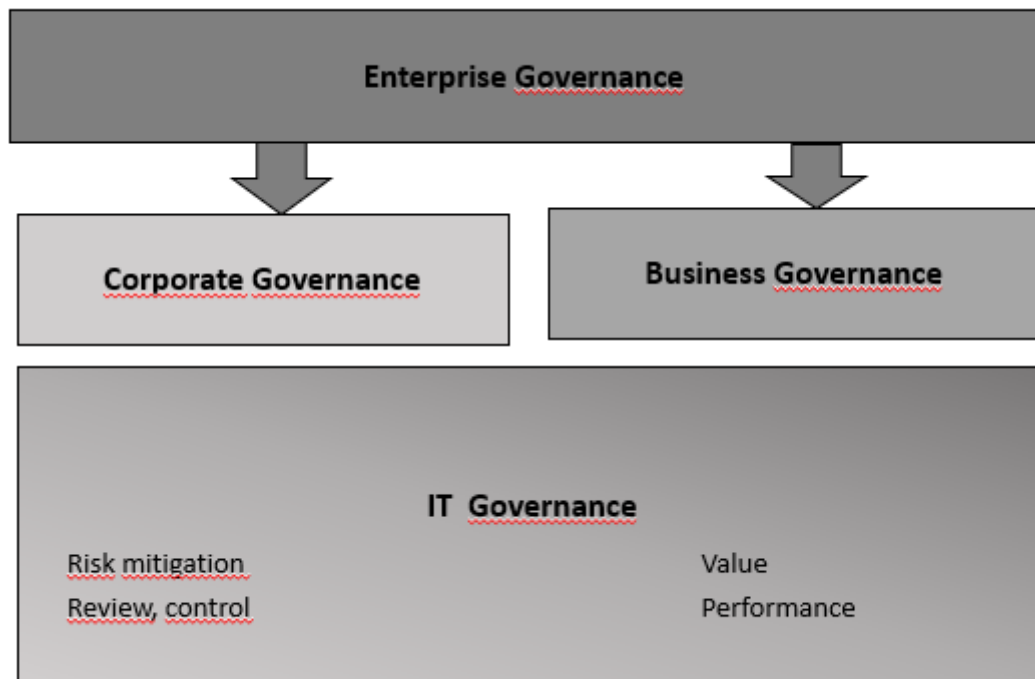


Figure 1. Corporate, Business and IT Governance (adapted from Gheorghe, 2010).

There is also the term Enterprise Governance of IT (EGIT). According to Steven De Haes and Wim Van Grembergen in their book “An Exploratory Study into IT Governance Implementations and its Impact on Business-IT Alignment”, Enterprise governance of IT is an integral part of corporate governance, exercised by the Board, overseeing the definition and implementation of processes, structures and relational mechanisms in the organization that enable both business and IT people to execute their responsibilities in support of business-IT alignment and the creation of business value from IT-enabled business investments (De Haes, Van Grembergen, 2009).

However, Peterson (2003) sees a clear distinction between IT governance and IT management. He states that IT management is focused on the effective and efficient internal supply of IT services and products and the management of present IT operations. IT governance in turn is much broader and concentrates on performing and transforming IT to

meet present and future demands of the business (internal focus) and business customers (external focus), see the Figure 2.

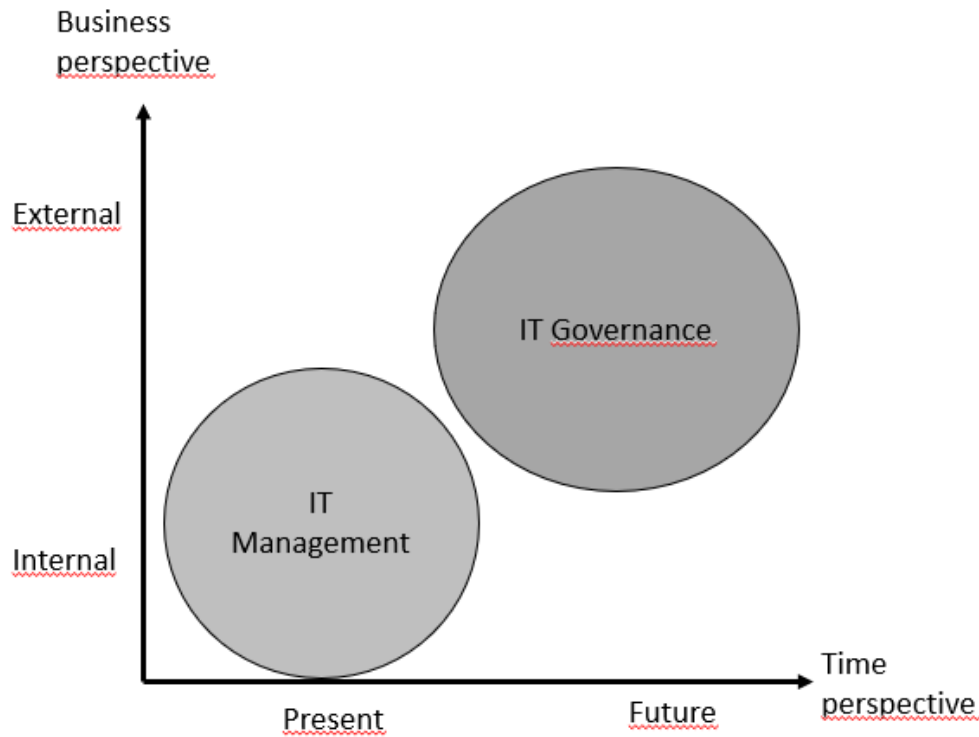


Figure 2. IT Governance vs IT management (adapted from Peterson, 2003).

2.2 IT Governance Frameworks

IT governance framework is a type of framework that defines the ways and methods through which an organization can implement, manage and monitor IT governance within an organization. It provides guidelines and measures to effectively utilize IT resources and processes within an organization (Technopedia).

There are different frameworks related to IT Governance, such as ITIL, COBIT, CMMI and these are the best-practice approaches to regulator and corporate governance compliance where each of them on their own have specific strengths (Calder, 2008).

2.2.1 ITIL

IT Infrastructure Library (ITIL) is one of the IT Governance frameworks that provides a systematic approach to IT Governance. ITIL is a set of detailed practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business (Wikipedia).

IT Service Management focus is mainly concerned on the operational level of IT related services, whereas on the other hand IT Governance focuses on enabling, controlling and assisting with the decision making at the strategic level (Gervalla M., Preniqi N., Kopacek P., 2018).

The current, newest version of ITIL, ITIL 4 was launched in February 2019. ITIL 4 consists of two key components: The Service value system (SVS) and the four dimensions model in Figure 4.

Axelos, a joint venture company created in 2013 by the Cabinet Office on behalf of Her Majesty's Government (HMG) in the United Kingdom and Capita plc, to manage, develop and grow the Global Best Practice portfolio., like ITIL, PRINCE2 on several other. The ITIL Service Value System (SVS) describes how all the components and activities of the organization work together as a system to enable value creation (Figure 3). Each organization's SVS has interfaces with other organizations, forming an ecosystem that can facilitate value for those organizations, their customers, and other stakeholders (Axelos, 2019).

A guiding principle is a recommendation that guides an organization in all circumstances, regardless of changes in its goals, strategies, type of work, or management structure. The central element of the SVS is the service value chain, an operating model which outlines the key activities required to respond to demand and facilitate value realization through the creation and management of products and services (Danby, 2019).

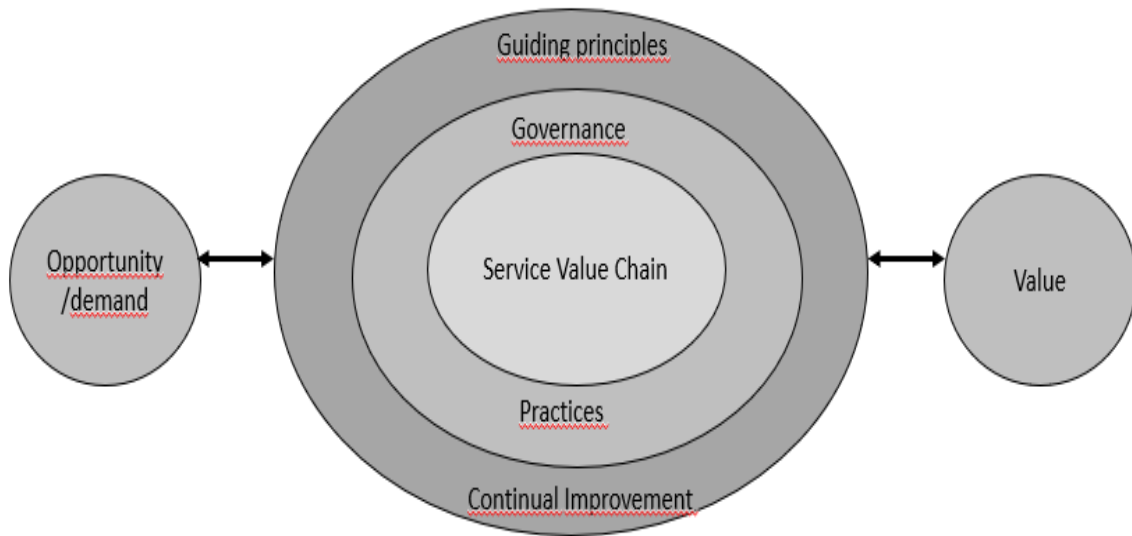


Figure 3. The Service Value System (Adapted from Axelos,2019).

As ITIL 4 is all about a holistic approach to service management, the framework defines four dimensions that are critical to creating value for stakeholders including customers.

These four dimensions are:

1. Organizations and people – the corporate culture needs to support an organization's objectives, and the right level of staff capacity and competency.
2. Information and technology – within the SVS, this refers to the information, knowledge, and technologies that are needed for the management of services.
3. Partners and suppliers – the suppliers that are involved in the design, deployment, delivery, support, and continual improvement of services and their relationship to the organization.

4. Value streams and processes – are the different parts of the organization working in an integrated and coordinated way? This is important for the creation of value through products and services.

An appropriate amount of focus needs to go into each of these dimensions such that the Service Value System remains balanced and effective (Anand, 2019).

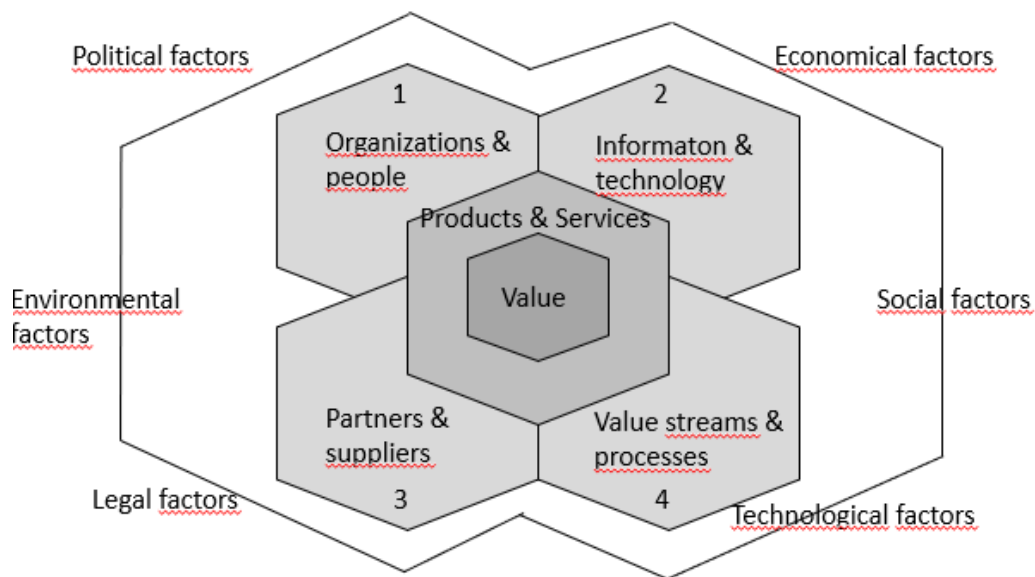


Figure 4. The Four Dimensions Model (adapted Axelos, 2019).

