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Governance model for HR Information Systems

Kirsi Anturaniemi

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Henkilöstöhallinnan järjestelmillä (Human Resources Information Systems, HRIS) hallitaan useita liiketoiminnalle tärkeitä prosesseja, kuten palkkahallintoa, resurssisuunnittelua, ajanhallintaa sekä rekrytointia. Henkilöstöhallinnan järjestelmillä on vaikutusta liiketoimintojen päivittäisiin tehtäviin, lukuisiin käyttäjiin ja useisiin sidosryhmiin. Näiden järjestelmien yhtenäisyyden ja tarkoituksenmukaisuuden takaamiseksi tarvitaan kontrolloituja hallintamalleja.

Tämän opinnäytetyön tarkoituksena ja tavoitteena oli määritellä kirjallisuuskatsauksen pohjalta erityisesti henkilöstöhallinnan järjestelmille sopiva hallintamalli, ja toteuttaa se kohdeyritykselle.

Tutkimus toteutettiin toimintatutkimuksen menetelmin. Teoriaosa kerättiin kevään 2014 aikana, ja kehityssyklit toteutettiin huhti - lokakuun 2014 aikana. Tiedonkeruu toteutettiin haastatteluiden, prosessikävelyiden sekä dokumentaatioon tutustumisen kautta. Hallintamallin rakenne luotiin kirjallisuuskatsauksen pohjalta, josta lopputyöntekijä johti edelleen täydennetyn mallin rooleineen ja vastuineen kohdeorganisaatiolle. Huomattavaa kuitenkin on että tutkimuksen toteutus tehtiin hyvin lyhyessä ajanjaksossa, jonka takia myös tutkimustulosten vaikuttavuuden ja pysyvien tulosten arviointi on epävarmaa.

Kirjallisuuden ja aiemman tutkimuksen valossa kohdeorganisaation henkilöstöhallinnan järjestelmien hallinta oli jo entuudestaan kohtuullisella tasolla, mutta tässä työssä luotu systemaattinen rakenne tuo hallintamalliin parempaa ryhtiä. Kuitenkin joitakin kehityskohteita ja -ehdotuksiakin löytyi, mm. liittyen teknologiseen tulevaisuudensuunnitteluun sekä liiketaloudellisen hyödyn laskentamallien kehittämiseen.

Asiasanat
Tietohallinto, corporate governance, ohjaus, mallit

HAAGA-HELIA
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Abstract

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Human resources information systems (HRIS) manage various key processes in business operations; like payroll, resource planning, time management, and recruiting. HRIS systems have daily impact in business operations, numerous users and various stakeholders. For the sake of unity, the HRIS entity needs controlled governance.

Purpose of this thesis work was first to define general elements of a IT governance model and evaluate specific requirements for governance regarding HR information systems management. This evaluation was done against literature review and previous researches. Based on theoretical base, target was to create and implement a HRIS governance model for the target company.

This research was conducted as an action research. The theory part was collected during spring 2014, and development cycles were conducted during April - October 2014. Data collection for the development cycle part was carried out using interviews, workshops, process walk-troughs and documentation reviews as research methods. The structure of the governance model was formed based on the literature review, and thesis writer created company-specific model with nominated roles on top of the generic skeleton. However, short duration of the development cycles give place for questioning the study results, as action research in general aims to produce permanent results and sustainable changes.

Based on the evaluation and assessment done against literature, the HRIS related governance in the target company is on moderate level. Governance model which was planned in this research will bring HRIS governance better discipline. However, some development items were identified in thesis and recommendations made for the company, which were documented in thesis results. Development items were identified for example concerning organizing technological roadmapping and developing business case calculation models.

Key words
IT management, IT governance, corporate governance, models

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1 Introduction

Role of information management and information systems in business operations grow rapidly. IT systems are increasingly important in any organizational processes, and essential elements when producing products and services, both for internal and external customers. At the same time, technological evolvement is progressing in ever-accelerating pace, and new technological inventions provide opportunities for developing business processes in extent which only rare companies are capable of fully utilizing.

This same applies on to area of support processes in business. For example, financial or human resource management relies nowadays heavily on IT systems and automated processes which those systems provide. IT systems can at their best provide support functions cost-savings, process improvement, and even competitive advantage, if well mastered. On the other hand, poorly developed or maintained systems can bring a lot of harm like cluttered processes and fragmented data. It becomes increasingly important that IT systems are developed and maintained from business perspective, for business stakeholders and for business purposes.

For me, the interest for this topic as my thesis work came from my own work experiences, as I have been working in development, implementation, maintenance and support of different Human Resources information systems for last decade. HRIS entities in international companies are often complex multi-system environments, and they involve many parties, processes, end users, interfaces and integrations. For someone involved in such complex system implementations, it is important to understand what principles, policies and guidelines should steer, guide and control system related operations and development. Ultimately, any HRIS investments should bring organization value, but how to define that value and who should decide what is done for achieving the value; that interests me the most.

Targets for this thesis work are to define

- what would be suitable HRIS governance model for HR systems and related processes for the target company and

- how HRIS governance model is fitted to overall IT governance model in target company.

As I work in the target company and I am closely involved in developing and maintaining both HRIS systems and the operating models around them, I chose the research method to be action research. This method provides me opportunity not only to understand what the elements of successful governance are and create theoretical model for executing governance, but also gives opportunity to develop regular governance practices in the target organization that I know well, which is a big motivator for this thesis. It is rewarding to be able to connect thesis findings directly to reality and daily operations.

2 IT governance model

In brief, IT governance means the decision-making and accountability framework which is set up for encouraging desirable behavior in using IT. IT governance focuses on how IT as resource is managed and used in order to achieve organizational goals, visions and values, in compliance with broader corporate governance principles. (Weill & Ross 2004, 2.)

IT governance should set principles for organizing, evaluating, prioritizing and guiding all ICT related tasks, operations and development actions. Well-organized governance requires also comprehensive communication and clear, well-defined roles and responsibilities. IT governance model defines tasks, responsibilities and decision-making models and –bodies related to managing IT resources, and reporting and measurement practices and guidelines, both inside IT organization and between IT and its stakeholder groups. Governance model also guides IT management by setting policies, guidelines and principles, which are based on best practices. Governance model includes e.g. setting information security policy, sourcing policy, architecture principles and guidelines, service management models and project and program management models. (ICT Standard Forum 2014.)

IT governance includes the decision-making processes and evaluating IT organization's ability to meet the objectives. Good IT governance harmonizes decisions and management of IT with desired business targets and objectives. (Weill & Ross 2004, 14.) Governance is about how decisions are made, sponsored, enforced and how results are measured, and is a foundation for realizing business value from IT operations and investments. The goal for governance is to make sure that the aligned issues, which were defined by business and IT, are actually getting done on strategic, tactical and operational level. (Bhatia 2012, 207.)

IT governance happens in different levels of organization. The structures, processes, metrics and tools for IT governance flow from the corporate level. Top management, business management and IT management delegate goals, tasks and responsibilities to line managers and furthermore to specialists and other employees. Targets and respon-

sibilities need to be aligned throughout the organization, from top to bottom, and also possible outsourced partners and service providers need to act according to these common goals and frames. However, the role of top management is essential in governance. For successful IT governance, it is essential to gain commitment from top management to align business requirements with IT activities, ensure resourcing and organizing transparent management models which support governance. Management sets an example with their own behavior, and it encourages and engages personnel to implement governance in everyday tasks. (Bhatia 2012, 208; Dahlberg et al. 2006, 7-8.)

The value proposition of IT governance is that it ensures organization will get incremental value from IT in simplest possible way in relation to complexity and size of the organization, and in most cost-efficient way (Dahlberg et al. 2006, 28). Good governance design enables organizations to deliver excellent results on their IT investments (Weill & Ross 2004, 3).

Developing IT governance model consists of two parts (Dahlberg et al. 2006, 60):

1. Developing IT governance as part of corporate/enterprise governance
2. Developing ability and readiness to execute IT governance

So it is not enough alone that IT governance itself is developed; also organization's capability to understand and implement governance actions needs to be developed at the same time (Dahlberg et al. 2006, 60).

Developing IT governance as part of corporate governance requires aligning governance operations, evaluating current state of governance and defining target state, and prioritizing and setting responsibilities for development actions (Dahlberg et al. 2006, 60). Also, agreeing on decision-making authorities regarding IT matters and investments is part of aligning business and IT (Dahlberg et al. 2006, 64).

In the following chapters are presented two general IT governance models.

2.1 COBIT

Probably most well-known IT governance model is COBIT (Control Objectives for Information and Related Technology), which is maintained by Information Systems Audit and Control Association (later ISACA). COBIT offers a framework for managing, controlling, monitoring and measuring IT resources. First version of COBIT was published in1996; currently newest is version 5 which was established in 2012. (ISACA 2014.)

COBIT model includes "best practice" –based principles, management models and analysis tools. COBIT model aims to improve organization's trust to information systems and the data they withhold, and increase incremental value those systems provide to the organization. COBIT model can help organization to improve managing and monitoring data quality, utilizing IT in implementing business strategies, improving operational efficiency via technological solutions, managing IT risks, optimize IT related costs and support in information security management. (ISACA 2014).

COBIT is built upon five principles:

1. Meeting stakeholder needs
2. Covering the enterprise end-to-end
3. Applying a single, integrated framework
4. Enabling a holistic approach
5. Separating governance from management

(ISACA 2014).

COBIT process areas are divided to four categories:

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

(ITSMF 2014.)

COBIT works as a framework in strategic IT management, and it can be utilized also on auditing, process development and maturity level evaluations. COBIT as a methodology works together with ITIL, TOGAF and different kinds of project management models and frameworks based on ISO standards. Whereas COBIT guides strategic level, other frameworks guide tactical and operational level of IT resource management. (ITSMF 2014.)

COBIT framework combines technology, processes, business goals and governance. COBIT model bases on the needs of stakeholder groups in organization, and derives business goals based on those. Business goals lead to defining necessary IT processes. This way IT processes are built to support achieving business targets. (ITSMF 2014.)

The strength of COBIT model is that it is business oriented, but downside is that it is sometimes considered complicated, especially among business representatives. (ITSMF 2014.)

2.2 ICT Standard Forum

Finnish-based ICT Standard Forum is an international professional community. Purpose of this professional forum is to develop IT management framework called ICT Standard for Management. ICT Standard framework aims at helping organizations running their ICT operations business-like. (ICT Standard Forum 2014.)

ICT Standard framework includes its own governance model. Model aims to provide simple, clear and easily adaptable practices for leading IT operations. According to the model, IT should be managed as part of other business management, with strategic perspective and based on business requirements. (ICT Standard Forum 2014.)

ICT Standard governance model covers whole field of operations where IT is involved, not only IT management. Model consists of five areas:

- Cooperation with business
- Strategy and administration
- Sourcing and vendor management

- Project management
- Service management

(ICT Standard Forum 2014.)

IT must actively help business to identify their (strategic) needs, and find best possible solutions for those needs. On the other hand, IT must be able to recognize what is not unique for business and providing competitive advantage, and for those needs find cost-efficient standard solutions. IT should be able to tell business about new opportunities which developing technologies and new service models and applications provide. (ICT Standard Forum 2014.)

ICT Standard governance model defines ICT management related responsibilities, obligations, reporting and communication practices as well as the decision-making model. Those all are defined within the ICT function, but also between ICT and its interest groups. According to the model, IT management is responsible e.g. for planning and updating architecture principles, information security policies and sourcing policies. In addition, IT defines instructions and methodologies for service management and project management. (ICT Standard Forum 2014.)

Principles of international IT management standards and models such as ITIL and COBIT as well as best practices have been utilized when planning the model. However, the main focus in development has been to create practical, apprehensive model which is better scalable also for small and medium-size organizations. (ICT Standard Forum 2014.)