2.2.2 COBIT

Control Objectives for Information and Related Technologies (COBIT) is a framework created by ISACA for information technology (IT) management and IT governance. The framework defines a set of generic processes for the IT management. Each process is defined together with process inputs and outputs, key process-activities, process objectives, performance measures and an elementary maturity model.

In COBIT, five processes are identified (see Figure 5):

1. Evaluate, Direct and Monitor (EDM)
2. Align, Plan and Organize (APO)
3. Build, Acquire and Implement (BAI)
4. Deliver, Service and Support (DSS)
5. Monitor, Evaluate and Assess (MEA).

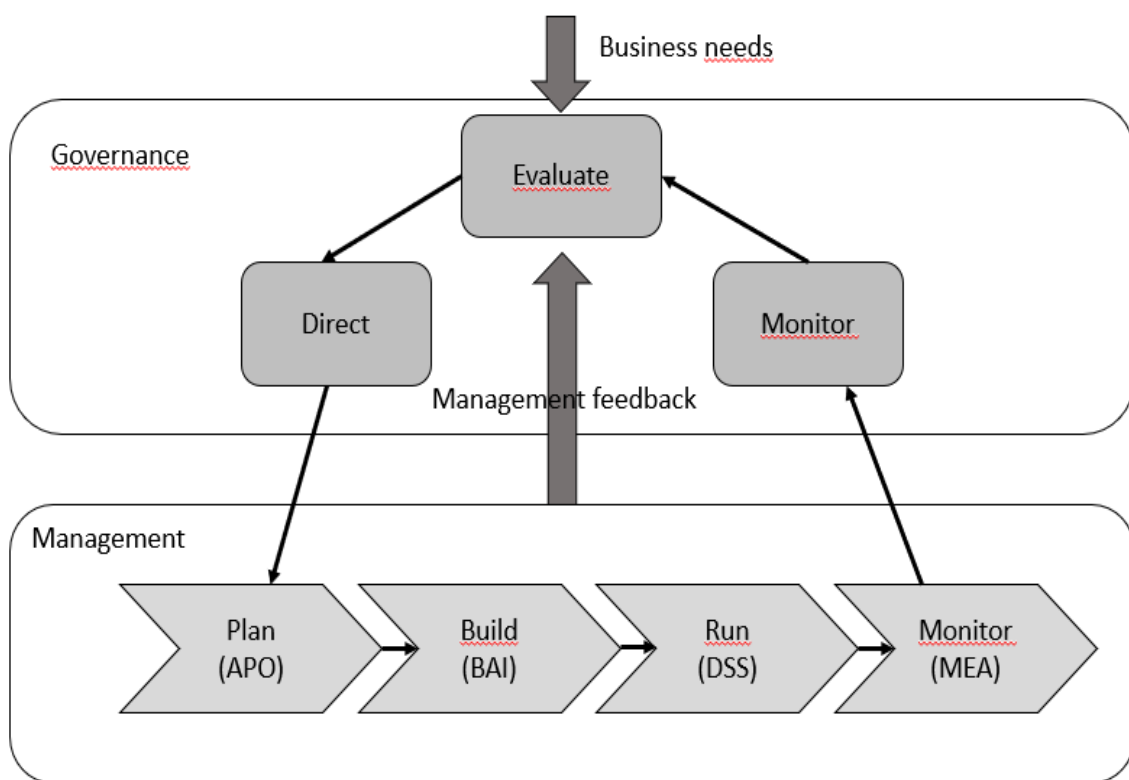


Figure 5. COBIT 5 Processes (adapted from ISACA,2012).

COBIT has five components (Figure 6):

1. Framework: Organizes IT governance objectives and good practices by IT domains and processes and links them to business requirements.

2. Process descriptions: A reference process model and common language for everyone in an organization. The processes map to responsibility areas of plan, build, run, and monitor.
3. Control objectives: Provides a complete set of high-level requirements to be considered by management for effective control of each IT process.
4. Management guidelines: Helps assign responsibility, agree on objectives, measure performance, and illustrate interrelationship with other processes.
5. Maturity models: Assesses maturity and capability per process and helps to address gaps. (Wikipedia).

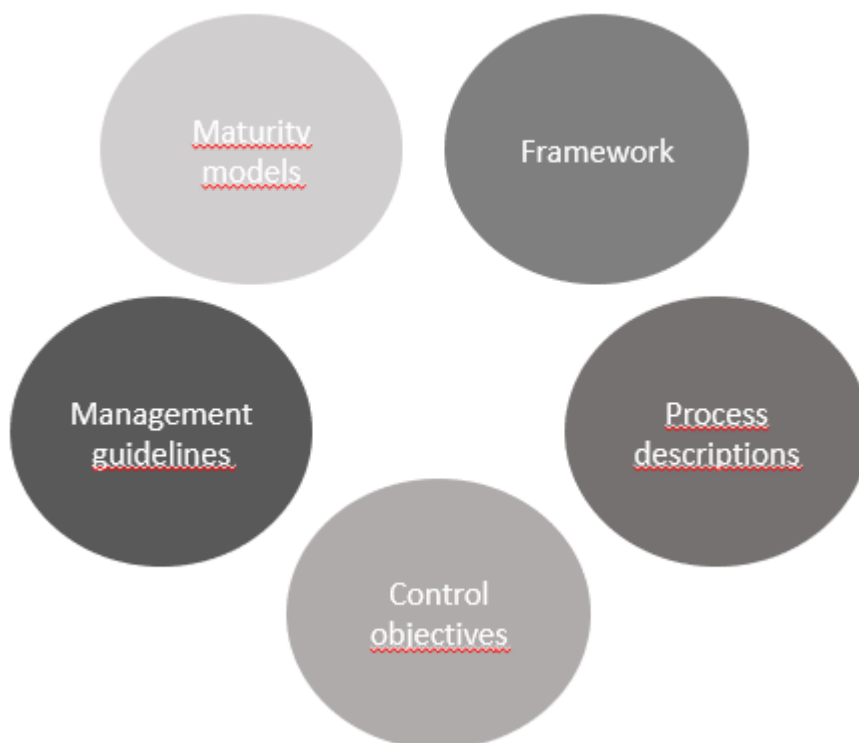


Figure 6. COBIT components.

2.2.3 CMMI

Capability Maturity Model Integration (CMMI) is a process level improvement training and evaluation program. CMMI model provides guidance for developing or improving processes that meet the business goals of an organization. A CMMI model may also be used as a framework to evaluate the process maturity of the organization (Wikipedia).

CMMI provides a clear definition, of what an organization should do, to promote the behaviors that lead to improved performance.

In CMMI model, there are five maturity levels designated by the numbers 1 through 5

1. Initial
2. Managed
3. Defined
4. Quantitatively Managed
5. Optimizing

Each maturity level provides a layer in the foundation for continuous process improvement, see Figure 7.

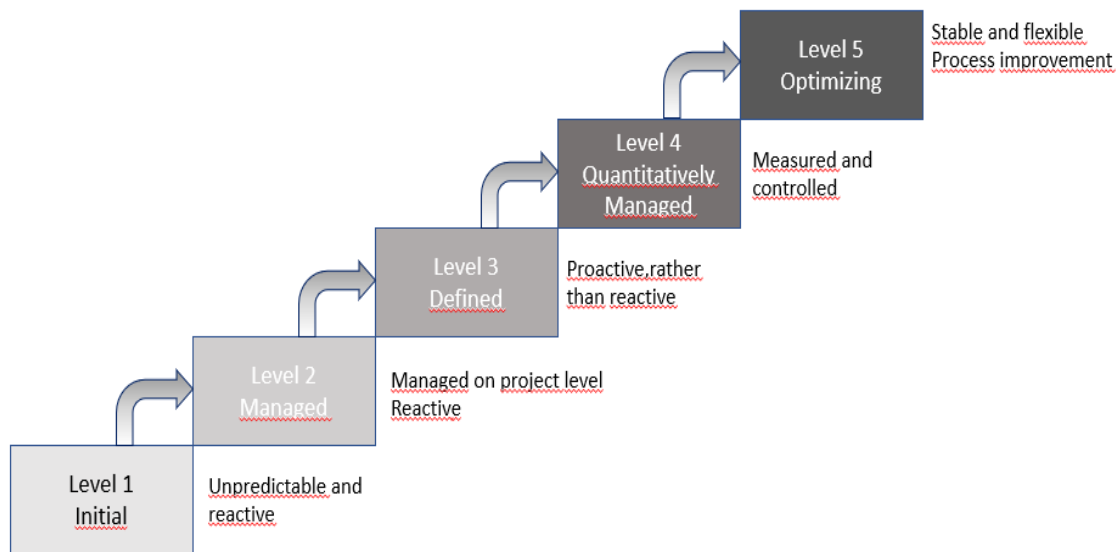


Figure 7. CMMI Maturity Levels. (Adapted from Ghaznavi-Zadeh, 2017).

2.2.4 IT Capability Maturity Framework (IT-CMF)

The IT Capability Maturity Framework (IT-CMF) is a framework that evaluates and improves an organization's IT capabilities enabling greater business value from IT.

IT Capability Maturity Model Framework provides tools that contain maturity profiles, evaluation methods and improvement roadmaps.

The Figure 8 illustrates how IT-CMF includes four macro-capabilities. The macro-capabilities represent critical capabilities (CCs) that help improve the IT management to deliver better innovations and created value.

1. **Managing IT like a Business:** To optimize the technology contribution to the whole organization. IT function needs to be managed using professional business practices, meaning shifting the focus away from technology towards the customers and the business problems to which IT can provide solutions and innovations. The Managing

IT Like a Business macro-capability provides a structure where the IT can be seen as a value center instead of cost center.

2. **Managing the IT Budget:** There are many challenges in managing the IT budget, including, , unplanned cost overruns , the maintenance cost of legacy systems, and management not willing to invest in new technologies. The Managing the IT Budget macro capability looks at the practices and tools that can be used to build and control a sustainable economic funding model for IT services and solutions.
3. **Managing the IT capability:** The IT function was traditionally seen as the provider of IT services and solutions. To fulfil IT's role as the enabler of innovation and continuous business improvement, the IT needs to proactively deliver new and improved IT services and solutions. This macro-capability provides a systematic approach to enabling the new role by effectively and efficiently maintaining existing services and solutions and developing new ones.
4. **Managing IT for Business Value:** Investments in IT must be linked to overall business strategy and business benefits. This means that the investments should, be seen as projects that generate business value and innovation across the organization. The Managing IT for Business Value macro-capability provides a structure where the IT function provides the clear justification for investment in IT and measures the business value creation from it (CIO Wiki).

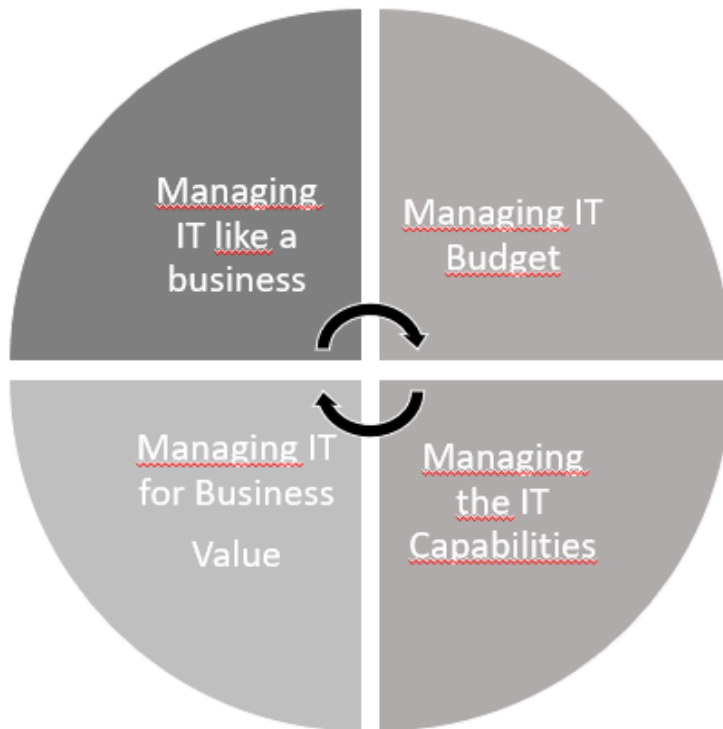


Figure 8. IT-CMF Key Strategic Areas (adapted from CIO Wiki, 2019).

2.3 IT-Business alignment

Research has addressed the relationship between business-IT alignment and organizations' innovative capacity. Organizations that are able to align their IT strategies and operations with their business strategies and operations seems to be more innovative in terms of using new information technologies and achieve more business benefits. (Chan, 2002; Luftman, Lewis, & Oldach, 1993; Peppard & Ward, 1999; Valorinta, 2011).

“Misaligning business and IT, on the other hand, has been found to lead to costly IT investments, failed implementations, and missed IT innovation opportunities” (Sambamurthy & Zmud, 1999; Ward & Peppard, 1996).

Business-IT alignment is an integration among business strategy, IT strategy, business, and IT structures. It contains two major questions: how is IT aligned with the business and how is the business aligned with IT (De Has & Van Grembergen, 2009).

IT and business alignment begins and ends with good IT governance. Alignment of IT strategy and business strategy is the by-product of strong IT governance structures and processes that have matured to the point of being part of an organization's culture (Selig & Wilkinson (2008).

Steven De Haes and Wim Van Grembergen investigated in their research how organizations are effectively implementing IT governance in day-to-day practice and what is the impact of the IT governance implementation on business-IT alignment. They based their research on two research questions: How are Organizations Implementing IT Governance and What is the Relationship Between IT Governance and Business-IT Alignment? As proposed by work from amongst others Peterson (2003), Weill and Ross (2004), Peterson, Parker & Ribbers (2002), and Van Grembergen & De HAes (2003), IT governance can be deployed using a mixture of various structures, processes, and relational mechanisms (Figure 9).

The structures include structural (formal) devices and mechanisms for connecting and enabling horizontal, or liaison, contacts between business and IT management (decision-making) functions (e.g., steering committees) and roles and responsibilities.

Processes mean formalized and industrialized IT decision making or monitoring and are often standardized (e.g., COBIT, ITIL, balanced scorecard).

The relational mechanisms are different interactions between stakeholders, such as executives, IT managers and business representatives. Examples of these include collaboration, participating to the same activities, co-location, common training, and personnel rotation between areas. These mechanisms are vital to any IT governance framework

aiming to have a working business-IT relationship, even when the well-defined processes exist, and suitable roles and organization are there.

One crucial goal of an IT governance framework is to bring business and IT closer. Achieving this is an important benchmark for the framework. Are its structures, processes and relational mechanisms truly improving business-IT alignment? Each of these framework parts aims to solve complex and overlapping problems and they may have un-aligned goals. Therefore, focusing on a single framework aspect alone is not sufficient. The framework needs to be evaluated as a whole, considering its full complexity and relations between its sub-systems.

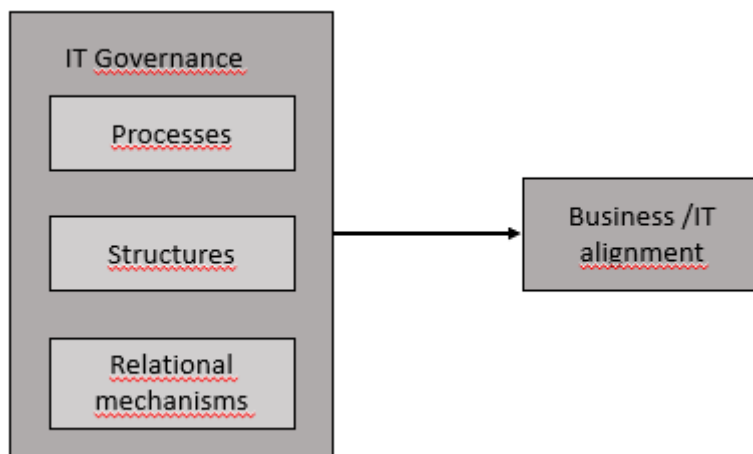


Figure 9. IT Governance relationship with Business-IT alignment. (adapted from De Haes, S. & Van Grembergen, W., 2020).

For nearly three decades, business-IT alignment has come up as a top item in information technology surveys. There are several reasons for this:

1. Just focusing on how IT is aligned with the business, and not also leveraging how the business can be in harmony with IT.

2. Not recognizing that there is no one factor that will improve the IT business relationship).
3. The lack of having an effective descriptive and prescriptive tool (until SAM, the Strategic Alignment Maturity assessment) that will assist IT and business executives in dealing with the alignment dilemma.
4. Discussing the importance of alignment but concentrating just on IT infrastructure considerations.

Research has found an association between closer IT-business alignment and improved company performance. These results support the importance of bringing business and IT closer. To have a clear picture if the taken actions are working, measuring the level of business-IT alignment is needed. To address this, various measurement models have been developed. One of them is Strategic Alignment Maturity, SAM (Luftman, 2008). It consists 41 business practices and six different organizational measurements (governance, communications, partnership, value measurement, technology scope, and skills) into a single score as displayed in Figure 10.

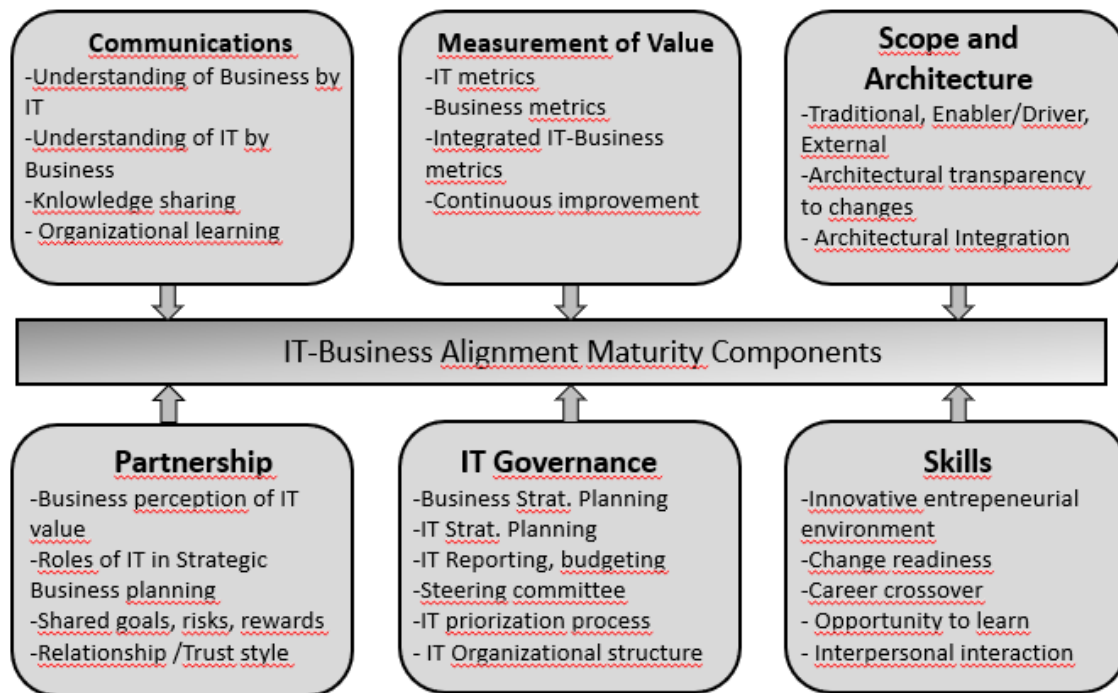


Figure 10. SAM model (adapted from Luftman, Dorociak, Kempaiah, Rigori, 2008).

Communication. This component measures the effectiveness of communication between business and IT. An essential step for a good communication is understanding each other. That is measured in two ways: does business understand IT, and does IT understand business. Are business executives aware of the possibilities to leverage IT? Do IT executives recognize the business drivers and the needs they bring for the IT environment. Also measured is the amount of knowledge that is documented and shared, and how easy it is for each side to access that documentation.

Measurement of value is a metric, shared by both business and IT, to quantify the impact of information technology, IT projects, and IT organization to the business. It is important to use metrics that are agreed and understood by both sides, and that these same metrics are applied to each initiative, in its all phases. Having a common way to measure the added value of projects and technologies makes it also easier to continuously propose, evaluate, and implement improvements.

IT governance component describes the processes that business and IT use to allocate resources. It defines the common planning process, prioritization, risk assessment, and budgeting. It also describes who has the authority to make different decisions, what is the process behind each decision, and what information must be available for each decision.

Partnership measures the relationship between business and IT: how close they are, how do they see the other side's contribution, and do they trust each other. Does business perceive the value of IT? Is IT involved in business planning? Also, an important aspect of a good working relationship is that it is fair - both sides should feel that goals, risks, and rewards are shared.

Technology scope and architecture component measures the level of technological sophistication in the organization. Is the used technology able to support the business and does it allow the business to grow profitably? How easy it is to make changes? What is the level of integration between various systems? Is the used technology continuously being evaluated and improved? This is the only purely technical component in SAM.

Skills component measures human specific aspects of the organization: do all employees have the skills that are needed to successfully to implement the desired business plans. This applies to both business and IT sides. They need to have high skills on their own work but also understanding of other side's work to be able to effectively work together. In today's fast changing world, an important aspect of skills component is the culture for constant learning, readiness for changes, and drive to make new innovations. (Luftman, J.; Dorociak, J.; Kempaiah, R. & Rigoni, E 2008).

3 Research method and data collection

3.1 Research method

There were two research methods used : Case study and open questions in the survey as qualitative methods. Quantitative data was collected via web survey. Survey was chosen instead of interview due the time constraints but also because with the survey more people can be reached and results are comparable with each other.

The questions in the questionnaire are based on different components in the Strategic Maturity model, mainly Communication, Partnership, IT Governance and Scope& Architecture components. The purpose with these questions is to get the understanding how well business and IT thinks they understand the processes, how clear the roles and responsibilities are, how they see the role of IT, what are main communication types used and whether there is enough knowledge sharing activities in place. The way how questions were in places in the survey, it was important to get the understanding not just how IT sees Business or vice versa, but also to know how well Business or IT understands their own processes, roles and responsibilities.

The questionnaire was reviewed and commented by the Thesis supervisor and based on his comments, changes were made. The preliminary list of persons in IT and Business to whom the survey should be sent was created by author, however the list was reviewed and updated by IT Director. The survey was done by using Microsoft Forms. The survey questions are presented in Appendix 1.

3.2 Data Collection

The survey was sent to IT 3.2.2020 and to Business 5.2.2020. The deadline for the survey was set to 14.2.2020, just before the southern Finland's winter holiday season. The Data

was collected via web survey that was sent to 45 persons in Business and 23 persons in IT in the case company SOK. The survey was sent to the both managers and specialists in IT and Business units.

4 Case Company

4.1 Introduction

S Group is the largest private employer in Finland with more than 40,000 employees. S Group operates in the supermarket trade, the department store and speciality store trade, service station store and fuel sales and the travel and hospitality business. S-Bank offers a wide range of banking services across Finland. Some regional cooperatives also engage in car dealership, car accessory and agricultural trade operations.