3 Human Resources Information Systems

Human Resources information systems (later HRIS) are defined by Kavanagh et al. (1990, in Thite & Kavanagh & Johnson 2012, 17) as a

> "system used to acquire, store, manipulate, analyze, retrieve and distribute information regarding an organization's human resources. An HRIS is not simply computer hardware and associated HR related software. Although an HRIS includes hardware and software, it also includes people, forms, policies and procedures, and data." (Kavanagh et al. 1990, in Thite & Kavanagh & Johnson 2012, 17.)

The primary purpose of HRIS is to provide timely and accurate HR information which can be used for variety of processes in strategic, tactical and operational level. Information can be used e.g. for planning needed employees in merger (strategic level), for evaluating policies or practices, e.g. effectiveness of a development program (tactical level) or supporting manager's daily operations, e.g. managing employee attendance (operational level). All processes require that information is of good quality, and stakeholders understand how to use the information. (Thite & Kavanagh & Johnson 2012, 17.)

HRIS are commonly built around traditional HR management tasks: registering employee and employment data, recruiting and selecting, training, managing compensation and employee relations. In general, purpose of HRIS systems can be divided in three categories: transactional, traditional and transformational. **Transactional** systems focus on record-keeping, for example administering employee records and maintaining payroll information. Transactional systems serve the need for managing legal and regulatory tasks. **Traditional** systems manage basic HR processes, e.g. recruiting, training, performance management or compensation management. If the outcomes of these systems and processes are aligned with strategic goal of the organization, these systems can also provide strategic business value for the company. **Transformational** systems are those which bring business value to organization e.g. by helping cultural or organizational change, strategic redirection, structural realignment, or increasing innovation. (Thite et al. 2012, 15.)

Most HR organizations spend majority of their time in transactional activities and only small portion of their time in transformational activities. One of the main purposes in developing, designing and implementing HRIS is to decrease spent time for transactional activities, and release time for traditional and transformational activities instead. Technology can improve the productivity of HR organization, when transactional tasks can be accomplished more efficiently. (Thite et al. 2012, 15.)

3.1 Value proposition of HRIS

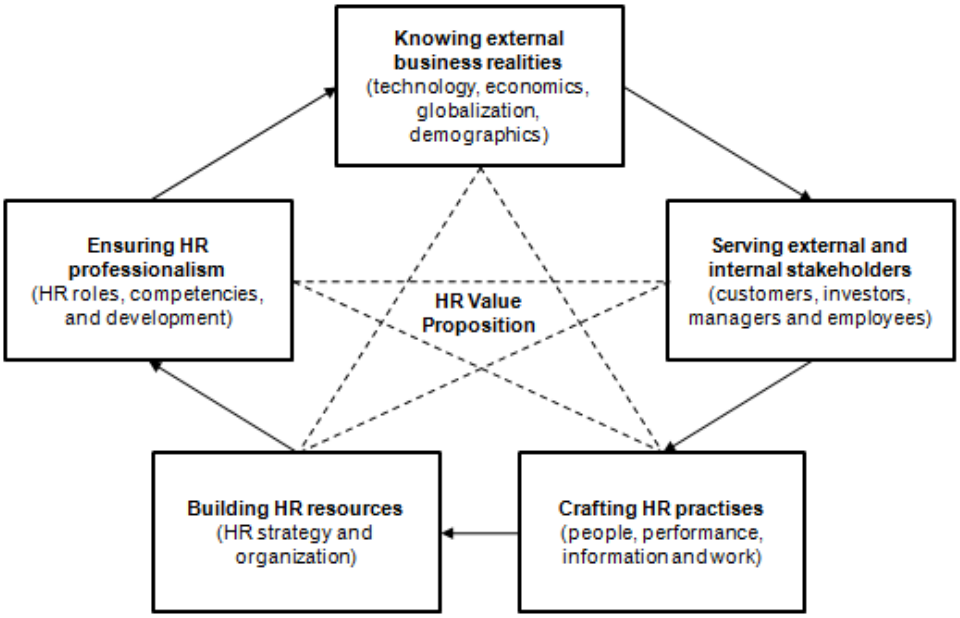
Business value of HR function in general (Bhatia 2012, 5) can be seen in:

- **Differentiation**: what makes our company unique to other employers, why employee would choose us as working place
- **Simplification**: commercialized internal services, standardized processes and systems with scalable business models
- **Execution** mastery: execution as a core capability

Value is defined by the receiver, not the giver, so HR must think about its value proposition with a focus on receivers. HR must define and understand who the key stakeholders whom they must serve are; to whom HR needs to bring value. HR actions and goals need to be aligned with those of the receiving stakeholders. HR needs to understand what is important to them, and what kind of value they expect to gain. (Ulrich & Brockbank 2005, 4.) This same perspective applies also in developing HR information systems. Business value of HRIS is on how they benefit the stakeholders and end users.

A holistic view of business value takes into account several stakeholders: shareholders, customers (service, quality), employees (commitment), business partners (synergies) and community (goodwill, corporate social responsibility) (Bhatia 2012, 12). All Human Resources work needs to start with the business stakeholders. HR must know who are the internal – an in the end also external – customers, and what are their needs and expectations. HR should also be able to create and enhance competitive advantage, be able to do something unique that competitors cannot copy easily. That can be for example organizational or human capabilities which are significantly better than of

competitors; in HRIS area that could be e.g. managing competencies utilizing HR information systems more effectively than any competitor, allowing business stakeholders to use those competencies as selling point to external customers. (Ulrich & Brockbank 2005, 6.)



Picture 1: The HR value proposition (Ulrich & Brockbank 2005, 10)

HR value proposition gets form from five elements described in above picture. First of all, HR function needs to recognize external realities (e.g. technological developmentt) and adapt HR resources and processes accordingly. Secondly, HR must understand values, goals and needs of its stakeholders. Thirdly HR must organize and manage people processes, practices and tools in a manner that they add value to stakeholders. Fourth point is that HR must have clear strategic planning process for aligning HR organization, actions and investments with business requirements, strategy and goals. Last point is that HR needs to build professionalism and competencies, and have clear and appropriate roles. (Ulrich & Brockbank 2005, 11-14.) These same principles need to be adapted also to all HRIS and their maintenance and development.

However, measuring the value provided by HRIS is complex. Tangible benefits of HRIS systems are typically efficiency in transactional processes like payroll, and reduc-

tion of labor costs due to automation of processes. Intangible benefits are less implicit; usually intangible benefits are employee or manager satisfaction with efficient and streamlined HR processes and freeing time from HR routines to more strategic, transformational tasks. (Thite et al. 2012, 19.)

Investments in HRIS differ from traditional investments in a company because HR is commonly seen as source of costs instead of source of revenue. Any impact that HR activities have on revenue are usually indirect, and a result of effective HR programs or practices which have been targeted to other units in organization. For example, effective training program for sales representatives may lead to significantly better sales and more revenue, but increase of revenue is classified as success in sales organization or operational unit, not as success in HR. Thus the effects of HR development activities are often seen as "soft" or indirect. One of the challenges in HR is to develop expertise for identifying and valuing indirect and direct benefits derived from HRIS investments. (Carlson & Kavanagh 2012, 184.)

HRIS cost and benefits analysis matrix (CBA) can be used for evaluating benefit and cost components in HRIS investment analyses (Carlson & Kavanagh 2012, 184).

Table 1. HRIS Cost-Benefit Analysis Matrix (Carlson & Kavanagh 2012, 185)

		Direct ("Hard")	Indirect ("Soft")
Benefits	Revenue enhancement	1 New revenue (new sales)	2 Improvement potential (better decision making)
	Cost reduction	3 Direct costs (canceled vendor contracts)	4 Potential costs (saved staff time)
Costs	New implementation costs	5 Out-of-pocket costs (software, service, agreements)	6 Indirect costs (increased technical support needs)

The HRIS CBA matrix consists of six key areas. Cells 1-4 represent sources of benefits, i.e. revenue enhancements and cost reductions, both direct and indirect. Cells 5 and 6 represent direct and indirect costs of implementation. Direct benefits and costs are traditionally easier to calculate and therefore more focus is put on them, but HR needs to learn how to evaluate or calculate value even for indirect parts, for example how

much end-user time can be saved on automating transactional tasks or how better lead times improve process efficiency. Simple and realistic evaluation of all six cells ensures that neither costs nor benefits are overlooked. (Carlson & Kavanagh 2012, 185.)

3.2 Future trends for HRIS

In last decades, information technologies in general have steadily evolved from main frames and client servers to internet and web interfaces. This same can be seen in HRIS area. Also evolvement of network communication technologies, mobile technologies, collaborative tools and service-oriented architecture (SOA) are rapidly shaping the future of HRIS. These new technologies are empowering managers and employees to share, deploy and use their knowledge and competencies for the benefit of the company. Developed technologies can help organizations to improve the use of human capital and gain competiveness on the market. (Kavanagh & Thite & Johnson 2012, 545.)

One trend which is clearly seen in HRIS is usage of cloud computing. More and more HRIS solutions are moving to cloud, at the head e.g. recruiting, talent management, performance management and compensation management solutions. It is seen that in near future cloud solutions may provide remarkable added value to people processes e.g. by leveraging social, mobile, and collaboration technologies. Cloud solutions can develop opportunities for HR professionals for creating connections with employees beyond extent what traditional on-premise systems are capable of today, e.g. using collaboration tools. (Kavanagh & Thite & Johnson 2012, 545.) HRIS system vendors also see this evolution. Even biggest traditional on-premise service providers, like Oracle and SAP, provide some of their solutions nowadays in cloud, whereas earlier people process solutions were available only in their core on-premise systems.

Using cloud systems is expanding rapidly. Ernst & Young Annual Global Information Security Survey found that 59% of organizations already keep some of their data in the cloud or are planning to do so (Foxall 2013). In the recent Towers-Watson survey regarding HR systems 9 % of responding organizations said they are using cloud-based HR solutions now extensively, 28 % are using it somewhat, 5 % are implementing a

solution, and 12 % are planning to use cloud-based solutions for HR. Clearly, with 54 percent of organizations using cloud-based HR solutions, implementing one, or planning to go toward the cloud this trend will definitely continue. (Towers-Watson 2013.)

Also development of enterprise portals, where end users like managers and employees can easily interact with corporate functions on any location and any device is part of this trend. Information portals or operational portals are effective tool for enhancing process execution and collaboration, and should be available and accessible from those locations and those devices that end users like employees and managers are using in their daily tasks. (Kavanagh & Thite & Johnson 2012, 548.) Intuitive "self-service" portals allow end users to perform the processes by themselves and integrate regular HR tasks as part of their daily routines, releasing time from HR transactional activities to more important issues (Bersin 2014, 3).

Another visible trend is utilizing the opportunities of mobile technologies. Based on recent Towers-Watson survey (2013) 11 % of organizations are providing mobile applications and even 25 % were planning to do so in near future (Towers-Watson 2013). Rapid expansion of mobile devices and smartphones is putting a pressure on developing HR applications which managers and employees can access using their mobile devices. This does not mean that development of traditional end user interfaces should be stopped; moreover that developing end user interfaces must take into account mobile technologies and scalability. Modern Web 2.0 standards and mobile technologies allow processes to be delivered to any device, any time, with intuitive and user-friendly interfaces. (Bersin 2014, 5-6.) HRIS solutions should utilize these opportunities.

4 Alignment of ICT and Human Resources

Traditional role for IT organization is to be a supplier or a service provider. In that role IT focuses on managing, prioritizing and evaluating development projects, maintaining IT infrastructure, managing application portfolios, negotiating service delivery agreements and managing vendors. Also the value of IT is often traditionally seen in how it supports or enables the business, **what** kind of applications or technology it provides. But equally, the value should be seen in how the IT is managed and **how** it can deliver services to business. (Bhatia 2012, 19-21.)