S Group consists of 19 independent regional cooperatives and SOK, which is owned by the cooperatives. In addition, S Group includes six local cooperatives. SOK serves as the central company for the cooperatives and provides them with procurement, expert and support services. SOK is also responsible for the strategic guidance of S Group and the development of the various chains. SOK's business operations supplement S Group's offering in Finland and the neighbouring regions.

In addition to its regional and national subsidiaries, SOK has operations in Russia and Estonia. It has Prisma hypermarkets in St Petersburg in Russia and in Tallinn, Tartu and Narva. SOK has Sokos Hotels in St Petersburg in Russia and in Tallinn in Estonia.

S Group as a whole (cooperatives + SOK Corporation)

- Retail sales before taxes total 11,713 million EUR
- Operating profit 409 million EUR

SOK Corporation (SOK + subsidiaries)

- Net sales (IFRS) 7,497 million EUR
- Operating profit (FAS) 71 million EUR

The retail sector is undergoing big changes. The competition in Finland is extremely tight in all sectors, and global webstores are available to all Finnish consumers. The digitalization of the retail sector is increasing transparency, changing business models, improving efficiency and changing consumer behavior in an incredible manner.

The Finnish markets have been the most regulated in Europe for a long time, but deregulation seems likely in the future. Deregulation will increase competition and choice, which will benefit consumers.

S Group's key strategic targets include profitability improvement and higher customer satisfaction. In order to respond future challenges, more competitive, cost-efficient, competent and responsible operations are needed for the entire retail group. No company will survive just by cutting costs or improving the efficiency of its operations. Consumers' requirements are increasing, and these requirements need to be met by new services and innovations. For this reason, S Group is strongly investing in innovative digital and other customer-focused service solutions. Employees and customers are participating more and more actively in the development work, and S Group is cooperating with start-up companies and many other parties.

Business operations must adapt to the customers' changing needs. More and more customers are making purchases and using services online, and they expect more digital services to come. Relevant information, such as prices, product and availability information, must be easily available to customers regardless of time

and place. Various digital services and extensive network of outlets work together, supporting each other (S Group, 2019).

4.2 SOK Organization

S Group's business is organized in nation-wide chains. SOK Corporation, which is owned by the cooperatives, centrally provides the cooperatives with service functions.

SOK operates as the central organization of the cooperative enterprises and provides them with procurement, expert and support services. SOK is also responsible for the strategic guidance of S Group and the development of the business chains.

SOK Corporation is divided into 6 units (Figure 11). All Unit heads are members of the SOK's Corporate management Team. The duties of SOK's Corporate Management Team include assisting the CEO in the management of SOK Corporation and S Group. The Management Team coordinates and prepares, among other things, key proposals to be made to the Executive Board. In addition, it discusses operational matters concerning all of SOK Corporation's areas of responsibility.

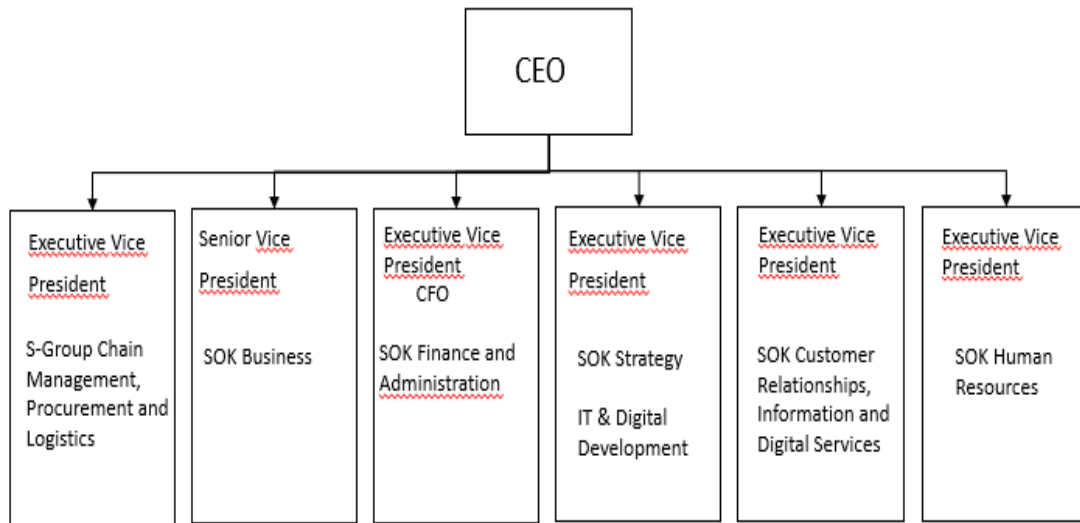


Figure 11. SOK Corporation Organization.

SOK is a big company providing numerous services and products the consumers. The company as big as SOK has quite complex organization structure, Business units are divided into smaller units by different functions. There are hundreds of Information systems and as business processes are long, there are several information systems involved.

4.3 SOK IT Unit

SOK IT Unit has gone big changes in the last five years. There has been a big organization change from the traditional line organization towards matrix/network organization. There are almost 300 employees on board.

SOK IT Unit is divided into four sub-units (Figure 12). IT & Digital Planning team sub-unit includes six CIO's. Each CIO acts as the main point of contact to the Business Management in his/her own Business area. IT Development sub-unit is the biggest unit with over 200 employees.

Under IT Development there are horizontal service functions like production and application maintenance and Development Support which includes e.g. Development Management Office (DMO), test automation and all other common functionalities.

The vertical sub-units include several teams lead by IT Managers. Each IT Manager has the full responsible for certain information systems including the production and application maintenance, development and projects, infrastructure etc. IT Manager leads the work in several virtual teams across the whole IT Organization.

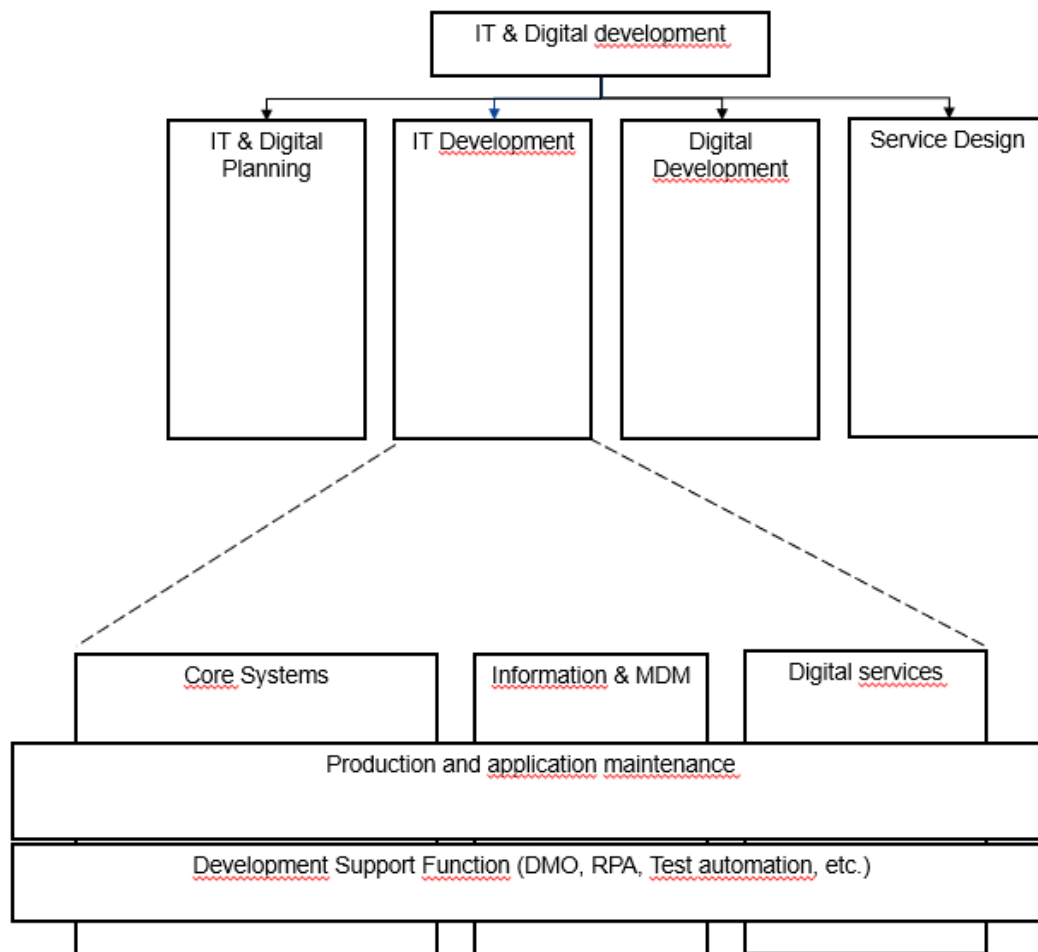


Figure 12. SOK IT Unit Organization.

4.4 SOK IT-Business alignment

SOK IT- Business alignment is seen as an important factor in the success of the company. In S Group there is a Director who leads both the SOK Strategy and IT and Development. This Director is also a member of the SOK's Corporate Management Team. This way Business Strategy is extremely well aligned with IT Strategy.

The Director of IT and Digital Planning is a member of Chain management, Procurement and Logistics Business Unit's Steering committee. All CIO's are steering group members in their Business Area.

4.5 IT Governance

IT Governance consists of Structures, Processes and Relational mechanisms (De Haes, S. & Van Grembergen, W. 2020).

Structures include organisation structure, roles and responsibilities, committees for each division of the company. Processes consist of decision-making, as well as planning and monitoring such that IT policies are suitable to business needs. Relational mechanisms refer to communication, knowledge sharing, dialog and the exchange between IT and business.

In the case company, IT Governance with external Suppliers are well structured. This is because in IT Outsourcing committees, roles and responsibilities, Service Level Agreements (SLA), and many other obligations are agreed. There are regular, formal meetings on strategic, tactical and operational levels with clear roles and responsibilities between the parties. There are clear, defined processes for application maintenance,

development and reporting. There are several external suppliers involved so there are several Governance in place.

What comes to the IT Governance between IT and Business, the situation is a bit different. On strategic level (SOK Corporate management Team) there are governance processes, structures and relational mechanisms in place. Same goes with tactical level (CIOs and their Business Area). When it comes to the operational level governance, the only governance there is between IT and external suppliers. Between IT and Business there are no agreed structures, processes or relational mechanisms unless we are talking about projects where the project management governance is clear. One reason for IT and Business lacking governance model on operational level may be the IT organization change causing the confusion in roles and responsibilities both in IT and Business side. When we are talking about application development on operational level, business contacts the person he/she knows from the past and order the work from her/him. This is done any informal way (email, chat, call).

5 Findings

The web survey was sent to 45 persons in Business and 23 persons in IT in the case company SOK. The overall answering rate was 47% (32/68), in Business 36% (16/45) and in IT 70% (16/23).

1. How do you feel that IT understands the business and business processes?

Both IT and business have common understanding on how well IT understands business and business processes. No one thinks that there are understanding lacking, or that there is good understanding through the whole organization. The understanding is on good level even though 18% (6/32) feels there is limited understanding (Figure 13).

On the scale 1-5, the total average is 3,25, among IT respondents 3,125 and among Business respondents is 3,188.

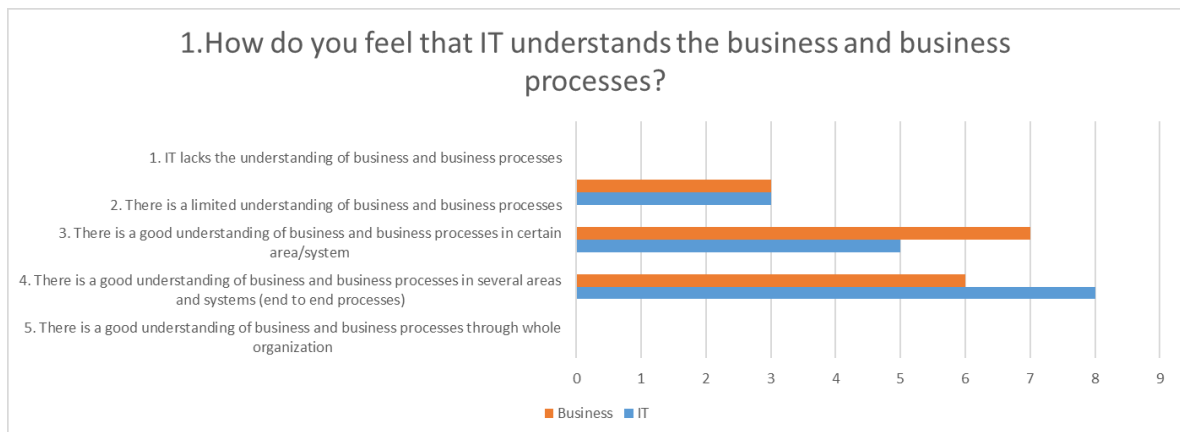


Figure 13. IT understanding on business and business processes.

2. Do you feel that IT should have better understanding of business and business processes?

Figure 14 shows how both parties agree that there could be better understanding of business and business processes. 88% (28/32) sees that the understanding should be better; 94% in IT (15/16) and 81% in Business (13/16).

Only 12% (4/32) see that the current understanding is enough.

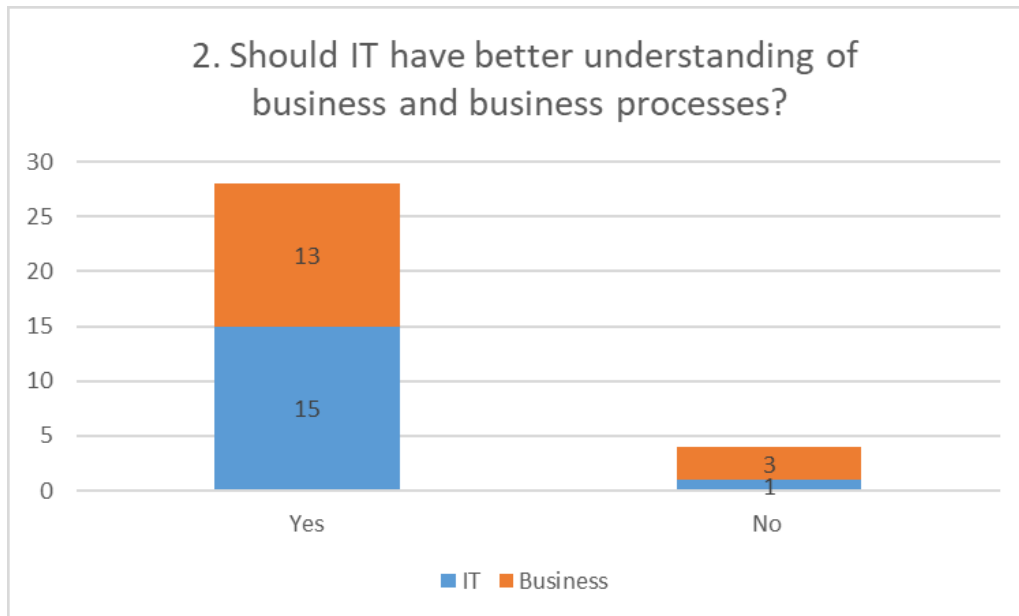


Figure 14. Need for better business and business process understanding for IT.

3. Why?

The reasons why IT should have better understanding of business and business processes:

“Communication between business and IT is sometimes difficult when IT speaks only technical and does not understand how business works and sees the same case. Development is more in risk as business need is not really understood. Requires more technical understanding from business stakeholders in order to be able to present cases to IT.”

“If you do not understand business end-to-end processes it is impossible to create value adding IT systems to support business targets. I think in most of the areas understanding in on a good level (even perfect level), but the main challenge is the system based knowledge, without end-to-end understanding.”

“To be able to define the IT systems/ setups on a way that they truly support the business functions”

“ Through better understanding of business and business processes IT can better support business and their processes and find solutions”

“Business processes are modelled in IT Architecture and systems. In order to be able to make business driven development in IT systems, IT should have wide understanding in business processes”

4. How do you feel that business understands the IT and IT processes?

Business sees that they understand IT and IT processes quite well compared to IT's view. 56% (9/16) from IT sees that Business is either lacking or has limited IT understanding. 75% (12/16) from Business thinks that they have good understanding in certain area/system or several areas/systems (Figure 15).

On the scale 1-5, the total average is 2,781 among IT respondents 2,5 and among Business respondents is 3,06.

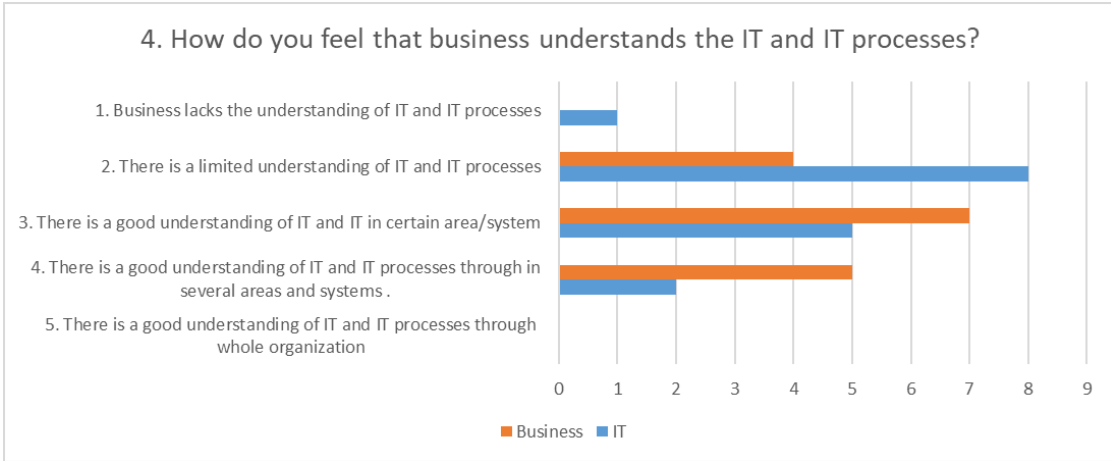


Figure 15. Business' understanding on IT and IT processes.

5. Do you see that Business should have better understanding of IT and IT processes?

Figure 16 shows exactly similar answers between both parties. 88% of all respondents think that understanding of IT and IT processes should be better in Business.

Only few persons see that there is no need for better IT and IT processes understanding on Business side.

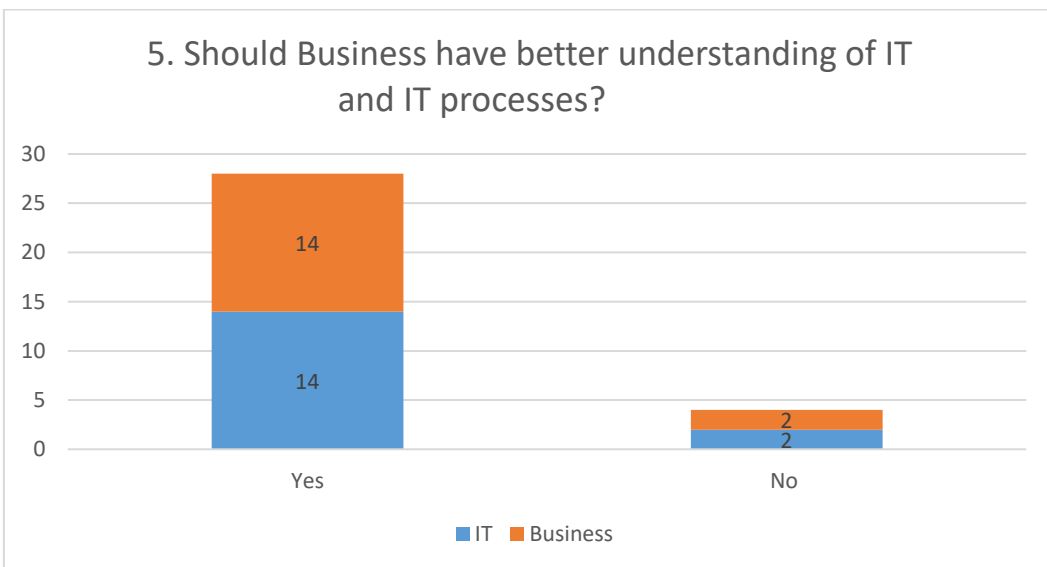


Figure 16. Need for better IT and IT process understanding needed for Business.

6. Why ?

Respondents who see the better understanding of IT and IT processes are needed from business explained it like this:

“When Business understands IT processes, their requirements for IT solutions are usually more realistic and IT development can be planned together. This helps awareness and facilitates continues development.”

“IT is an essential part of business and business processes, the tool and enabler.”

“To achieve a better cooperation, there should not be such division between Business and IT..”

Persons from IT who answered no, explained that Business should understand business and business processes and it is IT’s responsibility is to understand both IT and Business. In business side the view was that their task is to describe the business need and IT handles the rest or that end user do not have to understand IT.

7. How do you see the role of the IT?

50% (8/16) respondents see IT as a true partner creating value to the business. However only 31% (5/16) from Business feels the same way. What is good is that no one sees IT as a cost with little value creation to business (Figure 17).

On the scale 1-5, the total average is 3,47 among IT respondents 4,06 and among Business respondents is 3,5.

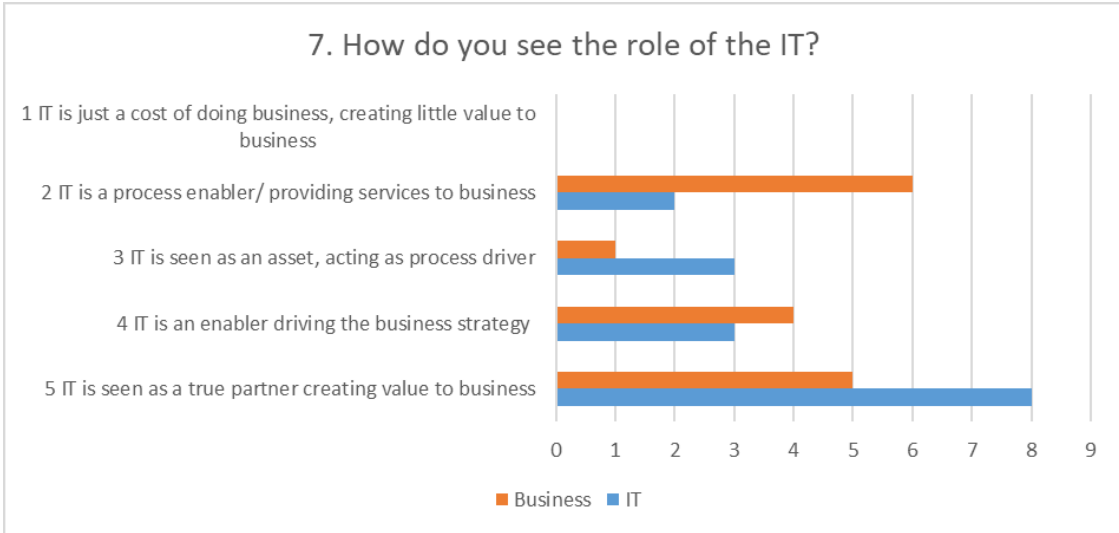


Figure 17. Role of IT.

- 8. What is the most common way for you to communicate with IT?
- 9. What is the most common way for you to communicate with Business?

Results for Questions 8 and 9 are shown the Figures 18 and 19 below

The results show that email is the main communication channel between Business and IT. Next comes formal and informal meetings. The most rarely used communication channel is call.