In this "how" role, being a business partner and business enabler, IT should focus on aligning IT with business for generating incremental value, reduce technological costs, manage enterprise risks and improve return on investment (ROI) by predictable implementation and delivery of business solutions. Aligning business with IT can be promoted by joint decision making models, developing technology-based growth strategies, and enhancing enterprise integration. (Bhatia 2012, 19.)

Aligning IT and business efficiently begins with managing program and projects, maintaining IT infrastructure, rationalizing application portfolio and managing service delivery. Then alignment continues to more strategic areas, as to generating incremental value, managing enterprise risks, reducing technology costs, and developing technology-based growth strategies. (Bhatia 2012, 34.) In the end, successful partnership ends up to IT being both enabling and influencing the corporate business strategy (Weill & Ross 2004, 148).

Aligning IT with business targets does not require separate processes. IT related matters can and should be included in ordinary processes and planning methods. For example, IT perspective can be included in strategic planning, annual planning, service development and action planning. (Dahlberg et al. 2006, 45.)

Three main components of business-aligned IT strategy are following:

1. Doing the right things: aligning business and IT
2. Doing those things right: integration of processes and tools to the IT systems

3. Maintaining the health of the asset portfolio: IT asset optimization.

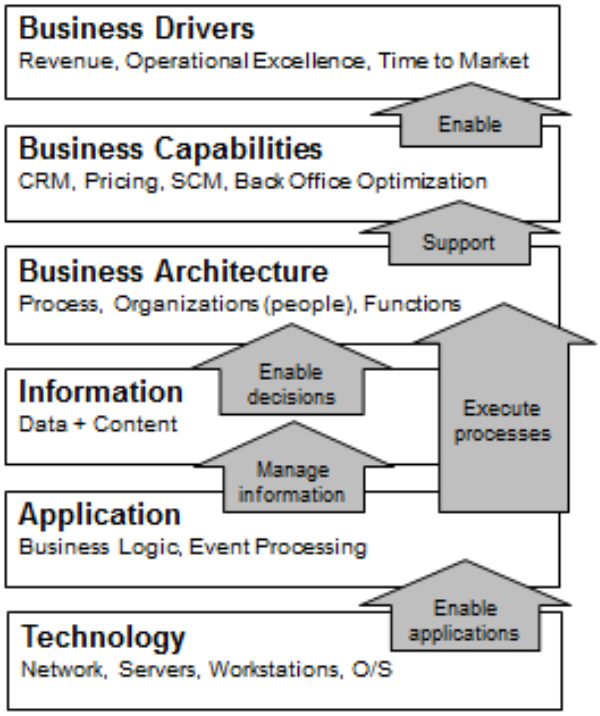
(Bhatia 2012, 29.)

Alignment and integration are based on common understanding within organizations about what are the business imperatives for the company. Business imperatives set key priorities and provide direction to decisions; they set strategic requirements. Those business imperatives define the goals and outcomes which business must achieve to support corporate strategy. Key questions to consider in alignment are: What are our strategic intents? What are the core business processes? What are the applications, solutions and infrastructures that support these processes? How do we enable our strategy? How do we measure performance? (Bhatia 2012, 38-39.)

Business imperatives provide the basis for developing IT, and measuring the impact of capabilities and solutions IT provides. Business imperatives must clearly state the strategic requirements which organization should try to carry out. Business imperatives should contain (Bhatia 2012, 39):

- Strategy statements
- Measurable, time-bound goals
- Business priorities for achieving the goals
- Business challenges for reaching the goals

Business capabilities represent organization's ability to create value. Capabilities integrate people, processes and technology to organization's strategy. (Bhatia 2012, 40.)



Picture 2: Business capabilities driving IT capabilities (Bhatia 2012, 41.)

Improving **process capabilities** focuses on creating more value to process customers, either external or internal. Characteristics for process excellence are e.g. that process adds value to customers, it eliminates waste, it has a documented design, it is simple but flexible, it compresses time, it has clear links to other processes, it is user friendly, it has a process owner, it is measurable and it is geared to some vision or golden rule to keep the focus right. (Bhatia 2012, 57-59.)

Developing **system capabilities** and agreeing on standards is most often done by utilizing Enterprise Architecture (EA) discipline. Enterprise Architecture consists of three areas: technology architecture, application architecture and information architecture. Technology enables applications to manage information, which enables running business smoothly. EA discipline helps to reduce costs in application development, testing and integrations, as well as in application management. When executed systematically, throughout time it will eventually improve IT productivity, IT budget utilization, system flexibility, scalability, performance, simplicity, reliability and interoperability, which furthermore leads to improved customer satisfaction. (Bhatia 2012, 93).

Developing **organizational capabilities** begins with recognizing and understanding the operational model and structural composition of organization, and executing effective change management (Bhatia 2012, 104).

It is to be noted that aligning IT and business is affected by personal beliefs and notions of those people who participate in decision-making. For example earlier personal experiences and IT related news in media affect those beliefs and create expectations and preconceptions. These beliefs and notions underlie below decisions. Also, because of ever-changing technological terminology, numerous abbreviations and abstract matters, business management, like HR leaders, often finds it difficult to make IT related decisions and feel being out of their comfort zone or expertise area. (Dahlberg et al. 2006, 38.)

4.1 Cooperation between IT and Business

Successful alignment requires cooperation and communication between business stakeholders and IT organization. Business Relationships Management (BRM) is a concept originated from ITIL. Goal of BRM is to set up a layer in between end users and IT operational units, providing communication interface between customer organization and delivery organization. This layer should have clear objectives, roles and accountabilities, and each role should have skills profile defined. The overall business relationship is owned by IT organization. The objective of BRM is to manage IT as business, which has relationships to (internal) customers, in target to deliver better service at lower cost. Work should be driven by business requirements, and defined in and measured with business terms. (Bhatia 2012, 202-203.)

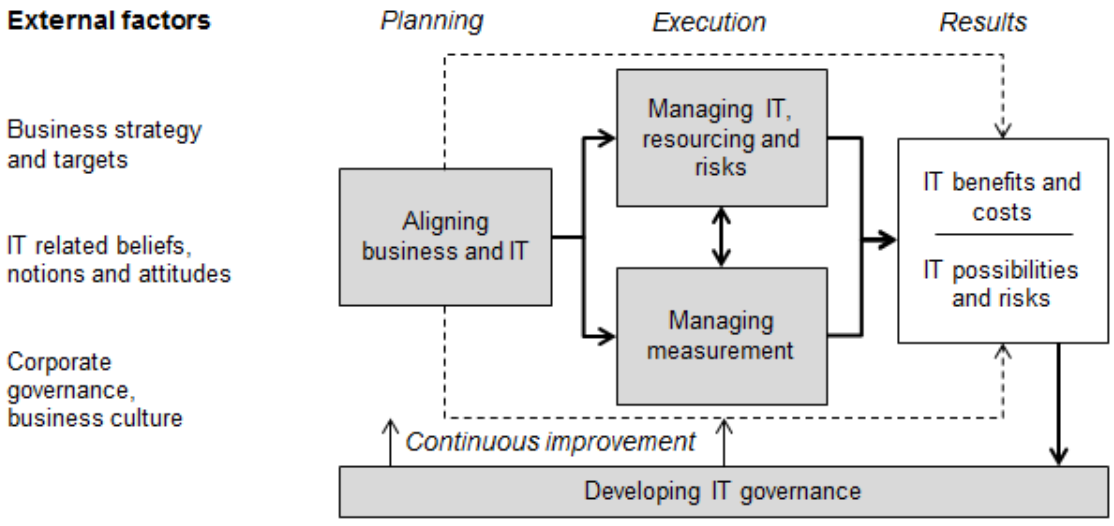
The role of this organization is to manage the relationship with business stakeholders, ensure service delivery, ensure gaining value from investments and identify IT innovations for business. Related activities are for example strategic planning (IT vs. business), IT performance reporting, engagement planning, and issue and escalation management. Typically, IT as service provider and internal customer have regular service reviews, where they discuss about changes to service scope, SLAs and customer satisfaction. Service provider should also have a named individual or individuals who are

responsible for managing business and customer relationship process. (Bhatia 2012, 204.)

4.2 Measuring IT governance

Similarly as in HRIS area, in general on providing business value with IT technologies the difficulty is that IT solutions usually are not seen as services, and therefore not designed and managed as services for customers. Instead IT management focuses often on efficiency and cost savings. Consequently customers fail to see IT as service provider, in their view IT is an administrative function instead. (Bhatia 2012, 199.) Also, in many cases the value which IT provides cannot be seen directly in increase of cash flow or as incremental process improvements, instead IT might improve ability to respond to competitive pressures or market movements, which cannot be as clearly demonstrated. (Weill & Ross 2004, 16.)

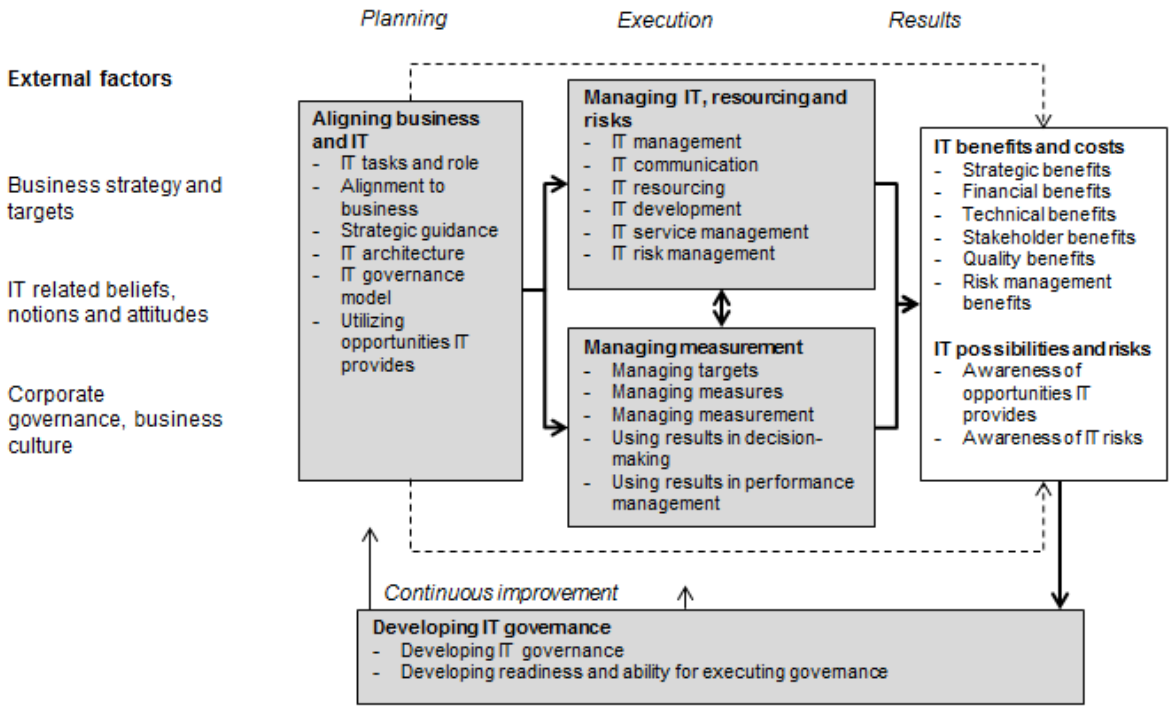
Picture below illustrates the model for developing and evaluating business-based IT governance. Model begins with alignment of business goals and IT, and continues to managing IT resources and risks. Measurement is essential part of the model: measurement should include measuring the results IT provides to business, but also ways how these results are achieved.



Picture 3: Model for developing IT governance (Dahlberg et al. 2006, 33.)

Measuring the value and results IT provides to business is challenging due to many reasons. For example, it is difficult to manage temporal differences between inputs and results, as IT related development actions many times require long period of time for implementation, and results can be measured only with delay. Also, it is difficult to isolate other organizational factors from results. For example, many times IT investments such as new application or IT service, success and results are affected by organizational change management, competences and culture. Many times also result is based on expected future value, for example quality benefits or strategic benefits. Therefore many times objective and measurable results are complemented with subjective perceptions and experiences of persons involved. (Dahlberg et al. 2006, 54-56.)

Measurement should include measuring the results IT provides to business, but also measuring management practices and control mechanisms. Following picture describes the objects for measurement (Dahlberg 2006, 75).



Picture 4: Objects for measurement in IT governance (Dahlberg et al. 2006, 75.)

When valuating statements, they are evaluated by what is the current level of operation or result, what is the target level, what is the benefit for the organization of gaining the

target level, what is the challenge of keeping up the target level and what is the weighting of that statement to the organization. When evaluating current state and target state, Capability Maturity Model (CMM) type of maturity level descriptions can be used. (Dahlberg et al. 2006, 75.)

Evaluating IT governance performance means assessing how well planned and modeled governance activities and arrangements encouraged desireable behavior, and that way lead to targeted performance results. Evaluating governance performance includes four subjects:

- is IT used cost-effectively
- is IT asset utilization effective
- is IT used effectively for growth and
- is IT used effectively for business flexibility.

When assessing governance performance, first the relative importance of those factors is identified and rated, and then performance on each of those areas is evaluated. Strong performance in all areas provides confidence in IT governance. (Weill & Ross 2004, 119-121.)

5 Target company

The target company for this thesis is a service company which is Finnish-based, but has operations currently in altogether eight countries in Northern and Eastern Europe. Company's turnover is approximately EUR 1 900 million annually, and it has around 24 000 employees in its payroll. Company operates its business under several different business groups, and it uses two commercial brands in operations.

5.1 HR and IT organizations

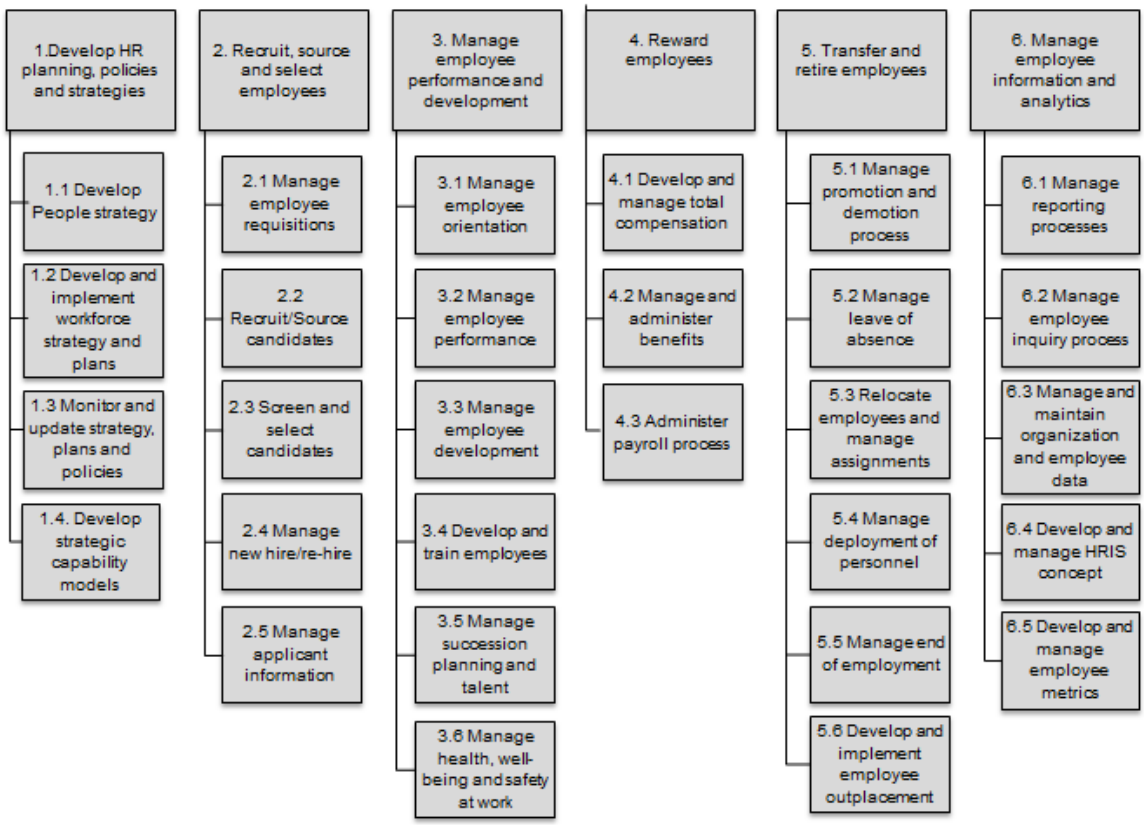
HR organization in target company is divided into three functions. Local HR is country-specific and offers general HR expertise and guidance for line managers and employees in different units, regions and countries. Local HR focuses mostly on legal and regulatory issues, such as employment agreements, time and attendance matters, union and labor agreements and compensation matters. Business Group HR is responsible for human capital management topics distinctive to each business line i.e. Business Group cross countries or regions, for example strategic competences or workforce planning related to each type of business. HR Solutions and Services develops and organizes HR processes, practices, policies, tools and systems, and provides 1st and 2nd level support for line managers and Local and Business HRs in matters related to HR processes, employment contracts, labor agreements, HR systems and tools and other practical matters.

IT organization consists of four cross-company units: Business Solutions, ICT Platforms, ICT Service Management, and Applications and Infrastructure Operations. In addition each Business Group has its own IT unit which is responsible for gathering business-specific requirements for IT concepts. ICT Platforms and Applications and Infrastructure Operations units manage common platforms, networks, hardware and workstations and other shared services. Business Solutions is responsible for solutions and applications, and ICT Service Management is responsible for service management and quality.

IT organization follows Business Relationship Management model (see chapter 4) in its cooperation with business. Business Solutions and ICT Service Management units are responsible for cooperation with internal customers, such as HR. There are also nominated account managers for each internal corporate function. IT also has a target to organize with internal accounts quarterly planning and follow-up sessions and regular service reviews for monitoring and discussing service quality, SLAs and internal customer satisfaction; however that practice has not been very systematically executed, at least not in HRIS area.

5.2 HR processes

HR function has quite recently described and documented all people processes. People processes are divided to six topics, each topic representing one distinctive people process entity. Each topic has several processes included, as presented in below picture.



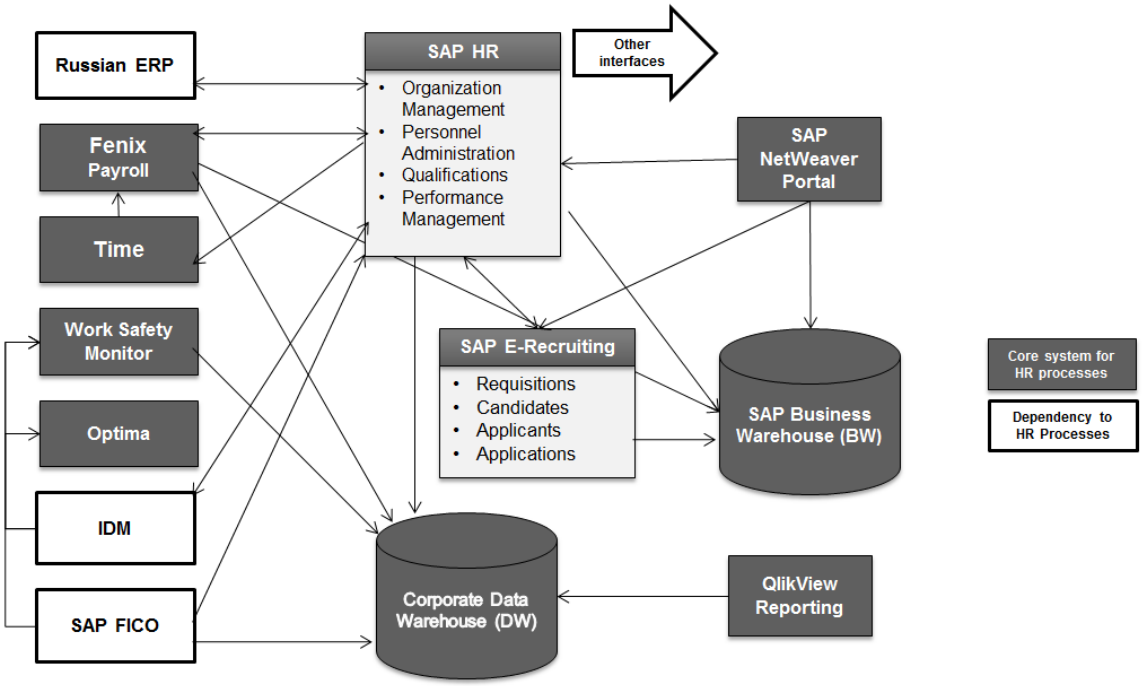
Picture 5: HR Process framework in target company

Although purely HRIS related processes are included under topic six "Manage employee information and analytics", almost all other HR process streams have relationship to HR information systems as well; like for example recruiting, performance management, safety at work, compensation management and payroll administration. It is important that HR processes and process participants provide necessary input when planning functionality, service or development of HRIS, for ensuring that HR information systems fit the purpose.

5.3 HRIS landscape

Target company's HR information systems landscape is shaped around SAP Human Capital Management (later SAP HCM) as core master data system. SAP HCM is a part SAP Enterprise Resource Planning (SAP ERP) system provided by German company SAP AG. SAP HCM has been in use in the target company since 2005. HCM module was first implemented only in Finland as a part of overall SAP ERP implementation. Also HR master data template was originally set up from Finnish perspective. Later in 2010, a global template for HR master data management was created, and SAP HCM was implemented in all company's foreign subsidiaries. (Anturaniemi 2012, 26.)

SAP HCM system in target company withholds currently employee, employment and organization data for all 24 000 currently active employees, and it acts also as an archive for information regarding terminated employments. SAP HCM is considered as a master system for HR master data i.e. employee, employment and organizational information in the target company. The SAP HCM solution has currently around 1 800 end users, ranging from managers and superiors to assistants and HR professionals. (Anturaniemi 2012, 26.)



Picture 6: Overall HRIS landscape

SAP E-Recruiting is used for managing internal and external candidate data and executing recruiting processes. Target company has strong seasonal variation in employee count, and it employs almost 4 000 employees yearly, mainly to fulfill seasonal jobs. E-Recruiting system is used by approximately 1 400 manager and HR end users, and approximately 40 000 candidates yearly.

SAP Business Warehouse (BW) reporting is used for reporting operational employee, employment, organization and recruiting data. All three SAP solutions SAP HCM, E-Recruiting and BW reporting are mostly used via SAP NetWeaver Portal. Portal is end user interface layer towards end user managers and assistants. Only HR professional users access SAP systems directly via backend system.

Workforce planning and scheduling and time and attendance management in production operations is managed by system called Time. Time system is based Workforce Management system provided by Infor, and it withholds time management data regarding 16 000 employees, and it has approximately 1 000 end users. Time is used for planning work shifts and resourcing, managing work time registering, and preparing time and attendance data for payroll.