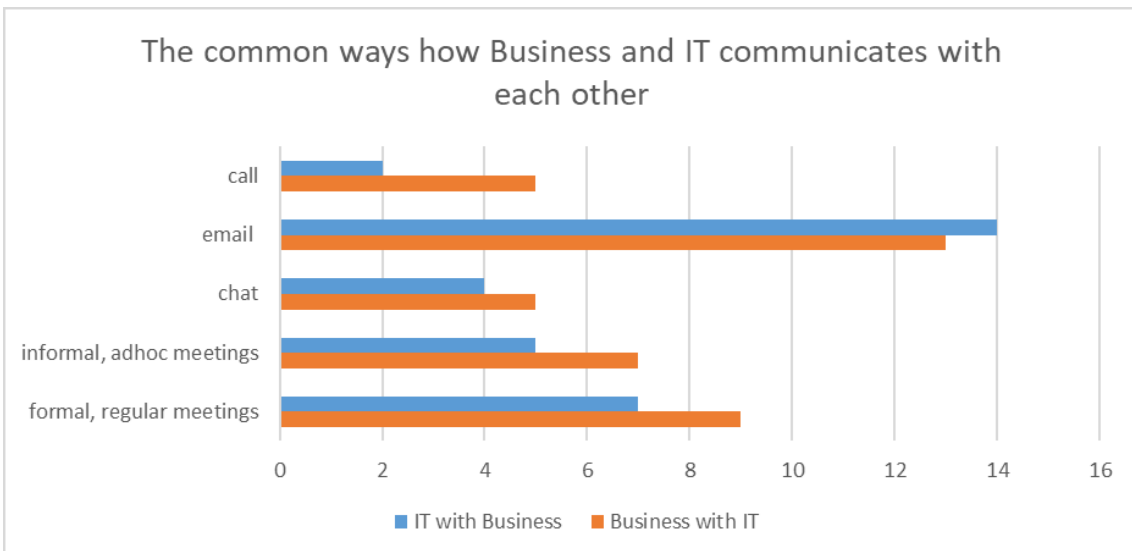


Figure 18. The ways Business and IT communicates with each other.

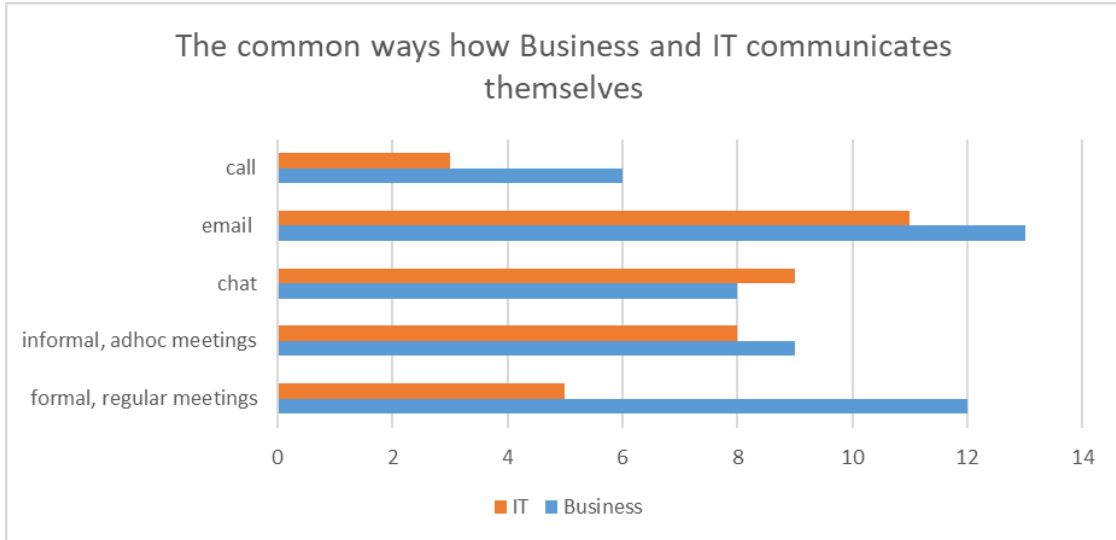


Figure 19. The ways how Business and IT communicates themselves.

10. How clear different Business roles and responsibilities are to you?

When asking how Business persons see their own personal role and responsibilities, all of them answered that it is clear. Overall 64% find Business roles and responsibilities are clear, and for 36% of respondents they are not fully clear (Figure 20).

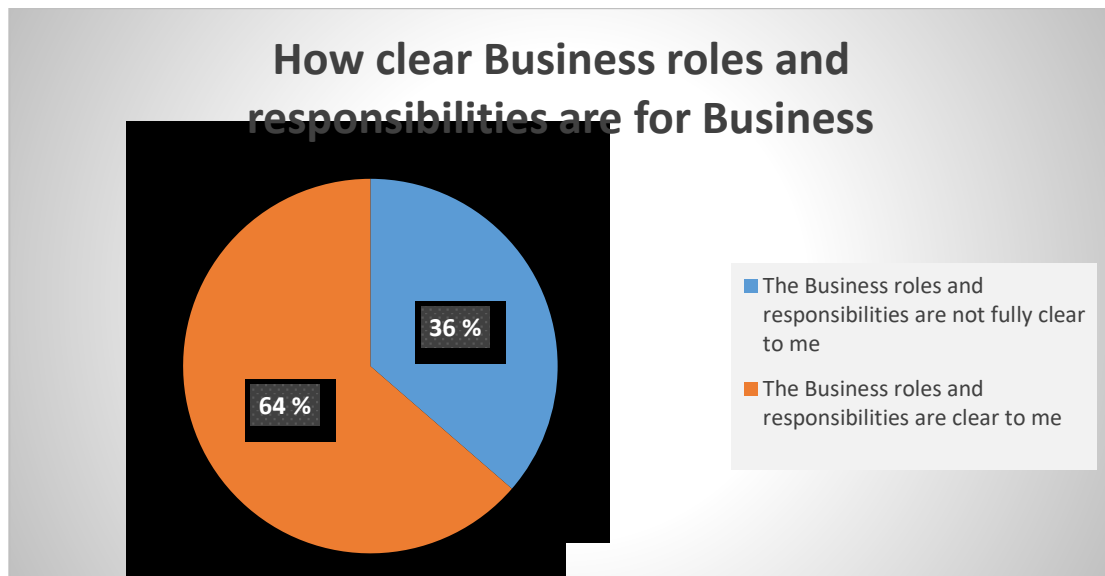


Figure 20. How well business understands Business roles and responsibilities.

Figure 21 shows that, business roles and responsibilities are not fully clear for most of the IT persons (69%). For only 31% business roles and responsibilities are clear.

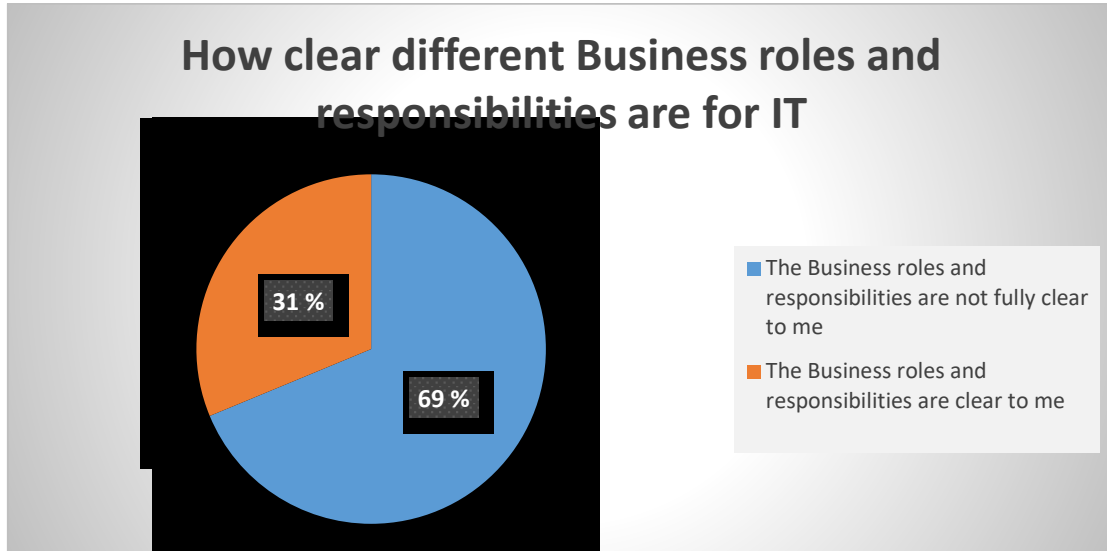


Figure 21. How well IT understands Business roles and responsibilities.

11. How clear different IT roles and responsibilities in IT are to you?

For IT respondents there were only one person (8%) who find his/her role and responsibilities not fully clear, for all others, own role and responsibilities were clear. In IT there are 55% of respondents for whom the IT roles and responsibilities are not fully clear (Figure 22).

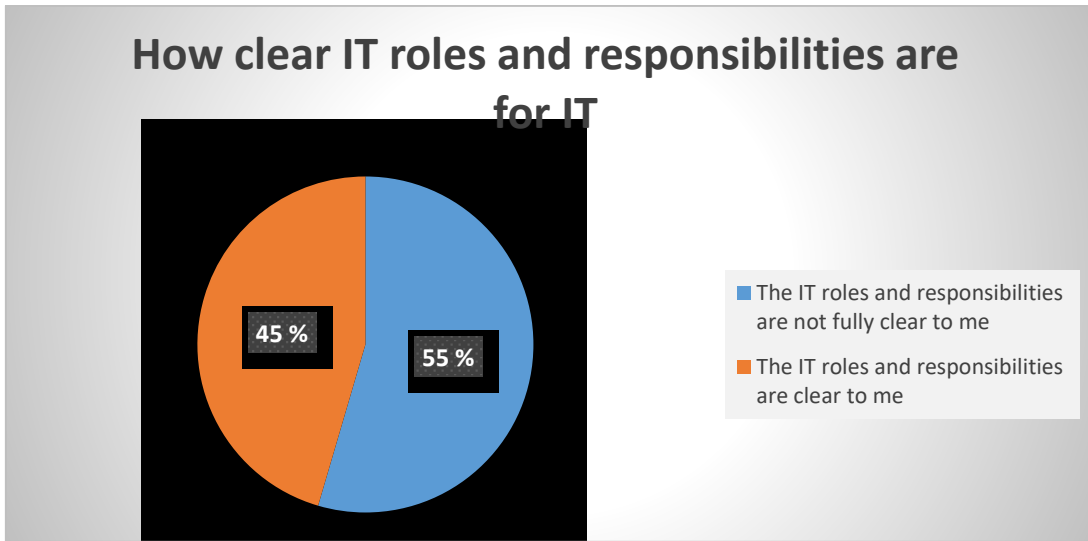


Figure 22. How IT understands IT roles and responsibilities.

Figure 23 shows how only for 20% of Business respondents the IT roles and responsibilities are clear.