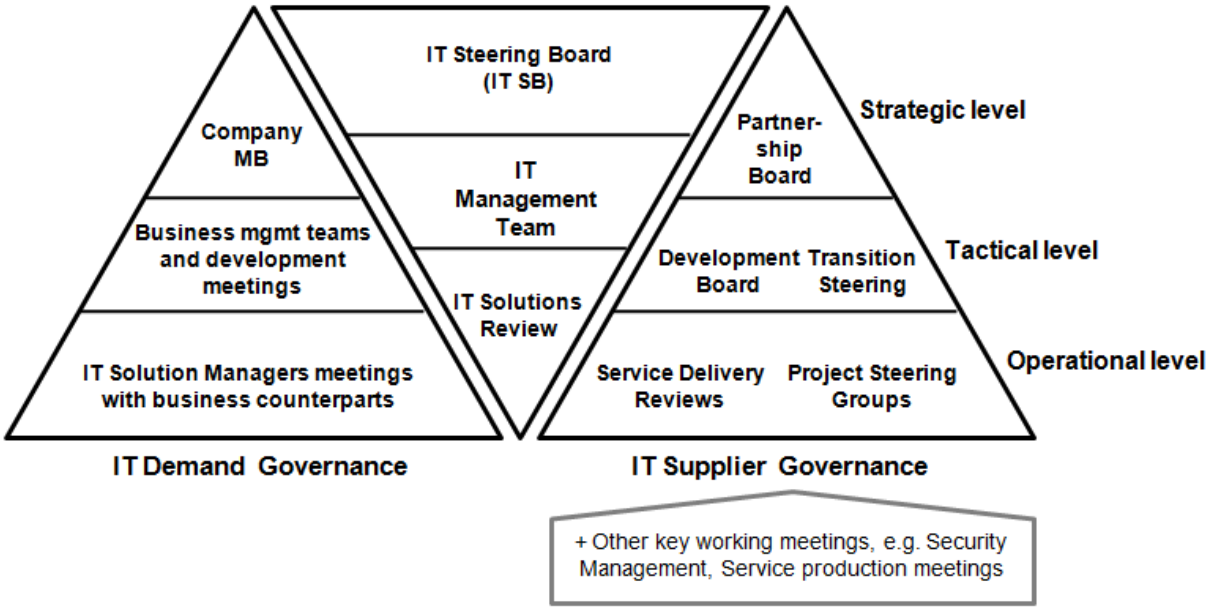
Both SAP HCM and Time are tightly connected to payroll system Fenix via interfaces. SAP HCM provides basic employee and employment data incl. scheduled working hours and wage factors, and Time system provides time and attendance data for payroll calculation processes.

HRIS entity includes also few smaller systems. Work safety monitor is used for registering work accidents, safety observations and preventive actions for enhancing work safety. Work safety monitor is available for all employees who have network ID, and it has approximately 3 500 transactions per year. E-learning platform is also available for all employees who have access to internal network in the company, and is used for online trainings and virtual courses. It has approximately 6 700 yearly users.

HRIS landscape has several interfaces and integrations. SAP HCM system has standard ALE integrations in use to other company's SAP ERP modules i.e. E-Recruiting, BW Reporting, Finance & Controlling (FICO), and CRM. There are also numerous outbound and inbound interfaces between SAP HCM and other internal and external systems, e.g. to purchasing, travel expense claiming and invoice management systems, and to systems related to production operations and resource planning. Also Time has several inbound interfaces (e.g. from Flexim and SAP HCM) and outbound interfaces (e.g. to Fenix). (Anturaniemi 2012, 27.)

5.4 Current state of HRIS governance

Target company has currently existing and valid IT Governance model, supported by related policies, practices, templates and document models. Both IT Governance model and related items are communicated in company intranet. (Anturaniemi 2012, 28.)



Picture 7: Target company IT governance model

In current model, main communication interfaces to HR as customer organization are quarterly HR - ICT meeting, service delivery reviews and project steering groups. However as mentioned, organizing service reviews has not been very systematic or regular lately. Also service level reporting has not been done adequately in recent year.

Currently valid IT policies and principles include for example Remote Access Policy, Network Policy, License Policy, Enterprise Architecture Principles, Mobile Policy/Smart Device Policy/Handheld Mobile Device Security Policy, SaaS Policy, Open Source Policy, Baseline Processes for Access Management, Information Security Policy, Business Continuity Management Policy and Compliance Policy. There are also several process guidelines existing, e.g. Change Management and Release Management instructions.

In addition to common IT instructions and policies, numerous rules of behavior have been made by HR specifically for HRIS users, both for end users and administrator users. There are instructions and guidelines existing e.g. regarding using sensitive personal data in HRIS and manager's work and guidelines for user rights and authorizations in HR information systems. Most of the instructions are available for users in company intranet and document management systems. (Anturaniemi 2012, 28.)

Company uses outsourced external maintenance partners for all system maintenance tasks. Partners operate both in Finland, elsewhere in Europe but also outside EU countries. Target company follows ITIL practices in system maintenance and monitoring processes, as well in system development and change management ITIL best practice methods are followed and company's project management model used. Development services are sourced from trusted vendors instead of having internal developers or basis consultants. All changes and releases are tested after development in separate test environments before they allowed to be released into production environments. New functionalities are taken into production according to a pre-decided release schedule, and by following Release Management processes. (Anturaniemi 2012, 27-28.)

5.4.1 Roles in current IT governance model

Current IT Governance model has clear roles and responsibilities defined between Supply Organization (IT) and Demand Organization (in this case HR). In current operational model demand side i.e. HR has following responsibilities regarding HRIS:

- Completely responsible of content and integrity, both regarding data and functionality
- Creating key user organization
- Maintaining the end user manuals/instructions
- Approving user access to production systems
- Functional requirements of small enhancements and recording Change Requests
- Approving functional solution, User Acceptance testing of fixes and changes
- Master Data ownership; authorizes using employee master data in interfaces

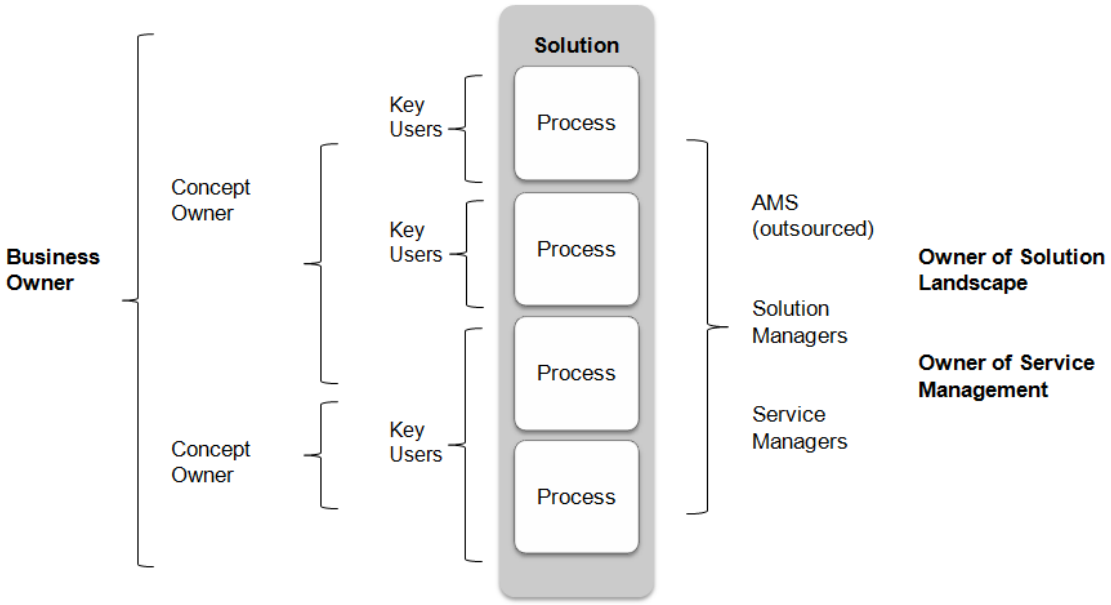
ICT i.e. supply side responsibilities regarding HRIS are following:

- Technical solution owner
- Ensuring service availability
- Accountable for IT service processes (user access management, incident process etc.)
- Ensuring solution lifecycle, e.g. technical upgrades

- Implementing small enhancements
- Vendor management

Exceptional cases, such as big operational changes are handled as projects, and responsibilities and resources are evaluated case-by-case.

Identified operational roles in current model are described in below picture, HR roles represented on left side and ICT roles on right side of the picture.



Picture 8: Roles in IT governance model

In current operational model, HR is obliged to occupy roles for **Business Owner**, **Concept Owner** and **Key User**. Business Owner role is the key counterpart for ICT in implicating business needs and developing IT strategy, answering the question "what is needed". Business Owner is accountable for ensuring that business processes fit for purpose, responsible for gathering and prioritizing business requirements, and responsible for providing resources to support and development activities on business side. Concept Owner and Key User roles are more operational, focusing on concept and service maintenance and development tasks.

Table 2. Operational roles in HR

Concept Owner	**Key User**
− Owns and maintains master data/solution concept − Understands business processes and business requirements, and dependencies of different processes inside business solution and with other services − Identifies and collates development needs and participates to classifying those − Key person to represent business needs in common support − Informs end users, key users and stakeholders about changes − Maintains Test Case library − Co-operates with Process managers, Corporate ICT and other Concept Owners	− First point of contact for end users in incidents − Knows the functionalities used in own area of responsibility − Records incidents detected by end users and participates to solving incidents − Knows the working methods of end user, advises and trains end users − Maintains the end user manuals/instructions − Gathers up development ideas from end users − Is end user's voice to Business Owner, Concept Owner and ICT Services − Approving functional solution -> creating UAT test cases and User Acceptance testing of fixes and changes

In current model IT is obliged to fulfill roles for Solution Management and Service Management. **Solution (Landscape) Owner** develops and directs solutions at an assigned IT sub area. Solution Owner acts in close cooperation with business and other ICT units, and has process ownership in process areas of business demand management, business service level management and service design. Solution Owner is the key counterpart for business in IT strategy and demand fulfillment, answering the question "how it is done".

Service Owner is responsible for IT services in general, and more closely common and business applications. Service Owner ensures efficient and optimal level services to business, acts in close cooperation within ICT and service suppliers, and has process ownership in the following process areas: Service Transition, Service Operation, Continuous Service Improvement and Operational Supplier Management.

ICT is also obliged to occupy operational roles of **Solution Manager** and **Service Manager** for each solution. Solution Owner leads the work of Solution Managers, and Service Owner leads the work of Service Managers.

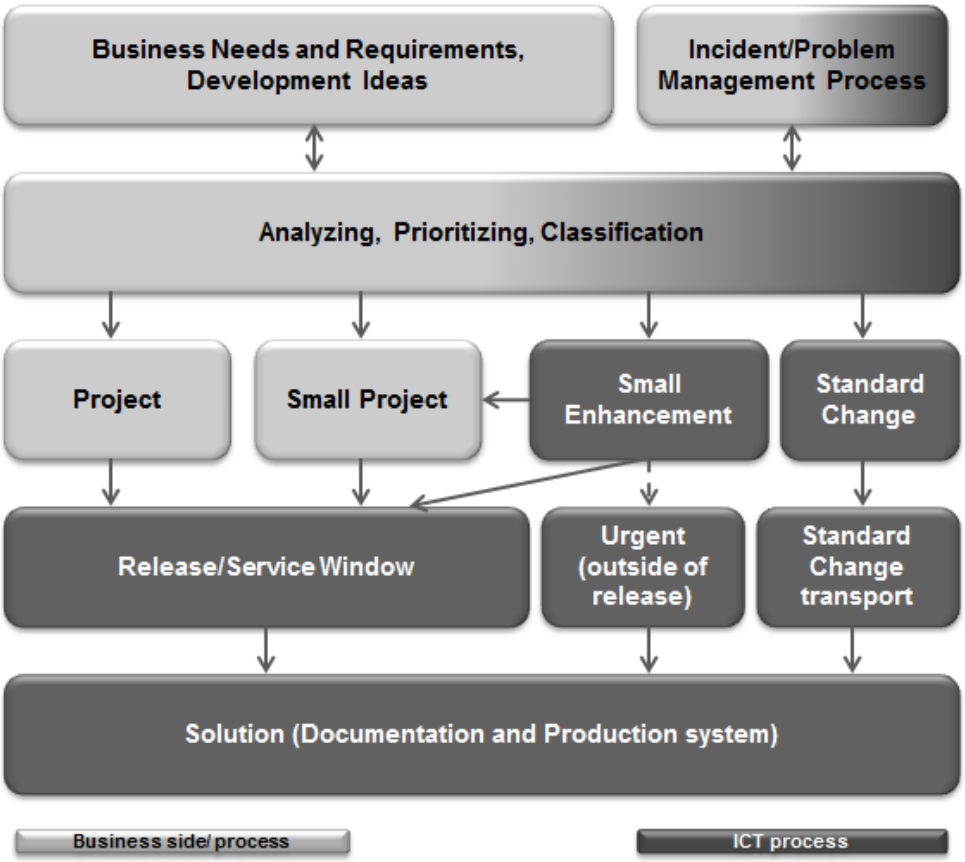
Table 3: Operational roles in ICT

Solution Manager	**Service Manager**
− Counterpart in ICT for business in all development (minor enhancements, new development) − Responsible for solution(s) in specific area − Solutions are optimal fit for business (in targeted cost) and solutions fit to company architecture − Creates Solution roadmap (based on business requirements and technical development) − Develops related processes	− Focal point in demand towards suppliers − Responsible for ensuring that we get the agreed services and service levels with agreed cost from suppliers − Develops related processes − Ensures that the service delivery for IT solution and IT service areas is in accordance with defined service level agreements and efficient cost structure. − Ensures that the ongoing service delivery and support meet agreed customer requirements.

5.4.2 HRIS management and development

HRIS development and management follows company's general Incident and Change Management models. For incident management processes, the criticality for each application is classified as *Critical*, *High*, *Medium* or *Low*. The service windows for applications are defined as per application or service criticality. Also SLA targets in incident management are defined by application or service criticality and ticket priority. The principle is that the SLAs will be reported and reviewed with business stakeholders monthly, however that principle has not been realized as targeted. In addition to ticket related SLAs, also application or service availability SLA is monitored and reported by application or service criticality.

Development needs for solutions may come up from either from support and incident processes, or from business needs. No matter how initiated, process is the same: needs and requests are analyzed, planned and funneled to execution in co-operation by business and ICT. In below picture is illustrated the solution development model.



Picture 9: Solution development

Standard changes (e.g. new master data elements) and small enhancements are included in maintenance services and implemented by application maintenance team (AMS). Projects are always organized and resourced separately. Project deliverables and small changes are transported to production by maintenance team following the release procedures. Implemented changes are included in regular maintenance services after knowledge transfer to support organization.

In current IT governance model, following operational bodies have been defined for cooperation between IT and internal customers.

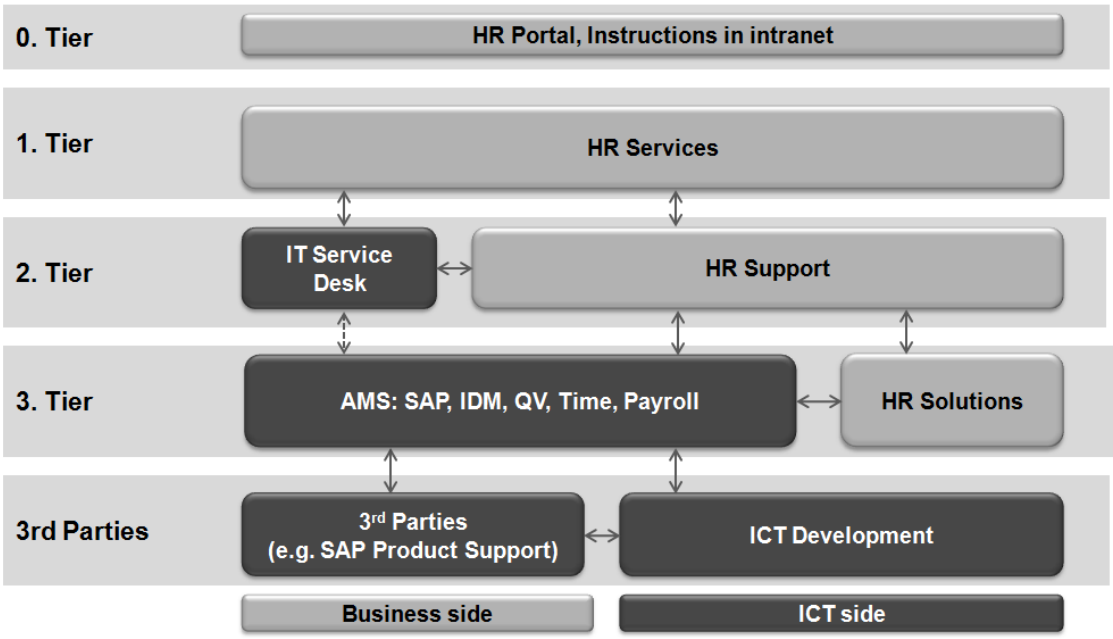
Table 4: Cooperation bodies

Meeting	Purpose	Participants	Frequency
Business – ICT collaboration steering group	Review of roadmap and project portfolio, overall services & collaboration	Business side: Business Owner, Process Managers ICT side: Application director, Solution owner of landscape, Solution owner, (Service owner)	Quarterly
Operational meeting	Ongoing co-operation, practicalities and development	Business side: Concept owners, (Process managers) ICT side: Solution Managers/Owners	Bi-weekly
Project specific meetings	Project management	Agreed based on project	Agreed based on project

In the area of HRIS, collaboration steering group has been organized quite regularly for last few years. However operational meetings have been more irregular, even lacking in some solution or service areas, and have been mostly initiated and organized by HR instead of IT, who should be responsible for arrangements.

5.4.3 HRIS support model

Company has valid ICT support model existing, but due to high amount of end users and multiple HR information systems HR function has developed its own HRIS support model to complement IT generic support model and cover the elements, roles and processes needed for providing support especially to HRIS customers and end users. Support model consists of tiers 0, 1, 2 and 3, each being performed by clearly defined support teams.



Picture 10: HRIS support model

Support model relies on IT Service Management ticketing tool, where all support teams and members are recorded into "assignment groups". Ownership of generic support model and related processes is on IT organization, but in HRIS support model support levels are mainly resourced by HR organization personnel. IT is responsible for ticket lifecycle management according to SLAs, and service level reporting to business.

5.5 Scope for development

Target company's HR function has recognized a need to establish a specific governance model for HR information systems for ensuring that

- HRIS development and operations follow common policies, practices and processes,
- HRIS development is aligned to corporate, HR and ICT strategy,
- roles and responsibilities in HRIS development and maintenance are clear, consistent and well-defined,
- development and maintenance processes are followed up and measured and
- decision-making organs and escalation routes are defined.

HRIS governance model should guide all HR Information Systems related operations from business perspective. It should set principles both for prioritizing tasks and development actions, as well as organizing and evaluating operational duties. Company should have defined tasks, responsibilities and decision-making models and –bodies related to managing HRIS resources, and reporting and measurement practices and guidelines defined, both inside HR organization and between HR and ICT. Also, there should be explicit HRIS guidelines and principles, which are based on company's common policies and best practices (information security policy, sourcing policy, architecture principles and guidelines, service management models and project and program management models).

Goal of this research is to create the target company a governance model for managing HR information systems, based on action program created on grounds of literature review and earlier researches.

Research questions in this thesis are as follows:

- What would be suitable HRIS governance model for HR systems and related processes for the target company
- How HRIS governance model is fitted to overall IT governance model in target company

5.6 Research method

Selected research method is action research. Action research is time-limited development and research program, where target is to plan, implement and try out new ways and models of working (Heikkinen 2006, 17). Action research aims to affect and change the behavior of organization. In the beginning, the current state is evaluated and reflected against information from literature review and earlier research results. Based on current state analysis findings, researcher creates action program, which targets to implement change in current state. During research period, actions are executed and their impact is evaluated. Finally, research tries to establish the new model of behavior to be permanent in the organization. (Ojasalo & Moilanen & Ritalahti 2009, 58.)

Action research aims to solve some practical problem which organization has faced in daily operations, or improve and develop some current practice or model (Metsämuuronen 2008, 29). According to Cohen and Manion (1995, in Metsämuuronen 2008, 31-32), action research proceeds in following phases:

1. Recognizing, evaluating and formulating a problem in current practices
2. Discussion between interest groups
3. Exploring literature regarding interest area
4. Modifying and re-formulating problem
5. Planning the research
6. Planning evaluation
7. Launching the action program
8. Interpretation and evaluation of results

When commonly research targets to explain phenomenon and create theoretic information, action research targets instead to produce practical information and benefits. Researcher participates in operations in the target organization, and strives for achieving change with his/her actions. In action research, researcher is not objective and neutral observer, but an active player. (Heikkinen 2006, 19.)

Action research aims to empowering people, cast them faith in their own ability and possibilities to make their operational environment better. Researcher launches the change, and tries to influence people for making change happen. (Heikkinen 2006, 20.) The fact that researcher participates actively in operations has effects on how researcher should treat and analyze research material. Traditionally, researcher collects and analyzes material from outsider perspective and makes conclusions based on objective observations, but in action research researcher's own experiences, thoughts and findings are essential part of research material. (Ojasalo et al. 2009, 60.) Participation in target organization activities has many times effect also on reporting; many times action research results are reported using first persona instead of passive form. (Heikkinen 2006, 20.)

Action research is practical, involving and reflective process, which grounds on intervention made by the researcher. Action research is based on view that one finds out something new about reality when one tries to change it. Change may reveal for example unconscious social structures or models, old traditions or invisible power mechanisms. Reality is being observed and analyzed, and based on findings an action program is being planned for making a change. New ways of working are tried out and tested, and changed practices are institutionalized. (Heikkinen 2006, 28.)

Understanding and comprehension of the issue evolves along with the research process. This process of gradually evolving understanding and construction is called hermeneutic circle. However, this cyclic process does not have an end point: once new practice is established, reality is changed and needs to be observed and evaluated again, and new better ways of working planned. Theoretically, change never ends, but as research period usually has time limitations, researcher must delimit the change to some justified phase or time and report results accordingly. (Heikkinen 2006, 28-29.)

Starting point for action research is usually some real-life practical problem which is selected as subject for development. Research starts off by wondering some issue or current action, and via reflective thinking it leads to larger questions or generalization. Action research is a combination of thinking and acting: planning the change requires thinking, making the change happen requires acting. (Heikkinen, Rovio & Kiilakoski 2006, 78.)

Action research can be pictured as a cycle, which includes constructive, creative phases and reconstructive, evaluative phases. These phases alternate. One cycle includes planning, execution, observation and reflection. New cycle follows another, begins where previous cycle ended or where new problem begins. (Kananen 2009, 10.)

It has been questioned if a thesis work for university of applied sciences can be considered as research. Student may use research methods and manner in thesis, but performing action research requires managing methodology and having expertise which student is many times only just learning. Also the extent and time scope of thesis work does not support principles of action research. Action research is time-consuming, be-

cause target organization is often observed very long time, even for several years. Researcher usually also has to get acquainted to target group for a long time, and learn target organization's operating models and mindset which takes time. (Vilkka 2006, 76-77.)