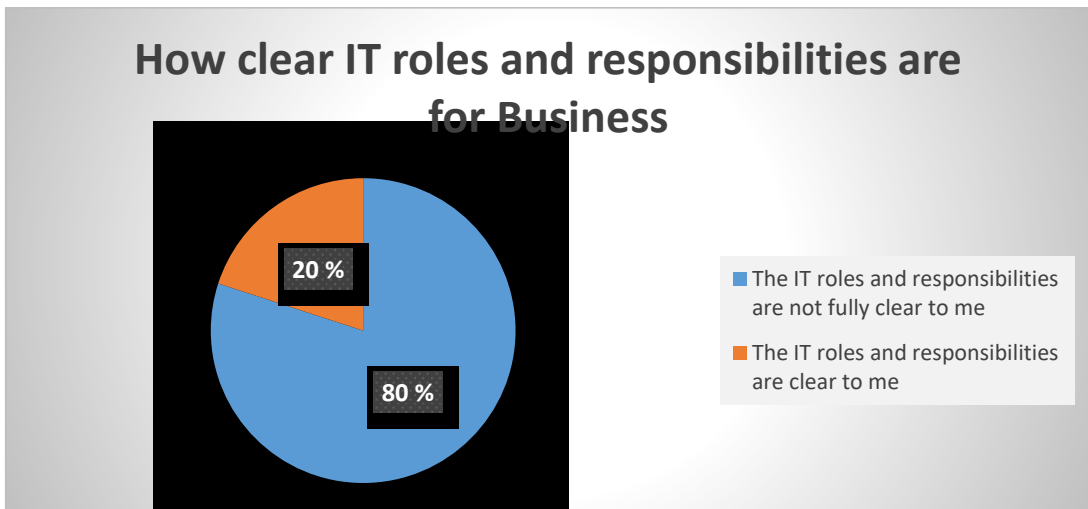


Figure 23. How Business understand IT roles and responsibilities.

12. There is a clear process in place to report production problems and to whom

75% from IT and 50% from Business respondents think that there is a clear process how to report production problems and to whom. For some reason there seems to be 25%

from IT and 50% from Business who either do not know the process or sees that the process is not clear (Figure 24).

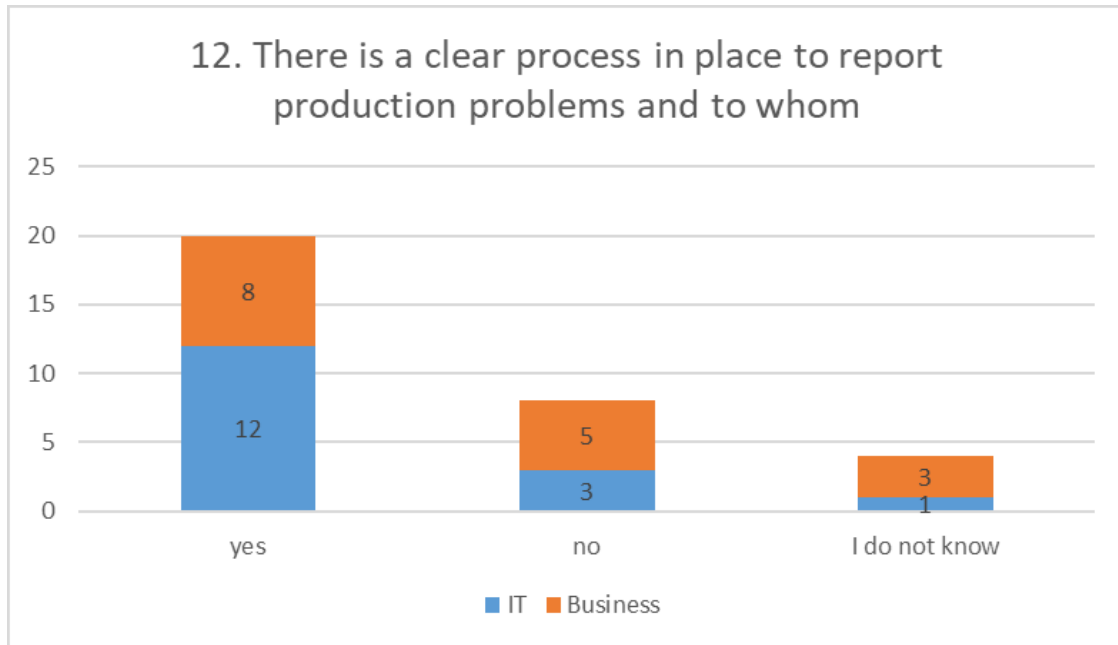


Figure 24. Clear process how to report production problems.

13. There is a clear process in place to order application development work and from whom

Same ratings from IT concerning the process how to order development work and from whom. 75% IT respondents finds there is a clear process. Business wise, there is only 38% who thinks the process is clear, 25% from Business do not know the process at all and 38% sees the process is not clear (Figure 25).

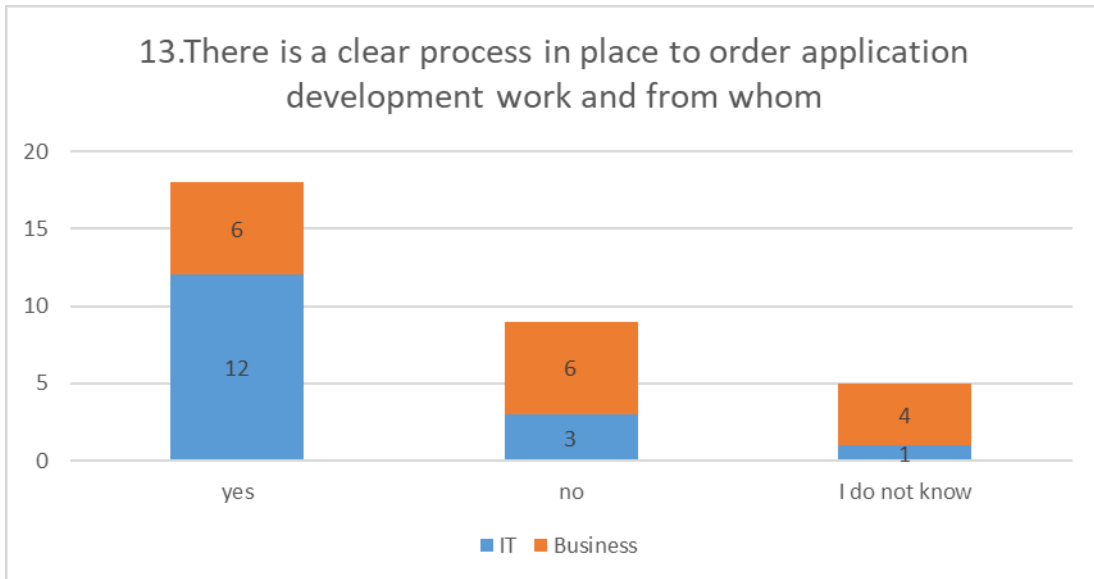


Figure 25. Clear process how to order development work.

14. There is a forum where Production and Development Services and Projects are reviewed (status, costs, prioritization, risk status, improvements, lessons learned, etc) between Business and IT

62,5% from IT has a forum with business where production and developments services and projects are reviewed. However only 19% from Business side had the same understanding. 37.5% from IT and 81% from Business do not have or do not know whether these kinds of forums are in place or not (Figure 26).

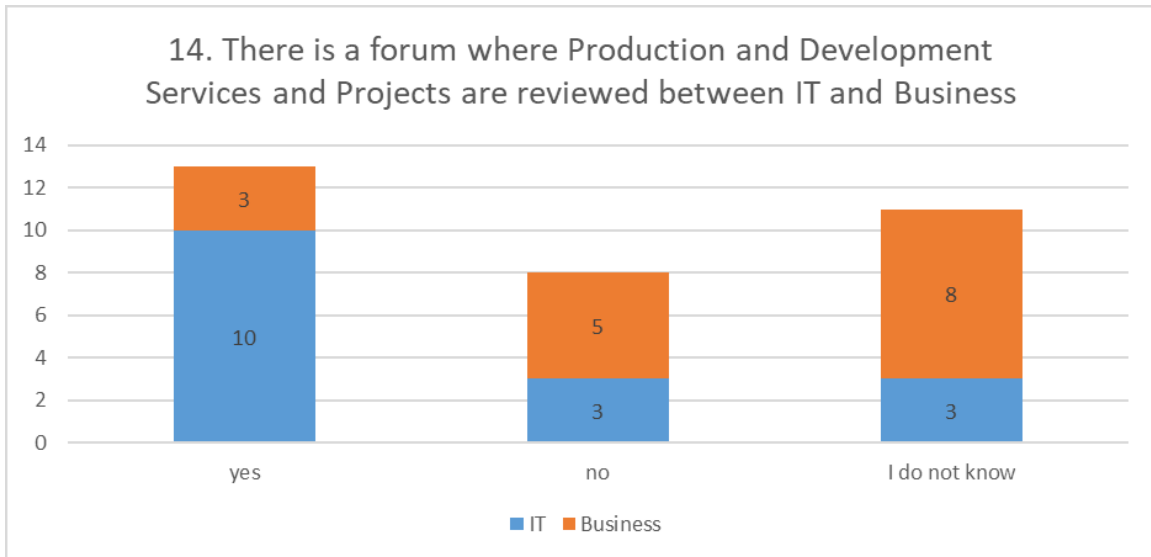


Figure 26. Common forum.

15. There are sufficient knowledge sharing activities between business and IT

What comes to the knowledge sharing between IT and business only 12,5% from IT and 25% from Business feels the knowledge sharing has been sufficient. 81% from IT and 56% from Business feels that there should be more knowledge sharing activities. One person from IT and there from Business do not know whether there is sufficient knowledge sharing or not (Figure 27).

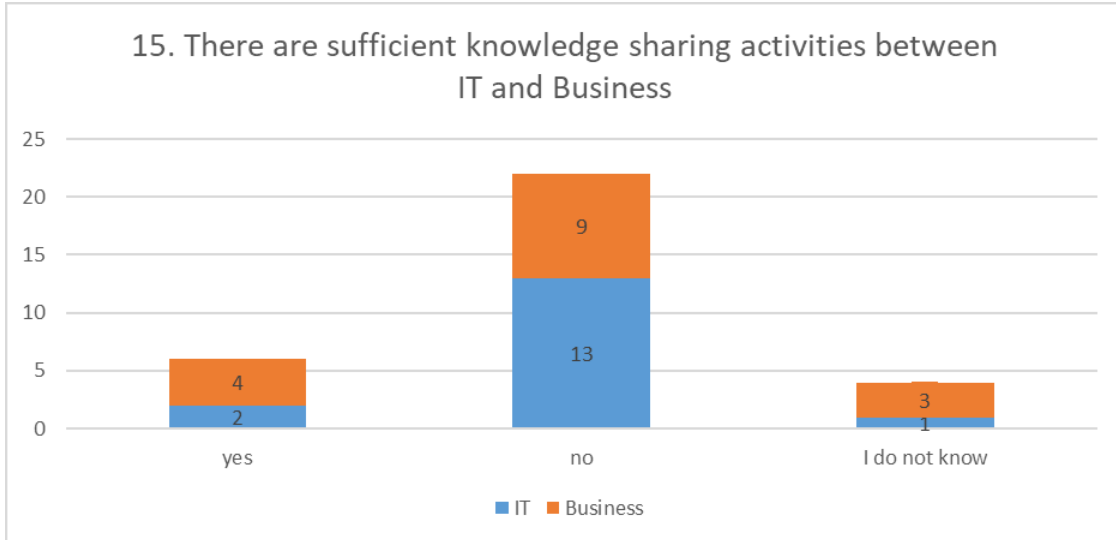


Figure 27. Knowledge sharing activities between IT and Business.

16. In your opinion what are the main areas where improvements are needed in cooperation between IT and Business?

Comments from IT

"From my point of view the cooperation between IT and Business is pretty vague. My contact with business is merely emails from business asking something to be done in the system or asking for advice. But a wider 'big picture' of business processes is missing."

"Communication of expectations and long strategy level business development areas."

"Improve knowledge sharing, incoming business developments, common understanding of prioritization and where to concentrate development resources"

"I would say that there are situations when business should involve IT a bit earlier when thinking about developing new features or systems so that IT could play more active role and bring their knowledge more efficiently."

"More communication about why and how, will enhance understanding both ways."

“Timing. IT should know earlier what changes are coming to business so that IT can evaluate whether they have an impact on IT and that IT has enough time to work out possible solutions.”

“Communication and understanding the roles and responsibilities.”

“Commitment of business in IT projects and development”

“Both side ability to take responsibility.”

“Defining processes together from the beginning, prioritizing different development tasks”

Comments from Business

“Project/Program management, it is not clear when the projects will start and what are the overall schedule, milestones and current status”

“More communication between business and IT on operational level, not only tactical level (management). To make sure both parties (IT and Business) understand the requirements and the solution.

“Understanding of roles & responsibilities and what are the decision levels”

“Knowledge, knowhow; IT vs. business, business vs IT. Role of IT vs business need to be clarified.”

” get right people on the case and common drive to solve the cases as a team. There is no communication between business and IT provider (would be some cases more beneficial to have the one that actually solves the case in the meetings)”

“Roles and responsibilities need to be clearer and regular information sharing needs to be better.”

17. Any other comments concerning cooperation between IT and Business?

Comments from IT

“Earlier on was a question about IT’s role in business. At the moment I see that IT is an asset for business, but could be enabler and (in some areas) driver for business development.”

“IT shouldn't be viewed as a separate entity, rather as integral part of driving business”

Comments from Business

“ I think that IT and Business should both learn about others’ ways of work, but the initiative should more come from IT side. I feel they could keep users and stakeholders more in loop on IT internal responsibilities. And they should make sure IT has needed level of understanding of business. It's quite hard for business to know who should know and what in IT.”

“Sometimes the cooperation between business and IT depends too much on persons/individuals. With some person cooperation works very well and with someone else I need to “justify” why I want to know and understand the details of IT solution because I have to communicate needed issues inside and outside our own organization and I can't do this without necessary information. “

6 Discussion

Based on the survey results there are several areas where improvement is needed.

The areas where both IT and Business see need for improvement are:

- IT/Business process understanding improvement
 - IT's understanding of Business and Business processes (question 2)
 - Business's understanding of IT and IT processes (question 5)
- Roles and responsibility clarification
 - IT's understanding of Business roles and responsibilities (question 10)
 - Business's understanding the IT roles and responsibilities (question 11)
- Process clarification
 - How and whom to report production problems (questions 12)
 - How to order the application development work and from whom (question 13)
- Collaboration
 - Knowledge sharing between IT and Business (question 15)

Even though the overall results concerning IT and Business process understanding were not bad, both parties agree that there is room for improvement. The understanding of the processes from end to end point of view is extremely important. Without understanding the whole process, there is a risk when something is changed in the processes, it may have negative impact on other part of the process. This is a real risk when there are processes going through several different systems with several integrations.

What comes to the unclarifications concerning roles and responsibilities and processes, better communication is needed to make sure that all relevant parties know the roles and responsibilities on both IT and Business side.

As the survey revealed majority of both parties see that more knowledge sharing and other cooperation is needed. In open comments more basic communication between

IT and Business on operational level was wanted, on some cases it is seen so that the cooperation happens on strategic or tactical level, but the operational level communication is maybe missing.

Based on the open comments, the main things IT wants from Business to improve the cooperation are commitment from Business in projects and development tasks, to know well in advance the long term strategic level business development plans, to get earlier involved when new development plans are planned in Business side and clear prioritization between different projects and development actions.

Business wants better understanding of roles; what the role of IT versus role of Business. The roles and responsibilities and decision levels also need clarification. Business would like to communicate with the service providers if needed to faster get the questions answered or problem solved.

These results show that there are certain areas that need clarifications and improvement to achieve better IT Governance and Business-IT alignment. The improvement areas can be found from IT Governance model by De Haes & Van Grembergen, 2020 under processes, structures and relational mechanisms (Figure 28).

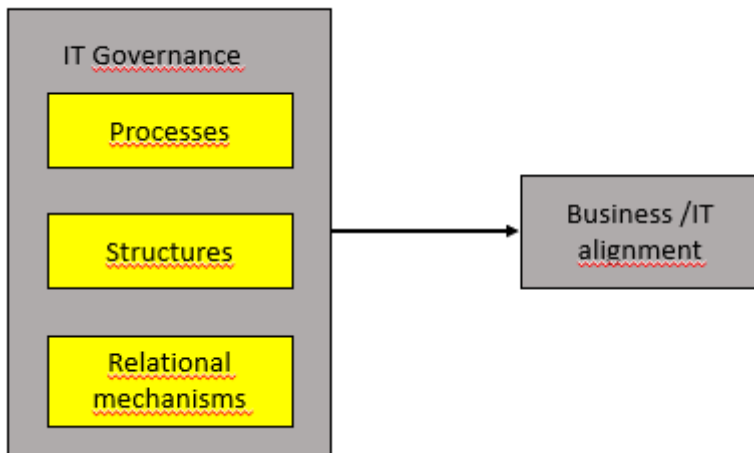


Figure 28 Case company Improvement areas in ITG

The areas that need improvement can be found also from SAM Model by Luftman, 2008 under components Communication, IT Governance, Partnership and Technology Scope&Architecture (Figure 29).

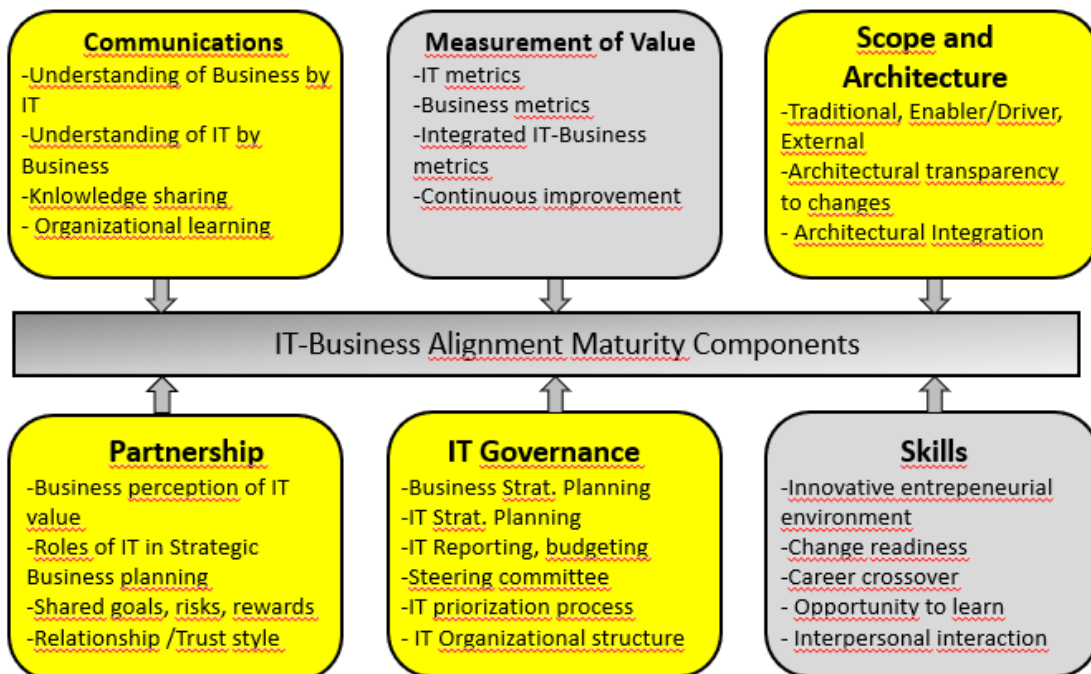


Figure 29 Case company improvement areas in SAM Model

As IT and business alignment begins and ends with good IT governance, this means that improving the improvement areas found, will lead to better IT Governance and Business-IT alignment.

7 Conclusions

IT governance deals with connections between business focus and IT management. The goal of clear governance is to assure that investment in IT generates true value to business. IT and business alignment begins and ends with good IT governance. Business-IT alignment is the fit and integration among business strategy, IT strategy, business and IT structures. Research has shown that organizations where IT strategies and operations are aligned with business strategies and operations seem to be more innovative in use of new information technologies.

The aim of this study was to find out the elements for a good IT governance, understand what are components and requirements for effective alignment between IT, Business and external service providers.

Three research questions were identified.

RQ1: What are the elements for a good IT governance?

RQ2: How to achieve real alignment between IT, business and external service providers?

RQ3: What are the drawbacks in the current IT governance?

The study was conducted first as literature review, following by a qualitative and quantitative web survey in the case company to find out what are the possible drawbacks of the current IT governance in the case company.

Result of the various research, IT governance can be deployed using a mixture of various structures, processes, and relational mechanisms. And depending how well these structures, processes and relational mechanisms are deployed, understood and used, the better Business-IT alignment there is in the company. It was understood that IT Governance has impact on Business-IT alignment. This answers to the research questions one and two.

The empirical part of the study was to collect data via web survey that was sent to Case Company's (SOK) IT and Business to find out what are the drawbacks in the current IT governance and Business-IT alignment. The survey was sent to managers and specialists. The survey revealed the main improvement areas like roles and responsibilities clarification, IT/Business process understanding improvement, knowledge sharing and process clarifications. These found improvement areas answer the research question three.

This study was limited to only one business area in the case company and the number of respondents was only 32 persons. However, the answers revealed the main improvement areas to be concentrated.

As a recommendation for the case company, next steps need to be planned. Business and IT need to go through together not just the changes in roles and responsibilities in IT side, but also covering the business and overall the role of IT and Business. Ideas how the cooperation and knowledge sharing can be improved should be listed and actions taken. After a 6-12 months, new survey could be done to see whether improvements are realised and we are on the right path.

As the web survey did not cover the components "Measurement of Value" or "Skills" in the SAM model, these areas could be investigated in the future in the case company.

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Appendices

Appendix 1. Survey questions for Business and IT

1.How do you feel that IT understands the business and business processes?

- IT lacks the understanding of business and business processes
- There is a limited understanding of business and business processes
- There is a good understanding of business and business processes in certain area/system
- There is a good understanding of business and business processes through in several areas and systems (end to end processes)
- There is a good understanding of business and business processes through whole organization

2.Do you feel that IT should have better understanding of business and business processes?

- yes
- no

3.Why?

4.How do you feel that business understands the IT and IT processes?

- Business lacks the understanding of IT and IT processes
- There is a limited understanding of IT and IT processes
- There is a good understanding of IT and IT in certain area/system
- There is a good understanding of IT and IT processes through in several areas and systems
- There is a good understanding of IT and IT processes through whole organization

5. Do you see that Business should have better understanding of IT and IT processes?

yes

no

6. Why

7. How do you see the role of the IT?

IT is just a cost of doing business, creating little value to business

IT is a process enabler/ providing services to business

IT is seen as an asset, acting as process driver

IT is an enabler driving the business strategy

IT is seen as a true partner creating value to business

8. What is the most common way for you to communicate with IT?

formal, regular meetings

informal, ad hoc meeting

chat

email

call

9. What is the most common way for you to communicate with Business?

formal, regular meetings

informal, ad hoc meeting

chat

email

call

10.How clear different Business roles and responsibilities are to you?

- My own role and responsibilities are not fully clear to me
- My own role and responsibilities are clear to me
- The business roles and responsibilities are not fully clear to me
- The Business roles and responsibilities are clear to me

11.How clear different IT roles and responsibilities in IT are to you?

- My own role and responsibilities are not fully clear to me
- My own role and responsibilities are clear to me
- The IT roles and responsibilities are not fully clear to me
- The IT roles and responsibilities are clear to me

12.There is a clear process in place to report production problems and to whom

- yes
- no
- I do not know

13.There is a clear process in place to order application development work and from whom

- yes
- no
- I do not know

14.There is a forum where Production and Development Services and Projects are reviewed (status, costs, prioritization, risk status, improvements, lessons learned, etc) between Business and IT

- yes
- no
- I do not know

15. There are sufficient knowledge sharing activities between business and IT

- yes
- no
- I do not know

16. In your opinion what are the main areas where improvements are needed in cooperation between IT and Business?

17. Any other comments concerning cooperation between IT and Business?