Thesis worker usually develops professional activities and prepares a report about those development actions, but for to be called an action research report should include scientific and sociologic discussion, which is required by action research methodology. Usually report is more a display of development actions and demonstration of knowledge and skills which individual student has achieved. Thesis may not have scientific impressiveness, even though it affected target organization operations. (Vilkka 2006, 76.)

Action research as method has also been criticized for that targets and methods are often defined too vaguely, which might make other researchers difficult to utilize results (Metsämuuronen 2008, 32).

6 Execution and results

This action research begun with current state analysis, and performing a literature review. Based on literature and study of previous researches, it seemed that state of IT and HRIS governance in target company was not poor, if not excellent either. When evaluated against IT governance performance factors (see chapter 4.2), following findings were done.

Table 5. Evaluating IT governance performance

Factor (Weill & Ross 2004, 121)	**Target company HRIS**
IT is used cost-effectively	According to done extenal benchmark in SAP solution area, HRIS costs were slightly below average in industry comparison.
IT asset utilization is effective	HRIS systems were quite well consolidated and integrated to overall landscape. There are no parallel or multiple solutions existing for same purpose in HRIS area.
IT is used effectively for growth	HRIS development is lagging behind overall technological development. Current HRIS do not well enable using opportunities modern technologies provide (e.g. mobile applications).
IT is used effectively for business flexibility	Outdated technologies hinder developing business processes in some extent. For example engaging employees to HR processes is not possible with current IT solutions.

Many good elements of IT governance already existed in company; required IT and HR roles were described and documented, cooperation procedures and organs were defined, and governance principles set. However, bigger problems seemed to be in systematic execution and implementation of IT governance model, as well as in strategic alignment of HR and ICT goals. ICT sees and handles HR information systems as separate, individual system entities whereas to HR they form one big HRIS entity which is tightly connected to producing HR services. This difference in perspective leads to some scattering in governance practices.

As per current state findings, it was seen that on demand side evaluation and decision-making on strategic HRIS projects had not been always consistent within HR. Some projects went through thorough analysis and business case calculations, whereas others

were based on more shallow grounds. Also, although functional roadmapping and project portfolio planning had been regularly done together between ICT and HR, project dependencies between ICT and HR were not always well enough recognized. This sometimes led to conflict in interests, timetables and resource allocations.

One recognized pain point is also cost follow-up due to complex budgeting model where same development is allocated both in ICT and HR budgets. The level of IT costs is on appropriate level, but following costs is difficult.

Issues also exist on architecture planning and technological roadmapping. ICT and HR organizations are not closely enough involved in planning technological strategy, which would be utterly important in current state as HRIS technologies are evolving more rapidly than many other solution areas. Company's current solutions are heavily built upon on-premise legacy systems (e.g. SAP HCM), whose development is heavy and slow, and therefore lagging behind in current technological environment. SAP has even announced that they do not provide any further development for on-premise systems on some HR process areas like recruiting and training management, instead SAP focuses all development on cloud-based SuccessFactors, which they quite recently acquired. Target company should urgently prepare a technological roadmap which takes these factors into account.

Furthermore, one supply side finding was that ICT Service Management and HRIS support model was not consistent between all core HRIS systems. Whereas for example SAP entity is well supported, and has clear roles and responsible persons defined and named both in HR and ICT, same did not apply to all other HR information systems. Support bodies, service levels, service quality and service monitoring were quite unequal between systems, and SLA reporting is inadequate in many solution or service areas.

There were also differences in IT governance processes between solutions. For example release and change management processes, which are supposed to be common, vary in different solution areas, which cause confusion in support organization. Process

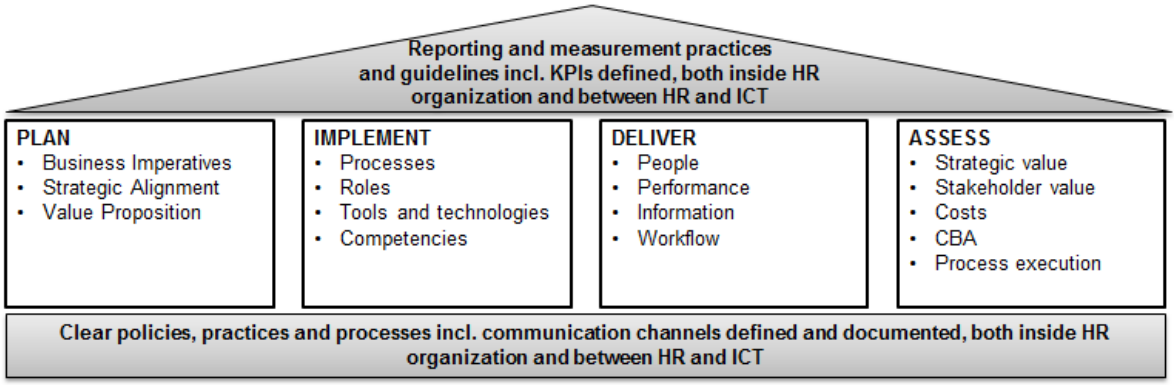
documentation was also lacking or deficient in some process areas, both regarding HR and ICT processes.

Table 6: HRIS governance development areas in target company

"Demand" WHAT	**"Supply" HOW**
– Strategic alignment: • HRIS Strategy vs. People Strategy and IT Strategy (incl. budgeting) – HRIS Architecture • HRIS fit to enterprise architecture • Technological strategy and roadmap – HRIS Project Portfolio Management • Prioritization • Resourcing	– HRIS Service Operations • Support organization • Incident management and service quality • Documentation – HRIS Service Transition • Change management • Release management

6.1 HRIS governance model

One target for this thesis was to plan suitable HRIS governance model for target company. Based on literature, current state of governance and as-is findings, researcher developed below described model for target company's HRIS governance.



Picture 11: Planned HRIS governance model

Model is loosely built on four COBIT process areas (see chapter 1):

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

In category **Plan**, governance focuses on aligning HRIS development and activities with stakeholder needs and strategic targets. HRIS development must serve company vision and business strategy, and be aligned to People (HR) and ICT strategies. Key questions in this governance area are: What are our strategic intents? What are the core business processes? What are the applications, solutions and infrastructures that support these processes? How do we enable our strategy? Do planned actions increase HR value proposition (differentiation, simplification, execution mastery; see chapter 3)?

Main responsibility of this governance area is on HR Leadership Team. Main governance bodies are HR LT meetings, People Strategy and action planning, and HR – ICT quarterly meetings.

In category **Implement** governance aims to ensure that HRIS development and related process and concept development are done in sustainable and efficient manner. HR has common principles and organs for organizing, evaluating and prioritizing tasks, resources and development actions. HRIS development fits to enterprise architecture and takes proactively into account technological evolvement. Key questions in Implement area are: Do planned actions enhance process, system or organizational capability (see chapter 4)? Do planned actions enhance transactional, traditional or transformational activities (see chapter 3)?

Main responsibilities in this governance area are on HR Process Owners and HRIS Concept Owners. Main governance bodies are HR – ICT quarterly meetings, HR Solutions team meetings and service reviews. In this area it is also important to regularly gather both input and feedback from common HR function forums, such as Human Resources Development forum (HRD) and Compensation & Benefits forum (C&B).

Category **Deliver** withholds governance for service and support processes as well as information and process flows. Roles and responsibilities in HRIS maintenance are clear and well-defined, and maintenance processes are followed up and measured. Key questions in this area to answer are: Are HRIS processes organized and managed in a manner that they add value? Do they serve end users?

Main responsibilities in this area are cast on Business Owner, HR Concept Owners and HR Support (2nd tier). Main governance bodies are stakeholder meetings, ICT service reviews and data quality reviews.

Last category **Assess** focuses on monitoring, measurement and evaluation. Key questions to answer are: Do done actions provide value for stakeholders (customers, investors, managers and employees)? How do we measure performance?

Main responsibilities in this area are on HR Leadership Team and Business Stakeholders, and main governance body is HR LT meetings, using internal customer satisfaction survey as a tool.

Assessing based on current state and planned model, key development areas in HRIS governance and development items in this action research were selected to be:

- to promote process-oriented, cross-system HRIS development
- improving consistency in services and support
- improving documentation and communication and
- establishing clear routines for HRIS governance.

In addition, target is to establish explicit HRIS governance model for permanent use for the target company.

6.2 First development cycle

First iteration was begun in April 2014. As action research aims to affect and change the behavior of organization, researcher created an action program, which targeted to implement some changes in current state. Based on current state analysis findings, following two items were chosen as first action plan targets:

- Improve system and process documentation
- Harmonize development and support models for all HRIS

As one task of this action plan, focus was put on creating and/or updating process documentation, especially to cover all cross-system processes. As a starting point, overall HRIS landscape was described and documented. All HR process related systems had been traditionally handled and maintained as separate entities, and interrelations and dependencies between all systems had not been properly described. As a first action point, researcher created and illustrated an overall HRIS map (appendix 1).

Several workshops were organized by researcher during May and June, where some vague cross-system processes were walked through and documented. Participants were selected to represent all recognized parties involved, both from HR and ICT. Many of those processes affected several systems, for example absence management process which starts from SAP HCM, goes through Time and Fenix and ends up to all reporting systems. Based on common walkthrough, several small development items were discovered which would streamline the processes and reduce errors and manual corrections. Many of those items were put directly to small development funnel.

Need for updating process documentation had also been identified on other areas of HR, as in the beginning of summer company announced transformation plans, which were to change mode of Production operations significantly. This transformation was announced to take place in the beginning of 2015. HR processes would have to adapt to operational changes. Process review was started in HR Solutions and Services organization immediately, and work continued whole summer and autumn 2014. As a result, HR process framework was renewed and all process streams and their control points were documented. HRIS processes were part of this redefinition.

All HRIS landscape systems were also included in common HRIS support model. For Time system, similar service management and service review model including regular follow-up meetings was established as currently existed for SAP HCM. A support model was established to work safety system, which was previously missing one. HR Services (1st tier) was trained to support end users in common work safety system matters, and system ownership was transferred from Production operations to HR. All HRIS systems were also equally included to ICT – HR regular meetings and follow-ups.

An organizational change was done to streamline 2nd tier support. Both 1st (HR Services) and 2nd tier (HR Support) units were previously under same manager. At the end of summer HRIS concept lead, who earlier was an individual member of HR Solutions unit (3rd tier), was changed to be the manager for 2nd tier support. Previous manager continues to lead 1st tier services. This way incident management and change management processes could be tied more closely with concept development, and HRIS concept development gets better input from support and service processes.

First actions were implemented in quite tight timeframe during spring and summer 2014. Evaluating the affects and results of first iteration was a little difficult because of short time between execution and evaluation. There was very short period for actions to lead to real changes and permanent results. However, based on feedback gathered from Solution Managers, Service Managers and HRIS support team members after first round, development was going to right direction. Improving process consistency and process documentation was seen positive, and developing a cross-system perspective was seen beneficial and necessary. Also, it was seen that taking a better grip about support operations improved service quality to end users, and shortened resolution time in error cases as responsibilities were clearer that before.

As mentioned, plans for big operational transformation in target company at beginning of 2015 were announced at this same time period, which set a question how IT governance model would change in new operational model. As there was no certainty of how IT related operations will be organized in the new setup and if roles between HR and ICT would be re-defined or not, researcher made at this point the decision to continue next action planning from "as-is" basis.

6.3 Second development cycle

Second iteration was begun in September 2014. Based on evaluation and analysis of first iteration, following two items were chosen as action plan targets for the second iteration:

- Improve communication between HR and ICT counterparts

- Enhance cross-system and end-to-end process perspective and development

Difficulties and insufficiencies of communication related to HRIS processes and services had been discussed and analyzed in several forums, for example in HR - ICT quarterly meetings and service follow-up meetings for quite some time. Based on these discussions, researcher established a work group to develop a HRIS communication matrix, which aimed to help identifying communication stakeholders and relevant parties. Work group participants included members both from HR (Concept Owners, support team members) and ICT (Solution Managers, Service Managers). Communication matrix was planned and created during autumn, and communicated and delivered to all relevant counterparts. Matrix withholds communication principles, identification of solutions and stakeholders, matrix table for addressing communication actions, and definition of contact methods for each target group (appendix 2).

For enhancing cross-functional and cross-system process understanding, new HRIS Development Board was created by researcher, based on interviews, discussions and planning meetings held with several counterparts (support team members, Solution Managers, Concept Owners). Purpose of this new development board is to manage overall HRIS development, taking into account cross-system dependencies, and focusing on end-to-end processes. Participants are all Solution Managers and Concept Owners of all HR related systems. HRIS Development Board meets bi-weekly, and regular agenda withholds status of ongoing development and projects, discussion on identified development needs across systems, and analyzing system and process dependencies.

One finding in phase two when planning cross-system and end-to-end process perspective was that concept ownership in HRIS has been split to several people and quite small pieces. For example, in SAP HCM area Personnel Administration and Organization Management concepts were divided to two Concept Owners, although those concepts are very tightly connected in SAP HCM system and ideally should be developed as one entity. Also HR reporting entity (operational, analytic and management reporting) was split to several Concept Owners, based on different reporting systems, which hinders developing HR reporting and analytics concept and processes as a whole.

As a result of this finding HR Support team (2nd tier) is planned to be split to two: to "maintenance group" and "development group". This change will take place in beginning of 2015. Maintenance group ("how" team) will be responsible for incident management, service management and communication matters. It will also provide trainings and knowledge transfer to HR Services and ICT Service Desk (both are 1st tier support groups). Development group ("what" team) will be responsible for concept development and documentation, change processes, projects and business need identification. Concept ownership model will be changed so that concepts are grouped to larger entities, and one person will take responsibility of more than one of current concepts.

Second iteration actions were planned and partly implemented during September-October 2014. Established HRIS Development Board was seen as good and necessary organ for governance. Also, already during development period researcher got feedback from participants that common process walkthroughs and HRIS Development Board meetings had aroused new kind of cross-functional thinking among participants, and that was seen positive.

However, even though first-hand feelings of results gathered from development participants were positive, deeper valuation is yet to be done after a few months' time. This should preferably be done after planned role changes in HR Support organization are implemented and operational changes in company are already effective. Then can be evaluated if done and future planned actions have permanent affect, and if they are sustainable and suitable for upcoming operational business model.

6.4 Result validation

When using qualitative research methods, as action research, evaluating validity and reliability of research results is challenging. As research situation varies on each case, repeatability or transferability can very seldom be used as evaluation criteria. Because of this, one key thing for to be able to evaluate results is documentation. Results, used methods and progress need to be documented in enough detailed level so that any external person can evaluate research quality. Thorough documentation and argumenta-

tion also decreases subjectivity, as personal opinions can be better isolated from interpretation. (Kananen 2009, 96-97.) In this study, researcher focused heavily on system, process and role documentation, perhaps even at the expense of research and progress documentation.

One way of validating results is also to let research target organization evaluate results. If people in target organization agree on research results, that can be seen to support validity and credibility of research results and their interpretation. Also triangulation i.e. using more than one method for gathering results increases credibility. (Kananen 2009, 96.)

However, as in this research the time period for executing development cycles and performing action plans was relatively short due to thesis process time limit requirements, evaluation on permanent results and effects in this action study and this organization is difficult. Performing several development actions involving many parties in a few months' time, moreover being able to evaluate whether done changes had positive or negative permanent results is just not feasible, and it needs to be admitted. The definite effectiveness of this study cannot be reliably and properly verified.

As often is questioned regarding selected research method (see chapter 5.6), this thesis report ended up to appear more of only a display of development actions done than being a validated research ending up to scientific and sociologic discussion. More than producing discussion and validated results, this research report is targeted to show that researcher understands purpose and methodology of action study and hermeneutic development cycles, and is able to continue implementing, establishing and developing the governance model in target organization in the future.

Future target is to establish this model permanently to target organization, at the same time developing it further, based on feedback and evaluation, for the model to fit organizational purposes as well as possible.

7 Conclusions and subjects for further development

Benefit of IT related governance models is in control of whole maintenance concept and technology development roadmap. When choosing solutions or technologies or designing processes and roles, one should go first back to some core principles: what is the strategy of the organization, how does HR support that strategy, and what tools or processes are required to get that support done. In the end of the day, organization should select and implement options and develop processes which best solve the business challenges organization has. Focus should be on aligning the organizational objectives with HR objectives, and investing in necessary tools and technologies or putting effort in processes and practices which help to achieve these targets; it is the key point. Governance helps in keeping this standpoint.

Keeping this perspective in mind, targets of this study were to examine what would be suitable HRIS governance model for HR systems and related processes for the target company, and how this HRIS governance model should be fitted to overall IT governance model in the target company. In this case, the HRIS governance model was created as targeted, but it is not yet final. As is quite usual in thesis works, time is a limited resource and development actions are done in short period of time. Planned governance model will prove its usability only after time, use and experience, and development cycles will continue even after this thesis work.

In addition, at the time of thesis writing organization was about to undergo a significant structural transformation, which would affect company's operations but also all support functions, ICT and HR organizations included. Considerable changes will happen within organization regarding roles, responsibilities and processes, facts that will also require changes and adjustments to planned governance model. However, creating the first version of model can be seen beneficial, despite the fact that model needs adjustments quite soon.

As for the development proposals, researcher identified several items in HRIS governance to be either implemented in next phases, or planned for further in future. First of all, HR organization should collect and document a proper HRIS project portfolio.

Target company has recently renewed existing project portfolio management model; one development proposal is that current and planned HRIS projects should be well evaluated, documented and steered according to portfolio management model principles. This is a task that does not need to wait for new operational model to be valid and should be started immediately.

One important development area is also planning ways how future technological roadmapping would be best done in cooperation with ICT. Currently both organizations run their own agenda in some extent; it would be important to figure out ways and organs how to run HRIS technological planning based on mutual interest and benefits. This requires commitment and shared understanding from top management level.

Also budgeting, cost follow-up, and business case calculation processes regarding HRIS development items should be reviewed. HR organization would probably benefit from using CBA model or similar systematic approach for evaluating and measuring HRIS value. That would also bring HR new grounds for discussion with business stakeholders about what value HR contributes to organization. There is already interest for developing such model in HR organization, so this pursue should be taken further.

For me as thesis writer, the biggest insight that happened in my mindset was that I realized how utterly complex the stakeholder and influence map of HRIS governance, not to mention the whole HRIS is. Before this thesis work, I had already been working in different HRIS areas in both service and development sides for around 10 years, and participated in operations on many levels (operational, tactical, and strategic). Still, my comprehension of the complexity grew immensely during the thesis work, based on studies and findings about different governance areas and stakeholder group management.

This experience strengthened further my belief that change management, people management and communication skills are actually one of the most important competences when operating in HRIS, or even in any ICT area. Planning, developing, maintaining and controlling system entities in a manner that it bases on business needs and brings value to business stakeholders requires enormous amount of communication and co-

operation between ICT and stakeholders. I sincerely hope that importance of people and change management, combined to subject and content matter expertise, is understood and adapted in general in both ICT organizations and ICT study programs.

References

Anturaniemi, K. 2012. Information Security Plan for SAP HCM. Thesis work for Degree Programme in Information Technology. Haaga-Helia University of Applied Sciences, Helsinki.

Bersin, J. 2014. HR Technology for 2015: Ten Big Disruptions Ahead. Deloitte Development LLC. A custom report for research member organizations.

Bhatia, A. 2012. Value Creation. Linking Information Technology and Business Strategy. Brown Books. Dallas, Texas.

Brand, K & Boonen, H. 2009. IT governance based on COBIT® 4.1. A management guide. Van Haren Publishing.

Carlson, K. D. & Kavanagh, M. J. 2012. Cost Justifying Human Resource Information Systems Investments. In Kavanagh, M., Thite, M. & Johnson, R. (editors). Human Resource Information Systems. Basics, Applications and Future Directions, p. 175-208. 2nd ed. Sage Publications Inc.

Dahlberg, T., Karjanlahti, A-M., Kivijärvi, H., Lahdelma, P., Sippa, S. & Talikainen, T. 2006. Miten tuotan IT:llä arvoa liiketoiminnalle? Hyvän tietohallintatavan, IT governancen, arviointi ja kehittäminen. LTT-tutkimus, Helsinki.

Foxall, Dave 5.3.2013. Cloud HRMS Vs On-Premise HRMS. Can be read http://hrmsworld.com/cloud-hrms-on-premise-hrms-224.html.Read 2.8.2013.

Heikkinen, H. 2006. Toimintatutkimuksen lähtökohdat. In Heikkinen, H. & Rovio, E.& Syrjälä, L. (editors) 2006. Toiminnasta tietoon. Toimintatutkimuksen menetelmät ja lähestymistavat, p. 16–38. Kansanvalistusseura. Helsinki.

Heikkinen. H., Rovio, E. & Kiilakoski, T. 2006. Toimintatutkimus prosessina. In Heikkinen, H. & Rovio, E. & Syrjälä, L. (editors) 2006. Toiminnasta tietoon. Toimintatutkimuksen menetelmät ja lähestymistavat, p. 77–93. Kansanvalistusseura. Helsinki.

ICT Standard Forum. Tietohallintomallin osa-alueet ja tehtäväkokonaisuudet. Available at: http://www.tietohallintomalli.fi. Read: 21.2.2014.

ISACA. COBIT. Available at: http://www.isaca.org/cobit/pages/default.aspx. Read: 21.2.2014.

ITSMF Finland. COBIT 5. Available at: http://www.itsmf.fi/cobit. Read: 28.2.2014.

Kananen, J. 2009. Toimintatutkimus yritysten kehittämisessä. Jyväskylän ammattikorkeakoulun julkaisuja 101. Tampereen Yliopistopaino Oy, Tampere.

Kavanagh, M. J.,Thite, M. & Johnson, R. D. 2012. The Future of Human Resource Information Systems: Emerging Trends in Human Resource Management and Information Technology. In Kavanagh, M., Thite, M. & Johnson, R. (editors). Human Resource Information Systems. Basics, Applications and Future Directions, p. 536-556. 2nd ed. Sage Publications Inc.

Metsämuuronen, J. 2008. Laadullisen tutkimuksen perusteet. Gummerus Kirjapaino Oy, Jyväskylä.

Ojasalo, K. & Moilanen, T. & Ritalahti, J. 2009. Kehittämistyön menetelmät. Uudenlaista osaamista liiketoimintaan. WSOYpro Oy, Helsinki.

Thite, M., Kavanagh, M. J. & Johnson, R. D. 2012.Evolution of Human Resource Management and Human Resources Information Systems: The Role of Information Technology. In Kavanagh, M., Thite, M. & Johnson, R. (editors).Human Resource Information Systems. Basics, Applications and Future Directions, p. 2-34. 2nd ed. Sage Publications Inc.

Towers-Watson 2013. HR Service Delivery and Technology Survey Results. A custom report for participated corporations.

Ulrich, D. & Brockbank, W. 2005. The HR Value Proposition. Harvard Business School Press, Boston

Weill, P. & Ross, J. W. 2004. IT Governance. How Top Performers Manage IT Decision Rights for Superior Results. Harvard Business School Press, Boston.

Vilkka, H. 2006. Tutki ja havainnoi. Kustannusosakeyhtiö Tammi. Vaajakoski.

Pictures and tables: