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RESOURCE MANAGEMENT MODEL FOR CONSULTANCY BUSINESS

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ABSTRACT

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Resource Management in knowledge business must be carried out efficiently in order to compete within today's business environment. The Thesis goal was to improve the Resource Management Model for Project Managers in the Consultancy Unit of the Case Company. Project managers were chosen as a pilot group as later the model can be extended to cover all the experts.

The research started by familiarizing the current model at the Case Company, collecting material from the literature and interviewing other companies. Four companies were chosen on the basis of the fact that they were operating on different fields when compared to the Case Company's IT field in order to receive a wider perspective over knowledge work consulting and to avoid companies' reluctance in sharing their core processes derived from a rivalry situation. Based on the interviews and other material collected, the Draft Model was created. The core of the new model was the single point of visibility and responsibility. The single point was chosen to be a virtual unit called SePO. After that the Draft was verified by referees from the Case Company. During the verification process it became clear that an even better choice would be the division of single point between strategic and operative aspects. Thus for the final proposal the strategic part was moved to the PMO unit.

After analyzing the available data it became evident that it is not possible to create an effective resourcing model for one unit only, but the model should be expanded to cover all the consultancy related units at the Case Company. In this way it would be possible to address all the three main issues found in the current state analysis, namely lack of full visibility over work tasks (e.g. projects and development), lack of overall responsibility on those tasks and lack of full authority over all the resources allocated for those tasks.

Key words	Resourcing, resource allocation, resource management, resource pool, knowledge work, consultancy business

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Konsultointityössä resursointi on haasteellista. Kuten palveluissa yleensäkin, konsultoinnissa asiakas on mukana palvelun luontiprosessissa eikä palvelua voi tehdä varastoon. Tämä aiheuttaa palvelukohteen sekä suorituksen vaihtelua mikä vaikeuttaa tietotyön tuotteistamista ja siten palvelun ”teollistamista”. Tässä lopputyössä tehostetaan kohdeyhtiön IT-konsultointiyksikön projektipäälliköiden tehtäväjakomallia. Tavoitteena on yksikön resurssipyyntöjen käsittelyn, tehtäväjakomenetelmän sekä raportoinnin virtaviivaistaminen.

Työ tehtiin tutustumalla olemassa olevaan toimintatapaan, tutkimalla kirjallisuutta sekä vertaamalla muiden alojen vastaaviin konsultointiyrityksiin. Tieto yrityksistä kerättiin teemahaastattelumenetelmällä. Näiden pohjalta luotiin ensimmäinen malli jota kohdeyhtiön edustajat arvioivat. Tuloksena oli paranneltu ehdotus.

Kokemusten yhteenvetona todettiin, että resurssipyyntöjen sekä tehtäväjaon toiminnan kannalta oleellinen vaatimus on, että organisaatiossa on yksi piste, jolla on täysi näkyvyys ja päätäntävalta resursointiin. Muussa tapauksessa joudutaan eri organisaation osien keskinäiseen kilpailutilanteeseen resursseista. Se puolestaan johtaa toiminnan osaoptimointiin sekä organisoinnin puutteen takia yleiskulujen nousuun.

Työn aikana havaittiin, että tavoitteeseen pääsemiseksi tarvitaan organisaatioon tulevia muutoksia. Organisaation täytyy tukea parannettuja prosesseja. Siksi työssä ehdotetaan virtuaaliyksiköiden käyttöä olemassa olevan organisaatiorakenteeseen lisänä. Toimintamalliehdotus sisältää yhden strategisen ja yhden operatiivisen yhteisen toimintapisteen. Ensimmäinen on yksikkö, jonka vastuualuetta laajennettiin koskemaan kaikkia työpyyntöjä. Tällä yksiköllä on strateginen ja ohjaava rooli. Toinen piste on operatiivinen virtuaaliorganisaatio, jonka toimenkuvaa laajennettiin koskemaan kaikkea projektipäälliköiden tekemää työtä. Tässä yksikössä toimivat resurssipäälliköt, joille tulee vastuu projektipäälliköiden tehtäväjaosta. Samalla tehtäväjakovastuu poistuu nykyisiltä linjaesimiehiltä. Resurssipäälliköiden alaisuuteen luodaan projektipäälliköiden virtuaalinen resurssipooli.

Avainsanat: resursointi, resurssihallinta, resurssienhallinta, allokointi, resurssipooli, tietotyö, konsultointi

Preface

This Thesis research has been an inspiring and stimulating work. I feel I have learnt greatly about scientific writing, methods and especially about resource management. The research has been challenging because of the service nature of the knowledge work and the complex real life establishments companies have for their resource management. Many aspects, such as competences, performance metrics, company strategy, resource optimation, service levels, processes, existing tools, authority issues and company's financial performance intertwine into a complex and multifaceted sculpture. Those dependences result in multiple point of views where there is no single right or best view. This research is all about finding an optimal full system.

I would like to thank my instructors (Marja, Marjatta, Zinaida, James and especially Thomas), who have provided invaluable help for my research to reach a clear and achievable goal. I thank the interviewees at both the Case Company (especially Esko) and Benchmarking Companies who spent their valuable time with me for the interviews and discussions. Finally I would like to thank my family members whose support for my research enterprise was crucial.

5 May 2011

Kari Kautto

LIST OF CONTENTS

ACRONYMS

AM	Account Manager
DR	Development Request
ES	Enterprise Services
FTE	Full Time Equivalent
IM	Infrastructure Management
IT	Information Technology
ITSM	IT Service Management
PM	Project Manager
PMO	Project Management Office
RM	Resource Management
RP	Resource Pool
RR	Resource Request
RRT	Resource Request Template
SePO	Service Planning Office
Q&Q	Qualification & Qualitycation Meeting
WTR	Work Time Recording

GLOSSARY

Bench List	An Excel based tool showing all free capacity of all the employees within Case Company.
Bid Project Manager	A Project Manager who participates tendering process and creates preliminary project plan.
Case Company Unit	A unit within Case Company for whom the Thesis was done.
Consultant	A knowledge worker with special skill or skills. In this Thesis Consultant is limited to refer to Project Managers specifically.
Development Request	Refers to work order either from customer or from internal unit to create something new or modify an existing tool, process, or working method.
Full Time Equivalent	Ratio of total number of paid hours during a period (part time, full time, contracted) by the number of working hours in that period Mondays through Fridays. WebFinance (2011)
Project Management Office	A unit which takes care of project management within Case Company.
Resource or Human Resource	Refers to Project Managers in the scope of this Thesis. The Resource can be an employee on own payroll or to be hired employee. It can also be a partner company's employee or subcontractor who is available for a task at hand.
Resource Allocation	A process of scheduling activities and the resources required by those activities so that predetermined constraints of resource availability are not exceeded. In this Thesis Resource Allocation is for Project Managers.

Resource Management	Deployment of resources when and where they are needed. Such resources may include financial resources, inventory, human skills, production resources, or information technology. In this Thesis Resource Management means Resource Request and Resource Allocation together. Resource Management manages Consultants.
Resource Pool	A set of resources available for assignment to the task. A resource pool can be assigned exclusively to a project or task or shared by several projects or tasks. One resource can be part of individual resource lists for multiple projects or the resource can be part of a single shared resource pool. Tenrox (2011)
Resource Request	Internal request for consultancy resources derived from customer purchase. One Resource Request may contain demand for one or more consultants and specialists.
Resource Request Template	A tool to keep RRs in one place and accessible to every resourcing managers.
Service Planning Office	A virtual unit aiming to plan service development activities.
Qualification & Qualitycation Meeting	The board at Case Company where Resource Request validity is considered and the decision (go/no go) is made. The meeting takes place weekly.
Work Time Recording	A process where an employee reports the usage of his or her time spent at work to the system at use in company. The WTR contains information such as type of work done, the time spent for work, absences, training, the type and time spent for overhead work etc.

1 Introduction

Companies aim to minimize the costs and maximize the performance of their consultants. Due to the nature of full-time employees, they are less flexible in work allocation. They have vacations, trainings, sick- and other leaves. The customer demand variation can be covered with internal employees, which creates some slack in a low demand period. This is usually compensated by external work force such as subcontractors. The external employees are more flexible in their tasks and work periods, but this is also a substantially more expensive hiring method. The optimal way from the cost point of view is to utilize internal employees for the base load and externals to smoothen the customer demand highs and lows. (Herer 1998)

Resource Management (RM) in any business is a burning issue and a must to be carried out efficiently in order to compete within today's business environment. Especially the RM in knowledge business has proved to be a delicate and complex art. In order to improve Resource Management in the Consultancy Unit of the Case Company the Research Problem has been formulated as follows:

The existing Resource Management model of the Case Company's consulting unit is insufficient to handle the increased business volume in the growing organization.

Therefore the objective of this Thesis is to solve the research problem by suggesting an improved resource management model for the Case Company. More precisely, the goal is to propose re-engineered Resource Request handling, Resource Allocation and reporting. This will be done by identifying the best practices of resource management from other companies, existing literature and data collection.

Our secondary objective is to provide support for the resource hiring decisions and for competence development through better visibility on resource situation.

Within consultancy work there are challenges to get consultants fully utilized due to the nature of the business. The target of this Thesis is to define a resource management process for the *Project Managers* (PMs). The scope is narrowed to PMs as taking all the knowledge workers in scope would have caused the Thesis to expand too much

in content, complexity and timeline. The idea is to pilot the new process with PMs and after real life experience include the specialists under the process. When the target employee number increases remarkably, the process may need adjustments. However, the process is designed so that extending is possible without major changes in process logic.

1.1 Case Company

The Case Company for this Thesis is a leading European business and technology service company. The Case Company's principal service is Business Consulting. Its customers ask for consulting to help transform operations, implement change and evolve IT systems & services to meet their business needs. At outsourcing the Case Company delivers end-to-end service across applications management, infrastructure management and business process outsourcing. During delivery, the Case Company utilizes technology partnerships with leading applications providers such as Microsoft, SAP and Oracle. When delivering services to its customers, the Case Company uses onsite, onshore, near shore and offshore resources.

The core competence areas of the Case Company have been systems integration, professional services and projects. The Case Company is vendor independent and has strong sector and technology knowledge. Its goal is to help clients, adapt packaged systems, modify existing systems and design new systems. Over half of the Case Company's revenue comes from these areas.

The Case Company has around 10,000 client companies around the world. This includes many of Europe's largest public sector organizations and businesses. For example three of the top 10 global listed oil and gas companies; five of the top 10 listed European utilities companies and six of the top 10 listed European telecommunications operators.

The unit Transition and Transformation Project Services (T&T Projects) has an approximately 65 employees out of which 20 are Project Managers running different IT projects for the customer companies. Additionally the unit uses around 10 external persons to smoothen the work load. The current process in use is considered as insufficient, undefined and inefficient. The goal of the Unit Director is to obtain better visibil-

ity of the work load and proper understanding on how the work load is distributed. Through better visibility it is expected that some unit performance improvement is achieved by reducing double work, utilizing resources better, distributing work load evenly and prioritizing the tasks at hand. (Interviewee E.V. 2011)

1.2 Nature of Consultancy Work

In IT business the consultancy work is knowledge intensive and hardly standardizable. The profession of a *consultant* in IT businesses may have several meanings. It may mean a person who provides professional or expert level advice in a particular area such as technology, management or law (BBC 2011). Consultant as a word can mean a *specialist worker* who conducts some tasks such as project management or programming on behalf of customer company personnel. Sometimes even hired people with lower education such as office workers can be called as consultants. In this Thesis the term *consultant* refers to Project Managers, as of the Thesis scope, unless further description is given.

In consultancy business there are four qualities which are considered crucial when customer evaluates the best possible consultant for their work. These qualities are *price*, *competence*, *availability* and *capacity* of the consultants offered. If any of these are compromised, the customer cannot accept the offered consultant. If the crucial qualities are met, there are secondary qualities which customer may use to distinguish the best from the rest. The secondary qualities are consultant's personality, reputation, gender, nationality, language knowledge, cultural knowledge, achievement history, flexibility, wideness or deepness of consultant's knowledge close to key competence area, personal contacts to the Customer Company, etc. The secondary qualities are seldom a reason for customer rejection, but it is possible and the possibility should be known by both the customer and employer in order to avoid surprises and distrust later. Especially, it is learnt that customers prefer a consultant they have worked with previously, whom they know personally and whose performance they were satisfied with. On the other hand, if a customer thinks, the consultant has failed in his previous task, it is hard to convince the customer to give the consultant another chance. Thus the reputation of an already "known" consultant is important. Unlike in a situation where the customer does not know the consultant; the customers are usually open minded and willing to give the person a task. In this way reputation is dividing consult-

ants into two different categories and thus allows failed consultant a future within another company. (Interviewee K.H. 2011)

2 Research Method and Material

This section describes the research method used. The research plan is explained in the next section. Finally the interview method and sources for the literature review are discussed.

2.1 Research Method

The Thesis was conducted by using Qualitative Research as the study strategy. The case study approach was chosen to study and formulate the new Resource Management proposal at the same time. The research plan is described in Figure 1. Data collection was done by interviews. The external company interviews were used for benchmarking the other companies and finding the models and practices they have. The selection of other companies within different business may reveal some useful approaches which could be utilized at the Case Company.

The way to study this kind of a situation is first to make the analysis of the existing Resourcing process. That was carried out by studying with the Case Company internal documentation and guidelines. In order to get a reliable view on the topic the most important task was to find out if the written process documents were actually followed in daily operations. Some deviations were expected. The everyday life at any company nowadays is hectic and thus there are lures to take shortcuts here and there when it comes to the processes. Shortcutting is not recommended by management and thus this activity is not documented. The other aspect of process misuse is that it might actually reveal the process weak points. It might be that the process itself was neither defined well enough nor properly supported. The way to find both the process breaches and the observed process weak points was to sit down with the people using the process and discuss with them. These discussions were organized in a few rounds with the Case Company employees to get the full picture of the Resourcing model current status. The people interviewed internally were those conducting the daily resource allocation.

The other source for resourcing related information is the literature. There are one standard (ISO/IEC 20000) and three frameworks (CobiT, CMMI-SVC and ITIL) which handle the resourcing issues. Those were studied together with other available publications.

The third source for information was the other companies in consultancy business. For the purposes of this research the four companies were chosen. The aim was to receive other viewpoints for practical Resource Management. The companies were selected based on their similar business logic when compared to that of the Case Company. It was expected that the companies operating in the same field are not willing to cooperate. The Resource Management process is considered as a key process for the consulting companies. Due to the direct competitional role the Case Company creates towards other IT consulting companies and due to the expected reluctance of others to reveal their processes, the Benchmarking Companies were selected from different business fields. This way it was possible to avoid ethical problems concerning company's core process sharing. The third reason for this selection is that after a while competing companies within the same field starts to resemble each other. By selecting companies from different fields it was possible to find out something new for IT consultancy. Benchmarking the companies within this thesis means that the goal was to find out if other companies have effective working practices, tools or processes in their use which could improve Case Company's status quo rather than compare companies item by item.

2.2 Research Plan

This research was conducted by, first familiarizing with the topic by interviewing relevant Case Company employees. There was the data collection phase from the Case Company to describe the existing RM model. Figure 1 describes the research plan.

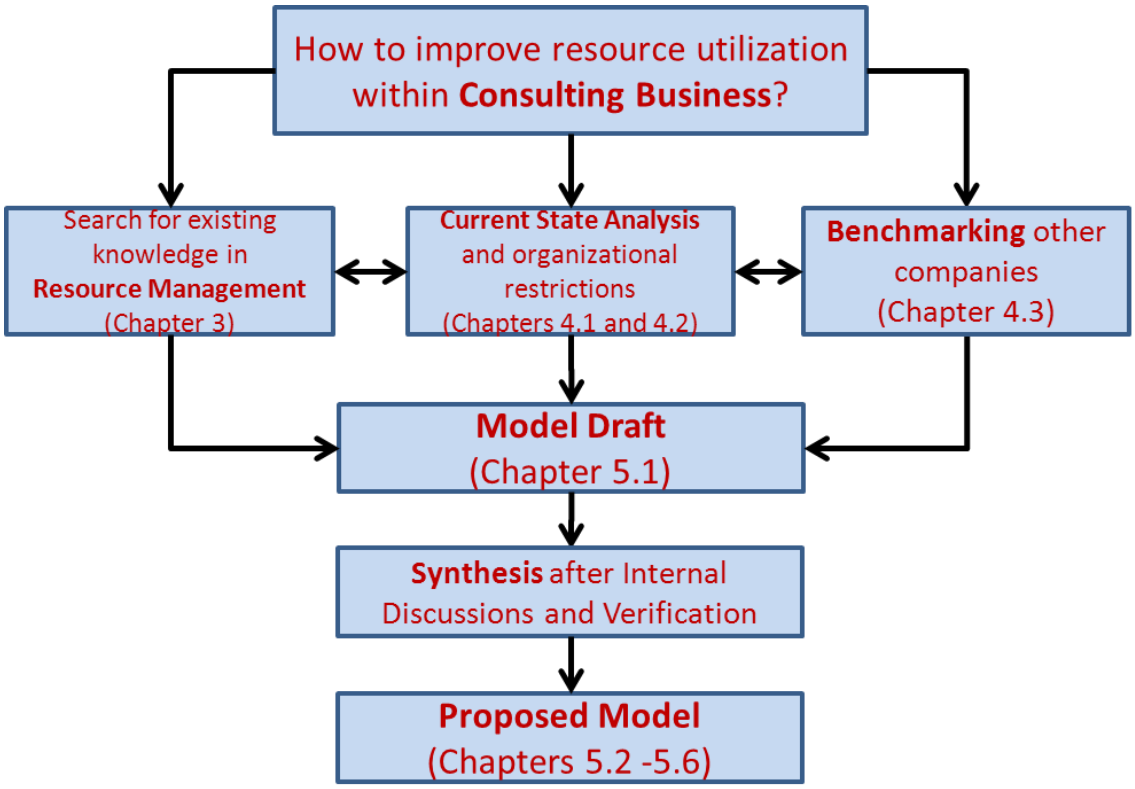

Figure 1. Research Plan.

The Thesis process consisted of different phases. First there was the familiarizing period, where the subject was studied widely. At the same time the scope of Thesis was considered. The second phase was to focus on the Thesis scope in order to deepen the knowledge, understanding of the RM problematics and finding background information. The third phase was for creating a new process proposal according to best practices and knowledge used in RM taking into account the implementation realities. The information was collected from sources as described above in section 2.1. The process proposal was created based on that information. A synthesis was formed by showing the draft to the managers interviewed earlier or whose units would be affected by this proposal. After their comments, the compromise solution was created. During the Thesis research it became clear that there are dependences between different aspects and sometimes those aspects were contradicting. Examples of those are the views on how consultants should be organized. To get a better control over their allocation and to guarantee their full attention to the task at hand it would be good to have them transferred into a separate team instead of a virtual resource pool. On the other hand, making such a radical IT organization change was seen improbable and consequently far from realistic and applicable. The other topic causing a lot debate was a question of

daily work control. Who should be the one guiding day to day operation? Is it Project Manager, Team Leader or Resource Manager? The proposal to this question is discussed in section 5.

2.3 Research Data

The data for this research was collected mainly with interviews. The interviews of Benchmarking Companies were conducted with the Theme Interview method. The interviews were arranged as a face-to-face session and only once, but some details were checked and agreed via emails afterwards. The questions used in the interviews can be found in Appendix 1. The process and related topics are reported under section 4.3. The overall interview descriptions can be found in Appendices 2 to 5. The internal interviewees' units where they came from are marked in red color in Figure 2. The units marked with names are the ones which are referred to in the text or which belong to the research scope.

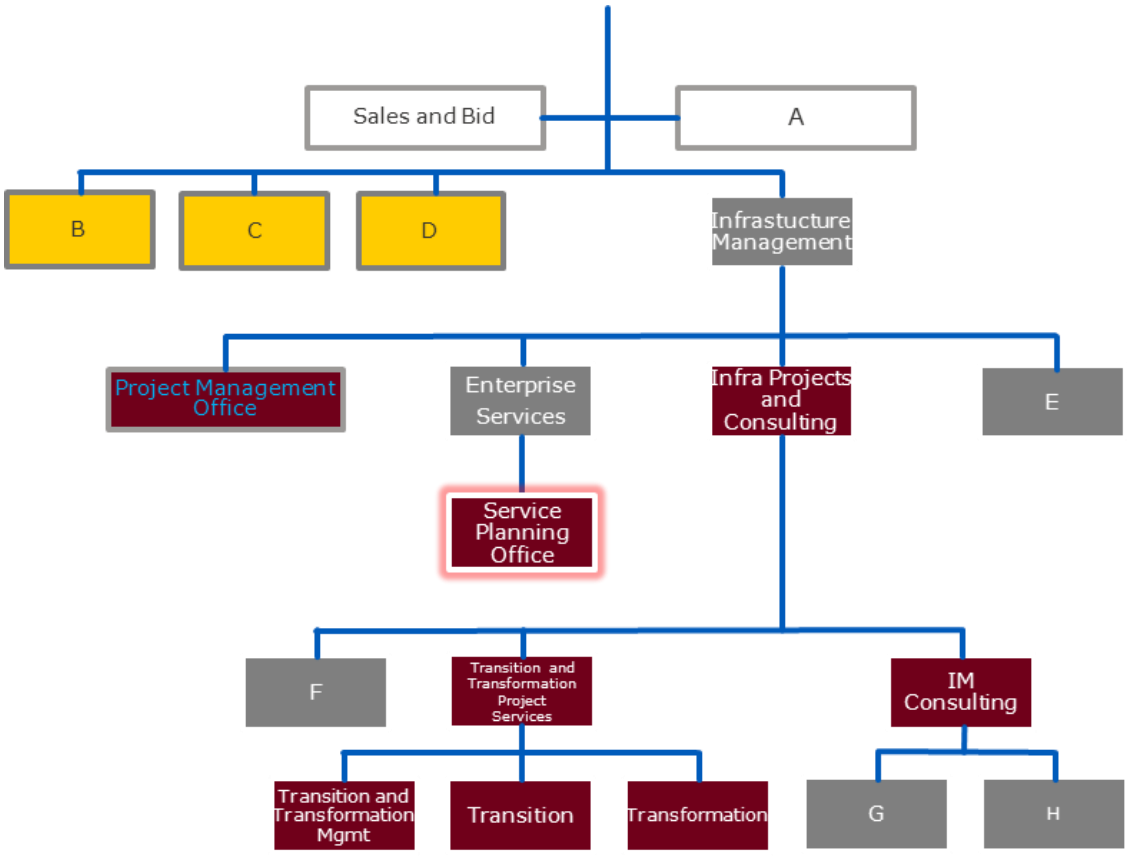

Figure 2. The internal Interviewees' and Referees' Home Organization Units.

The Interviewees from the Benchmarking Companies are listed below in Table 1. The details listed there are: their position during research, their role in Resource Management and the specific topic they have knowledge of.

External interviewee	**Position**	**Role in Resourcing**	**Special topic**
H.P.	Business Unit Director	Recruiting and allocation	RM Model and tools
M.K.	Manager	General RM topic	Data privacy
M.B.	Professional Service Consultant	Subject to RM	RM Model and tools
T.I.	Personnel Consultant	Recruiting and allocation	RM Model and tools
H.I.	Development Director	Recruiting and allocation	RM Model and tools

Table 1. The External Interviewees Position, Role and Topic.

The Case Company internal interviews were done in face-to-face sessions and mostly in a few rounds. At the interviews, the first round had a rather wide scope and discussions handled general topics in the Resource Management field. The following meetings with the Case Company employees focused more on topics at hand. People were selected mainly according to their specific competence of a topic and from their personal perspective. There were interview rounds one to several depending on person's knowledge on the topic and his or her personal interest towards this research.

Table 2 below lists the Interviewees from the Case Company, mentioning also their position during research, their role in Resource Management and the specific topic they have knowledge of.

Internal interviewee	Position	Role in Resourcing	Special topic
E.K.	Program Manager	Work control	RM Model and Bid projects
E.V.	Service Director	Recruiting	RM Model, tools and organization
J.Ko.	Resource Manager	Recruiting and allocation	RM Model, tools and organization
K.H.	Senior Consultant	Recruiting and allocation	Consultant competences
M.J.	HR Business Partner	Recruiting	Recruiting
P.K.	Service Manager	Recruiting and allocation	RM Model requirements, RM tools and metrics
P.P.	Service Director	Recruiting	RM Model
T.S.	Head of Service Planning Office	Recruiting and allocation	Organization and RM Model – new proposal

Table 2. The Internal Interviewees Position, Role and Topic.

The list of the referees who evaluated the Resourcing Model can be found in Table 3. The referees were all internal employees of the Case Company. They were chosen by the role they had in the development phase of the Draft Model or if they have competence in one or more key areas of the Model.

Evaluation Referee	Position	Role in Research	Special topic
E.K.	Program Manager	Referee	RM Model and Bid projects
E.V.	Service Director	Referee	RM Model, tools and organization
J.Ko.	Resource Manager	Referee	RM Model, tools and organization
J.Ku.	Program Director	Referee	Organization
K.H.	Senior Consultant	Referee	Consultant competences
M.M.	Director	Referee	Organization
U.M.	Service Director	Referee	Organization
P.K.	Service Manager	Referee	RM Model requirements, RM tools and metrics
P.P.	Service Director	Referee	Organization and RM Model
M.R.	Director, Program Management Office	Referee	
T.S.	Head of Service Planning Office	Referee	Organization and RM Model

Table 3. Resourcing Model Evaluation Referees.

Overall, 15 people were met and 38 hours of interviews were conducted. The comments to the proposal were asked from referees by email. Two of the referees were not interviewed originally.

2.4 Reliability and Validity

According to the Thesis writing instructions of Kajaanin Ammattikorkeakoulu the research reliability is about measurement stability, equivalence and consistence. Measurement stability means how accurately the repeated measure provides the same results and how much external factors affect the results. The equivalence means how similar the results are if measured by other researchers. The consistence is about how selected measure techniques and sample data support the research goal. The validity requirement covers the research content, structure and predictability. The content aspect studies how well the Thesis scope is covered during the research process. Thesis structure handles the topic of research connections to theory, study hierarchy level, the logicality of research, used terms and concepts. The predictability discusses how well the research can be utilized on forecasting similar set ups in another environment. (Kajaanin AMK 2011)

The Thesis subject of a Resourcing Model is by nature a fuzzy concept and depends on each participant's point of view. The literature is scarce on the subject and most of the material is collected with semi-structured interview method. See section 2.1. The research stability and repeatability is not expected to be high due to the snapshot type of view to the topic in the ever changing environment the Case Company Unit, their business and their ways of working are. The effects of external variables are high on Case Company's business. The same conditions apply to the other researchers who would like to repeat the study, i.e. the equivalence of the study is low. The selected study method is seen to be relevant compared to the research goal. Representative sample data, meaning mainly the interviews, were obtained by selecting many interviewees from different units and different companies. See section 2.3. The research did have the clear goal of proposing an improved Resourcing Model for the Case Company Unit. The Thesis is written with this goal in mind covering the upper level of the topic without going into details. After the overall level is properly studied and the new Model created, it is a question of future studies to plan the details. This proposed Model is possible to be implemented after few topics, such as tools to be used and personal objective alignment identified in this paper, are agreed on.

3 Conceptual Framework for Resource Management

The existing standards and frameworks were studied in order to find out what they say about the RM topic and how much they offer help when creating the new RM Model Proposal. The first section compares those and concludes their relevance to the current research. The following section introduces the competence topic unique to the knowledge work. Section 3.3 explains the details of reporting the Case Company Unit needs to deliver to their upper management. The last section presents the tools in use and data involved.

3.1 Comparison of Frameworks

There are one international standard and few common frameworks which are relevant to the Resource Management point of view. The frameworks do share many parts of the Service Management field, but they have their unique view point to the topic. Here are the most common models discussed in the level and scope of this Thesis work.

3.1.1 ISO/IEC 20000

The International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC) standardizing bodies have introduced their common global standard set for information technology service management. It is known by the standard number and year 20000-1:2005. The goal of this standard is to standardize Service Management globally. The standard states its scope as "defines the requirements for a service provider to deliver managed services of an acceptable quality for its customers". The standard introduces the concept of service management divided into six processes. The core processes are *Service Delivery, Control, Release, Resolution* and *Relationship* processes each having sub processes included. For the Case Company the important processes are *Service Reporting, Service Availability, Service Budgeting, Capacity Management, Business Relationship Management* and *Supplier Management.* The Control Process according to the standard focuses on tangible IT services and thus is not directly in scope of this Thesis. Control in business sense is included in the *Budgeting and Accounting for IT Services* sub process. (ISO/IEC 20000-1 2005: Figure 1)

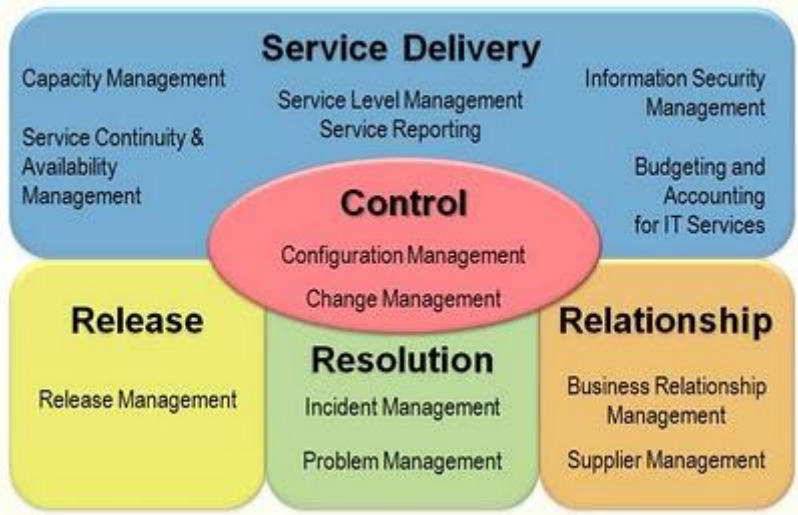

Figure 3. ISO/IEC 20000 Core Processes.
(ISO/IEC 20000-1 2005: Figure 1)

In addition to the standardized terminology of service business, the standard introduces the concept of service continual improvement method called *Plan-Do-Check-Act* into service business. This method is also known as Deming Cycle. The Deming Cycle suggests that proper SM relies on continual improvements on all of the service phases (Figure 4).

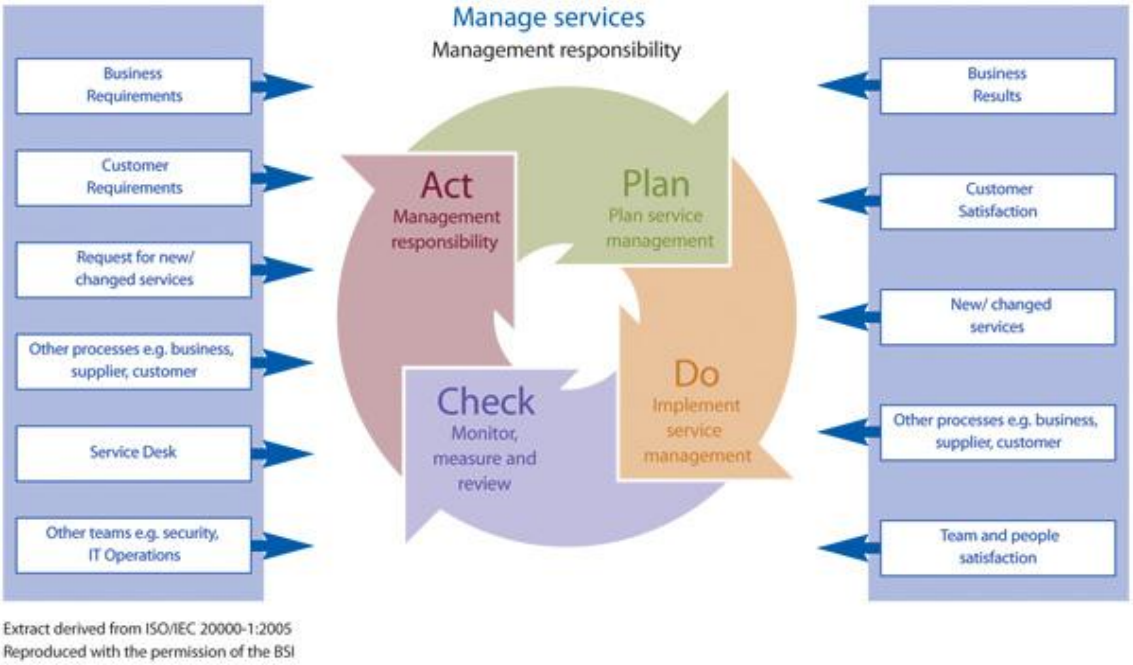

Figure 4. ISO/IEC 20000 Plan-Do-Check-Act Cycle.
(ISO/IEC 20000-1 2005: 5)

3.1.2 CobiT 4.1

Control Objectives for Information and related Technology (CobiT) is a common framework heavily weighted towards understanding the business requirements for IT. It tries to increase a company's business strategy understanding within IT organization and at the same time to provide visibility into IT governance for top management. It has a focus on process goals to support business strategy and relevant controls developed to ensure goal achievement. The CobiT framework admits it is mainly a high level guideline only, but it provides help in all the areas of service management, such as performance, risk management, accounting, monitoring, SOX control and process maturity. CobiT adopted the IT process capability and maturity model from the Capability Maturity Model (CMM) of the Software Engineering Institute. CobiT has adopted The Balanced Business Scorecard for measuring IT operation outcome and performance from Robert Kaplan and David Norton studies. (CobiT 4.1 2007: 6)

Figure 5 shows the functions for which CobiT provides guidance. From this Thesis point of view the valid topics are the Performance and Resource Management processes.

Figure 5. The CobiT Core Functions.
(CobiT 4.1 2007: 6)

CobiT adopted the idea of continual improvement of the Deming Cycle, but modified it a bit and has a different angle. See Figure 6. (CobiT 4.1: Figure 5).

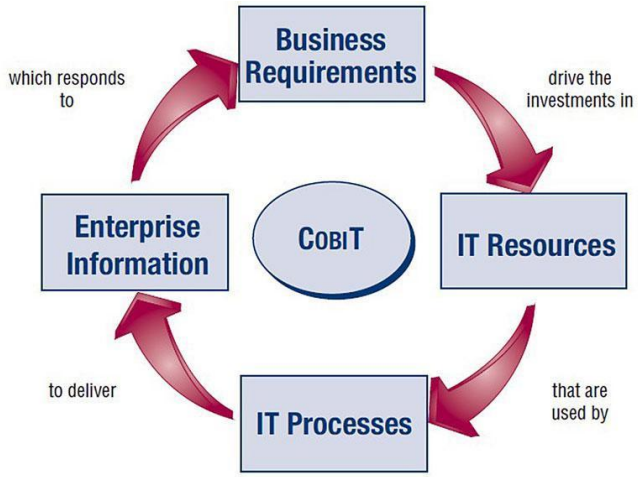

Figure 6. CobiT Continual Improvement Cycle.
(CobiT 4.1 2007: Figure 5)

CobiT categorizes the continual improvement cycles to four domains: 1. *Planning and Organising (PO),* 2. *Acquiring and Implementing (AI),* 3. *Delivering and Supporting (DS),* 4. *Monitoring and Evaluating (ME).* See Figure 7.

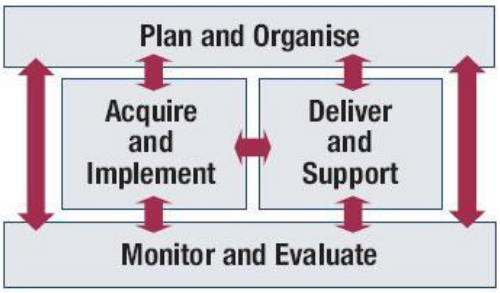

Figure 7. CobiT Domains.
(CobiT 4.1 2007: 12)

Those domains contain all together 34 processes which CobiT calls *IT control objectives*. The interesting Control Objectives for this Thesis are *PO4 Define the IT Processes, Organisation and Relationships, PO6 Communicate Management Aims and Direction, PO7 Manage IT Human Resources, AI4 Enable Operation and Use, AI5 Procure IT Resources, DS3 Manage Performance and Capacity, DS6 Identify and Allocate Costs, DS11 Manage Data* and *ME1 Monitor and Evaluate IT Performance.* Many of these Control Objectives contain some technology or strategy related topics which are out of the scope of this Thesis. The process, control, resourcing and performance related items are valid for the Case Company and for this Thesis. The Thesis view point is the

knowledge work. The other services may have tangible aspects which are out scoped from this research. These processes were taken into account when the new proposal was created.

3.1.3 CMMI-SVC 1.3

The CMMI (Capability Maturity Model Integration) models are collections of best practices that help organizations to improve their processes. This model, called CMMI for Services (CMMI-SVC), provides a comprehensive integrated set of guidelines for providing superior services. (CMMI-SVC V1.3 Preface: i).

CMMI-SVC lists the three critical dimensions that organizations typically focus on: *people*, *procedures and methods*, and *tools and equipment*. (CMMI-SVC V1.3: Figure 1.1).

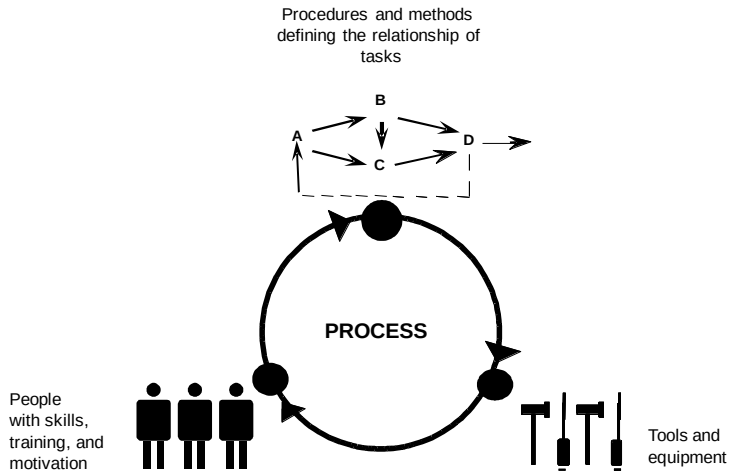

Figure 8. CMMI-SVC Organization Critical Dimensions.
(CMMI-SVC 1.3 2010: 4)

CMMI-SVC states that a process is the basis for any Service Operation. The process manages inevitable people and technology changes. It provides an infrastructure and stability within an ever changing world by maximizing the productivity of people and the usage of technology. The CMMI models provide guidance when developing processes. This is done through evolutionary improvement paths. There is a defined path for Capability Levels, from *0. Incomplete, 1. Performed, 2. Managed* to *3. Defined* , meant for processes. CMMI-SVC understands a Capability Level as an organization's process improvement achievement in an individual process area.

Similarly there are Process Maturity Levels from *1. Initial, 2. Managed, 3. Defined, 4. Quantitatively Managed* to *5. Optimizing.* CMMI-SVC understands a Maturity Level as an organization's process improvement achievement across multiple process areas, i.e. the overall state of the organization's processes relative to the model as a whole.

Level	*Continuous Representation Capability Levels*	*Staged Representation Maturity Levels*
Level 0	Incomplete	
Level 1	Performed	Initial
Level 2	Managed	Managed
Level 3	Defined	Defined
Level 4		Quantitatively Managed
Level 5		Optimizing

Table 4. CMMI-SVC Organization Process Capability and Maturity Levels. (CMMI-SVC V1.3 2010: Table 3.1).

In the area of this Master's Thesis CMMI-SVC provides general level instructions on how to arrange Service Capacity Management. The relevant modules called *Process Areas*, out of a total of 24 areas, are *Capacity and Availability Management (CAM), Measurement and Analysis (MA), Organizational Process Definition (OPD), Organizational Process Focus (OPF), Organizational Performance Management (OPM), Organizational Process Performance (OPP), Strategic Service Management (STSM)* and *Work Planning (WP)* (CMMI-SVC V1.3 2010:11).

The CMMI-SVC focus on people, processes and tools as is also the case with this research. All of these corner stones are discussed in this Thesis. The concepts of capability and maturity are useful and they were considered during the research work.

3.1.4 ITIL v3

Information Technology Infrastructure Library (ITIL) is a framework for a good practice in Service Management. The aim of ITIL is to provide services that are *fit for purpose*, *stable* and *reliable*. There are two versions of ITIL available and the version 3 is the latest published on year 2008. ITIL provides a holistic and continual approach to set up Service Management. ITIL considers the activities as *Service Strategy*, *Design*,

Transition and *Operation* added with ongoing *Continual Improvement* a key to successful Service Management. These 5 topics are called Publications because they are published as separate books. See Figure 9.

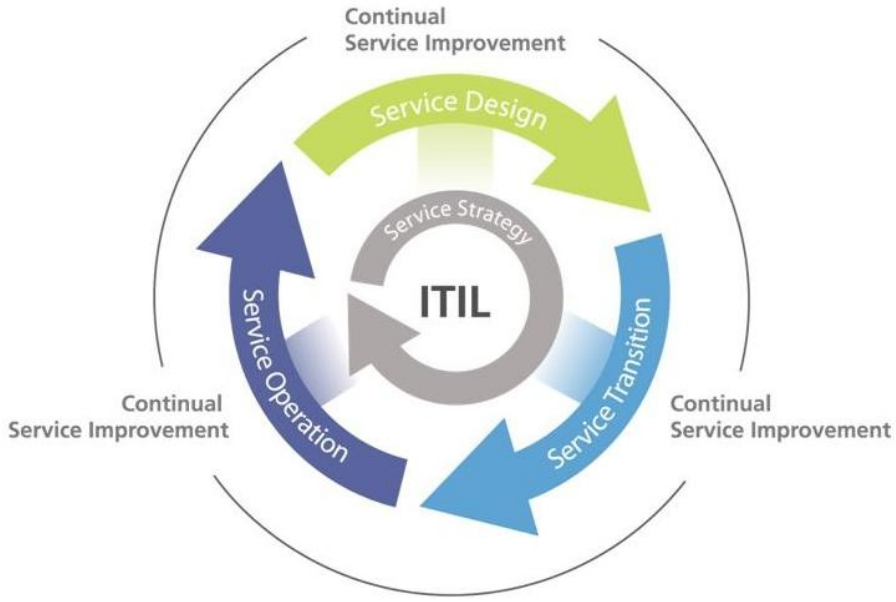

Figure 9. ITIL Continual Improvement Cycle.
(ITIL v3 2008:19)

ITIL relies on roles. There is a large number of roles for people taking care of different parts of the total set up. Other ITIL features include the need of continual improvement and documentation of all the aspects of service. For the Case Company's consultancy business, and thus in scope of this Thesis, the ITIL framework can provide only some assistance. The service the Case Company Unit sells does not include any physical assets, but know-how and man work. The relevant parts to this research belong to ITIL Publications Service Design and Service Operations. Within Service Design the relevant goals are the focus on *People* involved and *Process Design*. A thorough understanding of the process in use is the most important topic for people to understand. This helps people to find reasoning for activities they do and to maintain their motivation at their daily work. A clear and simple enough process is important as well as properly defined roles in the process for each person involved. *Capacity Management* is one important aspect for the Case Company Unit in sense of adequate and quality consultancy capacity i.e. optimal amount of relevantly competent people. In Service Operation the relevant topics are *Communication* and *Availability Management*. Communication refers here to the fact that consultants, specialists, line managers, customers and

business leaders all are up-to-date with their knowledge about ongoing business topics. A clear and up to date visibility over current operational status is a key to this. The proposed model in section 5 tries to address the operational visibility topic. Availability Management here is simply the availability of people with correct competences. (ITIL v3 2008)

3.1.5 Standard and Frameworks Consideration

The ISO/IEC standard as well as the frameworks can be utilized by corporates who want to step into any particular service business area, who want to align their service approach together with their partners, who want to benchmark their services or benchmark their services against other player's services, demonstrate their service ability to their customers or want to improve their service generally.

The frameworks introduced here have a more or less the same goal of getting organization IT evolved into properly managed and coherent services instead of semi related activities and sub optimization. These best practices each do have slightly different standpoint to the topic and thus they complement each other rather than exclude or substitute one to another (CMMI-SVC V1.3 2010: 7). Especially CobiT and ITIL inherit a lot of their content from the ISO/IEC 20000 standard but the frameworks introduce something unique also. Figure 10 shows how the standard and frameworks fit into the Thesis scope. The X-axis illustrates the focus of the frameworks on operative or strategic time perspectives with a timeline where the shorter the time, the closer to daily operations the framework is and oppositely farther from business strategy topics. The Y-axis shows how much practical guidance it is possible to receive from the framework directly.

Based on the study of the US Census Bureau 2007 (Winniford et al. 2009:156), CobiT was not a common or well-known framework within US companies. Only 36% of companies following IT Service Management practices used CobiT fully or partially while ITIL was used by 66%. Winniford estimates that the ITIL share in Europe could be much higher. IT Service Management (ITSM) (ISO/IEC 20000) was the most widely used with a 78% share (Winniford et al. 2009: Figure 4).

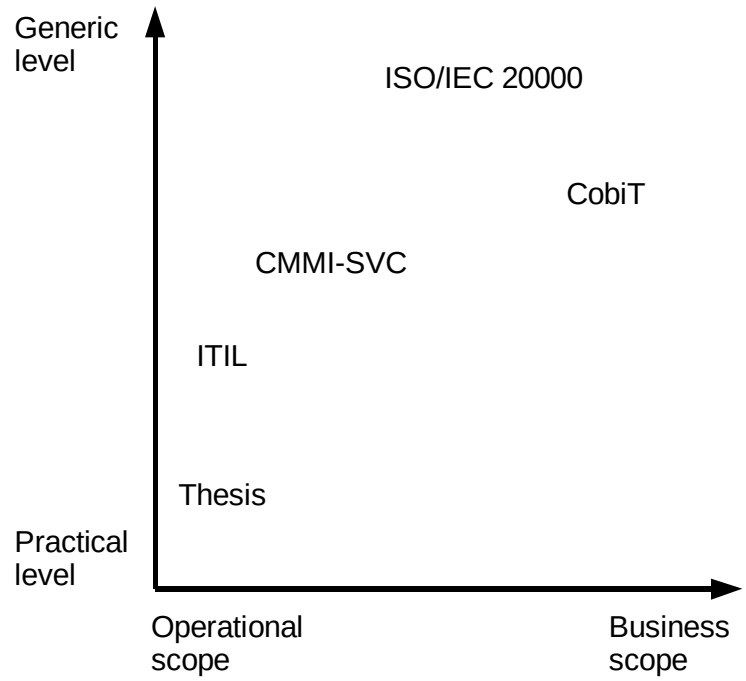

Figure 10. Standard and Frameworks Fit Into Thesis Scope.

The ISO/IEC 20000 standard shows the overall areas of Service Management which should be considered in this Thesis. However it provides very little on the practical level. The CMMI-SVC helped to understand very important aspects and the meaning of Capability and Maturity within an organization and its processes. CMMI-SVC focuses more on organizational topics than the Thesis does and thus it cannot provide more than an increase in general understanding. ITIL as the most common Framework and thus having the widest knowledge level is the easiest to adopt into use. It does have the most detailed instructions for applying it into Service Management. When ITIL talks about service, it assumes that services consist of both tangible and intangible parts. Pure knowledge service, as the case is with consulting business, is difficult to be taken into use by following ITIL only. Some modifications and excluding ITIL requirements are needed in order to find practical solutions for consultancy business.

3.2 Competences Needed in Consultancy Work

The competences of an individual have been illustrated in the competence triangle. The triangle describes the three aspects of knowledge work. Any of them missing causes the others to become void.

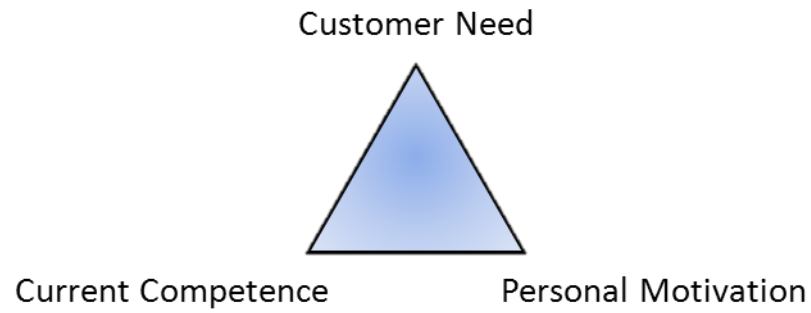

Figure 11. Competence Triangle.
(Interviewee K.H. 2010)

All business starts from customer needs. This is the denominating factor for the competences which Consultant Agency must try to build in order to cope within their chosen business area. The competences within the Case Unit consultancy can be divided into categories. The *technology* competence category consists of all the relevant technical know-how the targeted customers are interested in and which are decided in the Case Company strategy to be focused on. These are for example Java coding, all SAP competences etc. The next category is *operative process* knowledge. This includes bid experience, project and program management knowledge and roll-out capability. The third category is about *business* knowledge. This refers to the person knowing the customer business area, the customer company within their business and the personal contacts to the customer organization. Usually the consultant to be offered first is the one familiar to the customer and who has previously received good feedback. The consultant should know at least the customer's business area or master the required technology to be successful in his assignment.

The consultants in this thesis scope are Project Managers. Each PM conducts one or more of the main level tasks. The tasks are *Transition, Transformation, Project Management, Internal Work* and *Bid work.* Transition work in the Case Company's vocabulary refers to a Customer case where the customer wants to outsource some part of their IT to the Case Company. Transformation means that the Customer orders a development project in order to improve the functionality of already outsourced service or they want to align the service according to their new and changed requirements. Project Management is a traditional project work capability. Internal work contains all the Case Company internal tasks such as process or development project work. Bid work instead is about a PM making preparations including cost calculations for the ten-

dering phase. The work is run by the Marketing Unit. Bid work is a demanding task so only few senior level PMs can take responsibility over it. (Interviewee K.H. 2011)

3.3 Reporting to the Upper Management

Every unit in the Case Company must provide weekly business reporting for the headquarters abroad. The *Billing Rate* refers to the billable working hour's proportion to the other work hours. The report is a combined figure of consultants and specialists within the organizational unit. This figure gives a good view on how much slack and overhead there is in daily operations in the accountable unit. Accountable units within the Case Company are the ones on second row from the bottom in Figure 2. The next report is a utilization rate measure called *Bench List* of consultants and specialists showing how each of the employees is allocated into the different tasks. This is a manual reporting task for every Team Leader. It is the HR which compiles the separate reports into one which is then forwarded to the headquarters. The last weekly report is the *Number of Full Time Employees*. This shows how many full time employees are on payroll. The temporary or part time employees are not included. This report is provided by HR based on the payroll data. (Interviewee E.V. 2011)

3.4 Tools and Their Data

Currently the resourcing related data is scattered into several tools and places. The tool called Sonet is used commonly for work time registration and it is the tool in use for the Case Company Unit. It has a web access for employees to record their work time. Every employee is required to fill in their work time weekly in the tool. The day is not fixed although some units have recommendations. The granularity for recording is half an hour. The recording habits vary between units and between employees. Sonet is used as the basis for customer billing.

There is another access to Sonet called Sonet 3T. It is a management access to the information within Sonet. It can be used to correct data, create new projects and carry out the Project and WTR approvals. This tool provides WTR reports for managers too.

Ebic is for financial management. It shows the profit and loss accounting (WTR data received from Sonet) and it provides a general view on the WTR information reported in Sonet. (Interviewee E.V. 2011)

DSWeb is a tool used for Project Management. The tool contains a module for customer and project staff feedback. The tool includes a Resource Management function, but currently it is not used. (Interviewee E.V. 2011)

Lara is a tool for CVs, competences and for internal hiring. The tool is global and HR is in charge of it. (Interviewee M.J. 2011)

Resource Request Template is a tool where RRs are stored. At the time of research not all of the RRs are there yet, but that is the target. The first version of the tool is in use. (Interviewee P.K. 2011)

3.4.1 Work Time Recording

Work Time Recording is a core process in many of the companies. At consultancy business WTR is often a basis of customer billing in case of ordered work (time and material basis contracts) and estimation of labor costs during the tendering phase (fixed price contracts). WTR data is used for internal performance metrics in order to allow supervision and fair work load balancing. Currently all employees of the Case Company must fill in the WTR information weekly to the Sonet tool. The categories used are *administration, sales, development, solution architect work, small assignments* and different kinds of projects. Under categories there are *work numbers* defining the work in more detail. In addition to the actual work there are some work numbers reserved for other purposes such as refunding travel costs. In the WTR record there is an optional description field where the employee can write an explanatory text. To reach a clear picture of the work done is difficult. Usually employees do not write additional text. This means that tracking the work done afterwards is a laborious manual task. The refunding work numbers on the other hand might mix up the reporting if they are not removed. (Interviewee P.K. 2011)

3.4.2 Metrics of Organization Performance

The performance of the Case Company Unit and an individual employee is measured by *Employee's Average Billing per Year.* This is to show the exceptions in personal performance and to compare unit level performances. The other metrics is resource *Utilization Rate* on unit level. This is used to compare how well different units can utilize their own resources. (Interviewee E.V. 2011)

3.4.3 Data Confidentiality

According to the Finnish law on privacy, only the needed employee related personal information is allowed to be collected. The law does not restrict the use of person Social Security Number as identification, but it is not ethical to use it without a good reason. Thus at companies an employee usually receives an internal identification number to be used instead of the Social Security Number.

The law states any health related information as confidential. This includes the employee's sick leave regardless its reason. Training, vacation and other type of absence agreed with the employee's superior is not confidential. However, any kind of absence, whether agreed with the line manager or not, can be considered as confidential from the employee point of view and thus it should be treated so.

Within the Resource Request Process it is mandatory to collect some employee data. The collected data is discussed more in sections 3.3, 3.4, 4.5.2 and 5.5.

The data needed in the process contains work time, customer, time period, nature of work, absence times etc. Although some of this data can be considered as confidential, if they are not separable, but combined under the category of "other", it is legal to store the data in the company internally public place such as a common work place. There are two categories defined. First the *Actual*, billable work time and the *Other*, which contains everything else. If confidential information exists, it must be stored in a restricted place and accessed by only those who need the data. (Interviewee M.K. 2011)

The law discussed here is "Laki yksityisyyden suojasta työelämässä (759/2004), Henkilötietojen käsittelyn yleiset edellytykset (3 – 5 a §)".

3.4.4 Resource Allocation

Currently allocation in the Case Unit is done by three Team Leaders separately. Although they co-operate, the overall picture is missing as those people are mainly interested in their own team's utilization. This phenomenon is exaggerated by the fact that their personal objectives and incentives are designed to maximize their team utilization. This leads to sub optimization. (Interviewee E.V. 2011)

When considering resourcing the basic questions for the need for a new allocation must be described clearly. The following questions are discussed every time a new allocation is searched. How much allocation is needed? This is in terms of FTE. How long an assignment? The answer tells the calendar time the assignment is expected to require. From which date are resources needed? This question clarifies the starting calendar date. What competences are expected? This refers to the competences or competence set the consultant must have. This topic is discussed more in section 3.2. Where physically the resource is needed? This is to be answered if the Customer need has some locational issues. (Interviewee K.H. 2011)

When resourcing managers start to look for resources, they first look for a free resource within the Case Company Unit. This happens via emails to the Team Leaders. If a resource cannot be found from its own unit, then they look for resources from the Bench List. The Bench List covers all resources of all the units in Finland. The list is created for management reporting and thus it contains high level information only about personal skills and allocations. This gives no real value in case of finding a free and competent consultant. Due to the alternating efforts, the different units and their Team Leaders updating the list, the information is not fully up to date and thus allocation solution is seldomly found there.

The last option is to escalate an allocation question to the Resourcing Meeting. It may be that the meeting cannot find an internal candidate for the task at hand so they might propose sub-contracting the job to one of the partner companies. A Resource Manager organizes the Resourcing Meetings weekly. (Interviewee P.K. 2011)

4 Analysis and Results

This part of the research gives the reader an idea what the phases are where an incoming bid is handled until the possible work implementation is done in a sense of consultant resourcing. Here it is described how the current RM Model in use works and how it is formed. The RR and RA processes are described by using flow charts in the first section. Section 4.3 describes the Benchmarking Companies' Models. Section 4.4 is a list of found drawbacks and improvement topics of the current Model. Section 4.5 states the requirements for the new RM Model.

4.1 Case Company's Data Findings

In Figure 12 the phases of new Customer Request handling are described. The request handling starts when a Customer Request for Proposal (RFP) is received. The goal of the tendering phase is to make financial calculations, check the RFP against the unit strategy and estimate the implementation possibilities. If everything looks promising, the offer is sent to the Customer. If the bid is won, the implementation phase starts. The Case Company's current model has a very limited feedback and learning phase. The responsibility to ask feedback from the customer and other participants is in charge of the Project Manager. However, the lessons learned part is mainly missing because the PM usually collects the feedback only for his use and does not share or process the information further. Keeping information hidden prevents other organization from learning. It also prohibits the organization overall big picture developing.

Figure 12. Customer Request Phases.

The bid or tendering is the early phase of the sales process. It starts when a customer notifies of his interest on some purchase, such as consultancy. Before the actual bid can be given to the prospect customer, there are several steps such as evaluating the incoming bid request compared with the company strategy, evaluating the work amount needed to complish the task, calculate the costs and profit for the assingment and finally prepare the preliminary project plan with an estimated resourcing and schedule. The process details vary between companies.

Figure 13 shows the process how an incoming RFP transforms into the one or more actual Resource Request. The picture assumes that the bid case is won so no handling of a lost case is explained. The Project Manager resources are needed in two phases, first during the bid project and then when the actual implementation phase starts. The process flowchart shows them happening at same time, although they happen at different times on the timeline.

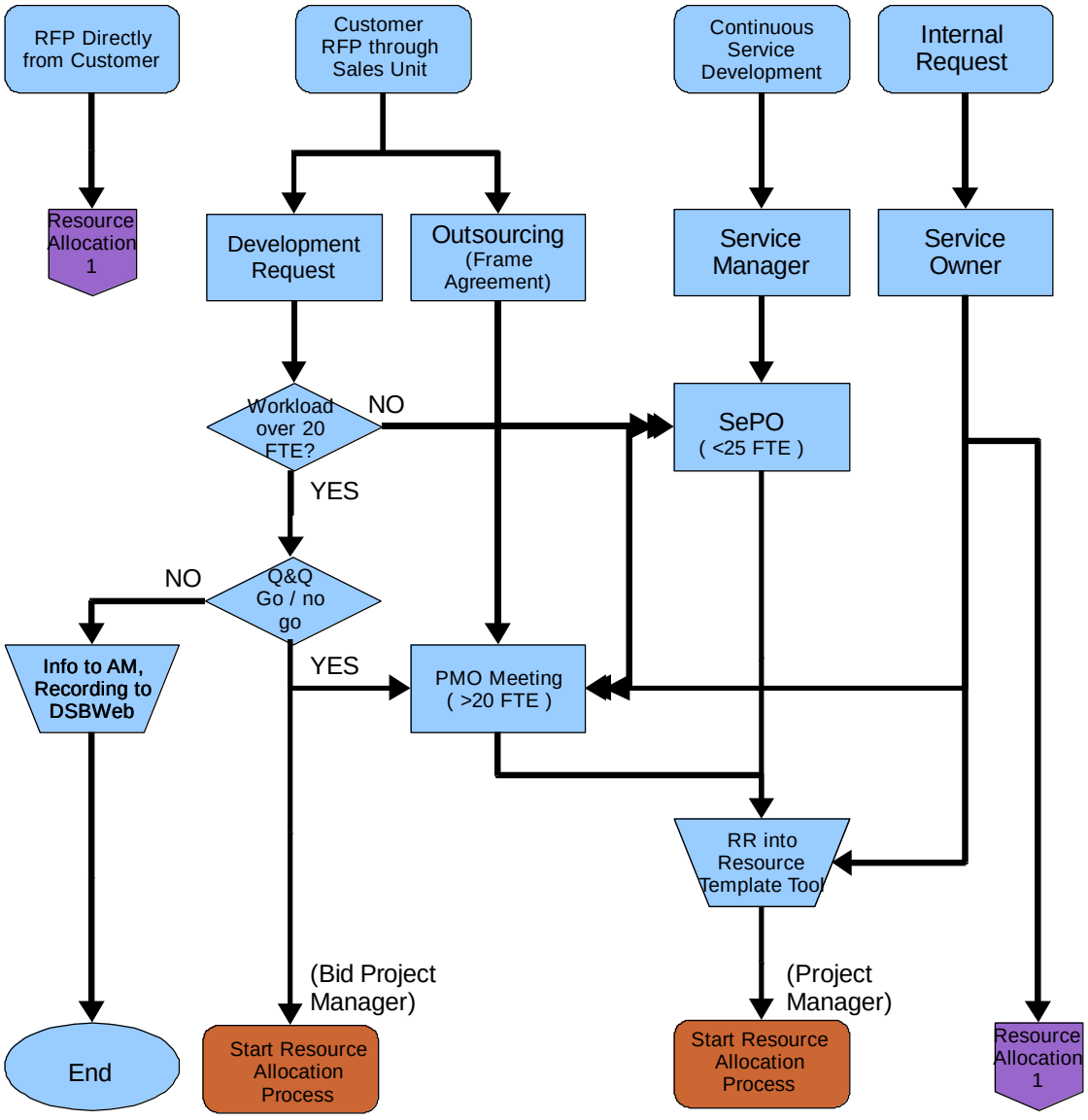

Figure 13. Resource Request Process.

A customer RFP can come either through the Sales Unit or directly to the Case Company Unit. The latter requests are usually small and from customers with a long common

business history. A Bid Manager is nominated already when the RFP comes to the Sales Unit unlike the direct requests which do not require the bid phase. The RFP can belong to an existing Frame Agreement (when the tendering phase is omitted) or it can be either a new request from an existing customer or a new request from a new customer. In case of a *Development Request* (DR) the work amount is usually estimated by the *Project Management Office* (PMO). If the work is estimated to last for less than 20 FTE (Full Time Equivalent), the request will be moved to the *Service Planning Office* (SePO). SePO is a virtual organization taking care of continuous services development activities as long as the effort is less than 25 FTE. If the task is estimated to be larger, it will be handed over to the PMO. The SePO role and responsibilities are discussed later in section 5.1. The decision criterion here is not exact and must be understood as a guideline only. If the request duration is over 20 FTE, the biweekly *Qualification & Qualitycation* (Q&Q) meeting handles the request and makes a Go or No Go decision for the bid. After a positive decision, a *Bid Project Manager* (BPM) is requested from the Case Company Unit and the case is handled in the next PMO meeting. There the participants negotiate the resourcing on a general level and offer terms. Due to the iterative nature of the bid process, it might easily happen that the original work load estimates are smaller than expected. In this case the PMO Meeting can hand over the responsibility to SePO. Similarly SePO can forward larger than expected projects to the PMO Meeting. (Interviewee E.K. et al. 2011)

SePO is one source of RRs. They can be small customer requests from existing customers or they might be internal service or tool development tasks. Those requests are sent directly to the Resource Allocation Process at the Case Company Unit. The Case Company's internal IT might also want to utilize the Case Company Unit know-how and send a request through Service Managers. Before starting the Resource Allocation Process, the RR is inserted in the Resource Request Template Tool by the PMO and by Resourcing Meeting members.

SePO, managed by *Enterprise Services* (ES), is a whole *Infrastructure Management* (IM) wide virtual organization, whose task it is to maintain and develop current services the ES provides. New service development is out scoped as well as project work requiring over 25 FTE investments. Financially SePO does belong to the ES Unit. The costs are minimal as the only permanent person working there is the Head of the Ser-

vice Planning Office. The consultants and specialists costs are carried out by their own units. SePO started working on 1.4.2011. (Interviewee T.S. et al. 2011)

Management Escalations which may happen during the tendering and implementation phase are out scoped from the Thesis. They are derived usually from development or project changes and do not belong to the Resourcing model itself.

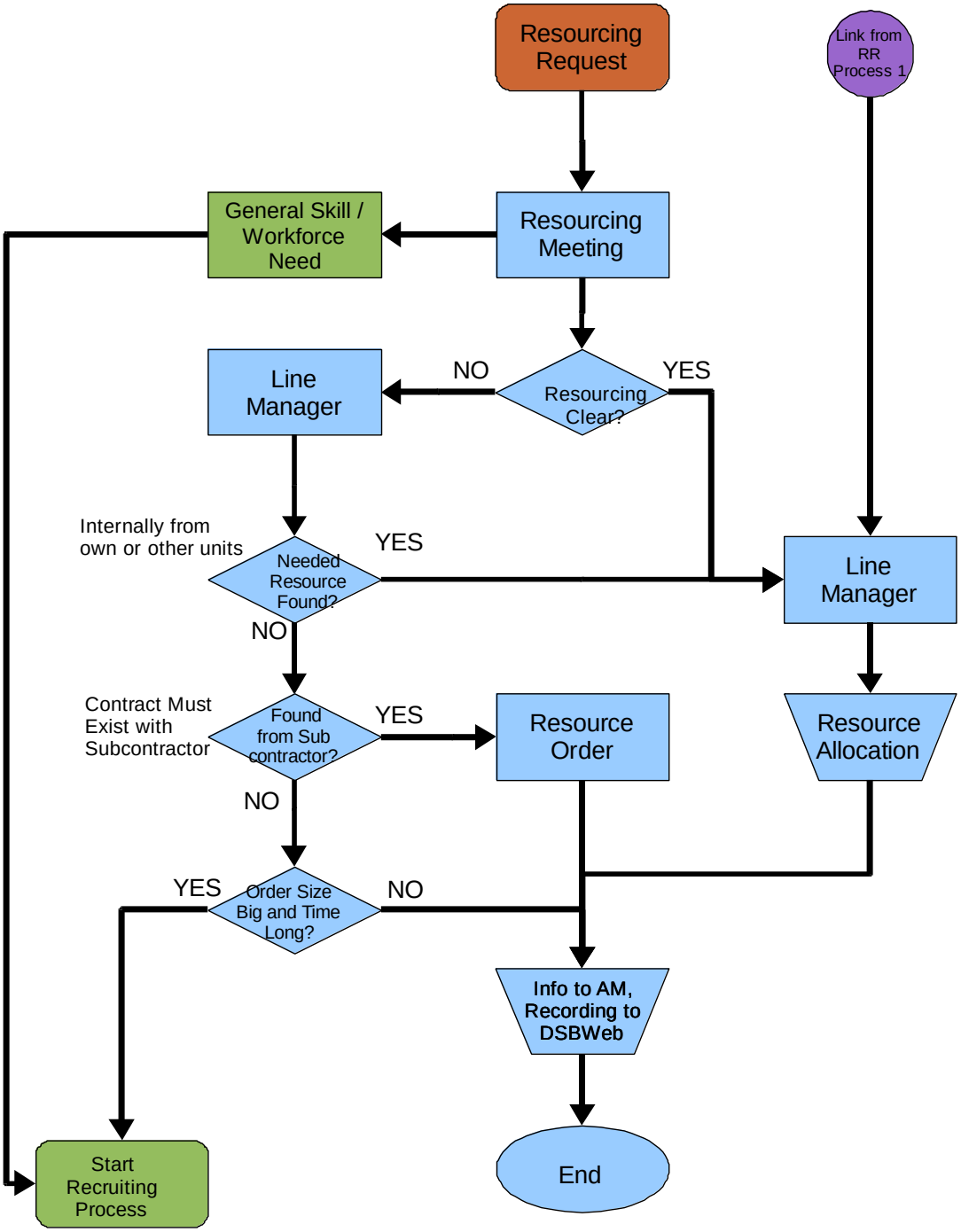

Figure 14. Resource Allocation Process.

In the current model the Resourcing Request can come through a Resource Template, mail or phone although there is a demand to utilize the tool only. The Resourcing Meeting handles outsourcing projects, other customer projects and internal development projects. If the meeting can find a suitable and free consultant(s) for the project, the resourcing can be agreed straight away. If not, Line Managers are in charge of looking for a resourcing solution. The participants are Director of PMO, Line Managers from resourcing organizations and RMs. The Resourcing Meeting takes place bi-weekly and produces meeting minutes. (Interviewees E.V. and P.K. 2011)

4.2 Analyzing the Model and Tool Details

The current state analysis is needed for proposing changes to the RM process and for evaluating new process benefits. It is done through key person interviews within the Case Company Unit and through unrelated person interviews to get other viewpoints into the work. The target of interviews is to find out the RM needs, RM metrics and to create a current RM process description.

Through the current model performance analysis it is possible to get understanding how challenging the current process is to use. When estimating current process (and tool) use costs, it is possible to compare if the new process can provide any savings. In this situation, however, there might be some non-monetary benefits achievable through easier process use and through better RM visibility.

4.2.1 Roles in Model

Resource Manager (RM) is one key role within the Resourcing Management Process. He takes care of inviting and heading the weekly Resourcing Meeting, studies resourcing purchasing, i.e. decides if the needed person is found somewhere else in the organization, if he is to be ordered from a sub-contracting company for temporary use or if the company needs to initiate a Resource Hiring Process because of a longer term need. He makes the subcontracting/recruiting decision and participates in the recruiting process. One example of the Case Company's fluctuation on roles, title names and descriptions is RM: The person's official title is not RM, but *Service Manager* (SM). This is against the company's own title policy, but the discrepancy has not been seen important enough to be corrected. A *Bid Manager* is responsible for a customer relationship during the tendering phase. He or she is from the marketing unit. The *PMO Man-*

ager is in charge of service development and of customer's outsourcing relationship with the Case Company. The Service Manager has the overall responsibility over services on operation. The *Line Manager* is a key role in allocation. He or she has the sole responsibility on resource allocations. The *Project Manager* (PM) is the person taking care of project implementation whereas a *Bid Project Manager* is in charge of the tendering phase preliminary project planning, resource and project calculations.

4.2.2 Resource Request Template

Resource Request Template (RRT) is a tool where RRs are to be stored and processed. It is a new tool and thus its usage is not clear to everybody yet, but it will evolve over the time. The aim is to get all the RRs to be handled through RRT. The users of the tool are resourcing managers and PMO Project Managers. A Resource Manager should run reports in order to get the overall picture of the resource situation. The historical information should be taken to notify the trends. (Interviewee P.K. 2011)

4.3 Analysis of Resource Management Process Used in Other Companies

Resource Management is a common process among companies selling knowledge work. To understand how the RM challenge is solved in other companies, several interviews were conducted. During the study, the aim was to find several companies who have similar business environment as the Case Company. So the search was mainly focused on non-engineering companies. This was expected to provide the widest possible view over the Resource Management topic.

4.3.1 Benchmarking with Company A

The Benchmarking Company A works within Staff Renting business in Finland. They provide office staff for companies. The assignments are on a temporary basis, but the Benchmarking Company A may offer their Customer Company a possibility to recruit the rented person permanently. The Benchmarking Company A has developed their own Resource Management Process, which is presented in Figure 15. The process starts if the customer, either new or existing, asks for a new bid. The Management decides if the Benchmarking Company A is interested in the bid case or not. If the bid case falls into the company's focus area, a *Sell Case* is created in the tool called *Myyntihanke* (Microsoft Dynamics 4.0 based tool). The Sell Case is forwarded to another tool called *Tarjoussimulaatio* (Microsoft Dynamics 4.0 based tool) where the financial calculations and pricing is done. After this phase the finalized bid is sent to the customer. If

the case is not won, the process ends. If the answer is positive, there is a phase to find resources. If the resource is found inside the company, i.e. the specialist is free for next assignment; the *Assignment Record* is created and updated with the person name. Otherwise the recruitment process starts.

In the case of customer wanting to extend the existing assignment, according to the process there is first a check if the extension assignment conditions will be the same as with the original case. If yes, a simple assignment record update is done with a new end date. Whereas if conditions are to be changed, some renegotiation with the customer is needed. After that, it must be considered if changes are major. Major here refers to that the job scope and responsibility would change remarkably. Also if the pay or benefits for the employee would change. In these cases new negotiations with the customer must be carried out. The general arrangement changes, such as work time, tools and work place are items which can be changed in the Assignment Record only.

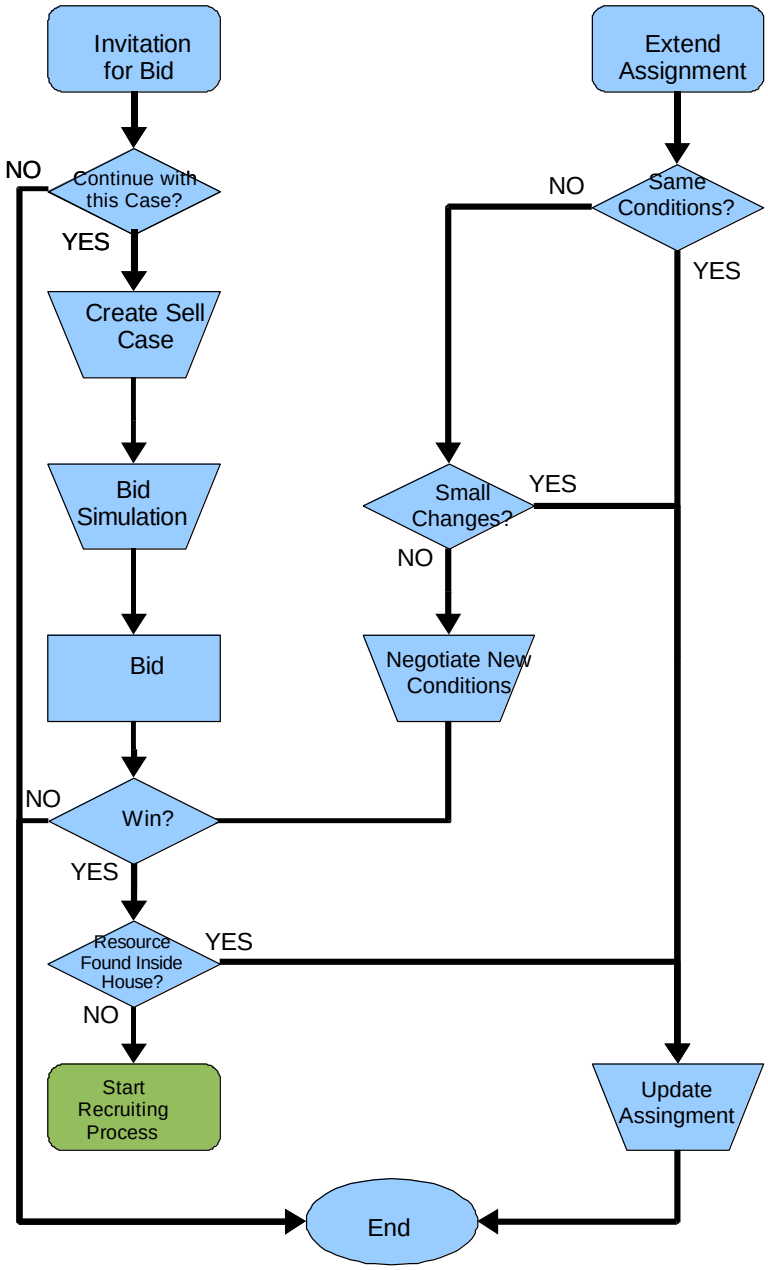

Figure 15. Resource Management Process of Benchmarking Company A.

In their business, the Benchmarking Company A utilizes their management experience when they consider seasonal and competence demand changes. They do not have any statistical or any other tool in use for forecasting. For resource allocation the Benchmarking Company A does not have partial or shared allocations, but all specialists are assigned full time for their customers. Thus they feel they do not have the resource optimization challenge. The actual allocation decision is done by the Personnel Consultant for the assignments are on their responsibility. Primarily the Personnel Consultant must utilize the existing resource pool for assignment allocation. Only secondarily it

is possible to start a Recruiting Process. The Benchmarking Company A collects customer and specialist feedback twice for every assignment case. The first time happens after a week or two from the beginning of the assignment and the second one is after the assignment has finished. In both cases the method is a call to the customer and recording the main topics in the Assignment Record. Customer complaints are handled case by case.

The Benchmarking Company A considers that the resource request process serves them well. They see that the benefits are the nationwide usage, financial calculations for every assignment case, the process is flexible enough that no exceptions are needed and the process and tool are fast enough. The manager sees that the only negative issues are the high amount of administrative work and the search functions in the tools. (Interviewee T.I. 2011)

4.3.2 Benchmarking with Company B

The Benchmarking Company B works within the Enterprise Software business. They are a large, global player in their field. This contains managing customer interactions with the contact center, over the Web, or using smartphones. The software suite provided by the Benchmarking Company B allows its customers to leverage their entire organization, from the contact center to the back office, to improve the overall customer experience. The Professional Services Unit provides consultancy work for the Benchmarking Company B's customers. Consultancy includes experts for customer's projects. They have approximately 40 people divided into 4 teams based on technology. Work allocation for specialists was a challenging task when done manually. The Benchmarking Company B used Microsoft Excel spreadsheet, updated by everyone in charge of resourcing. Those people were Team Leaders, Project Managers and Sales People. The Project Managers made the allocation by either contacting the specialists they knew directly or they asked Team Leaders to reserve a person for them. At that time the system was based on regions and there were practically no cooperation between the regions. Between specialists this led to inefficient operation, unequal and very fluctuating workload. Sales Managers were involved when they sold consultancy work for the customer. They used solely their social networks getting specialists named for their consultancy cases.

Below is the figure of the new process in use.

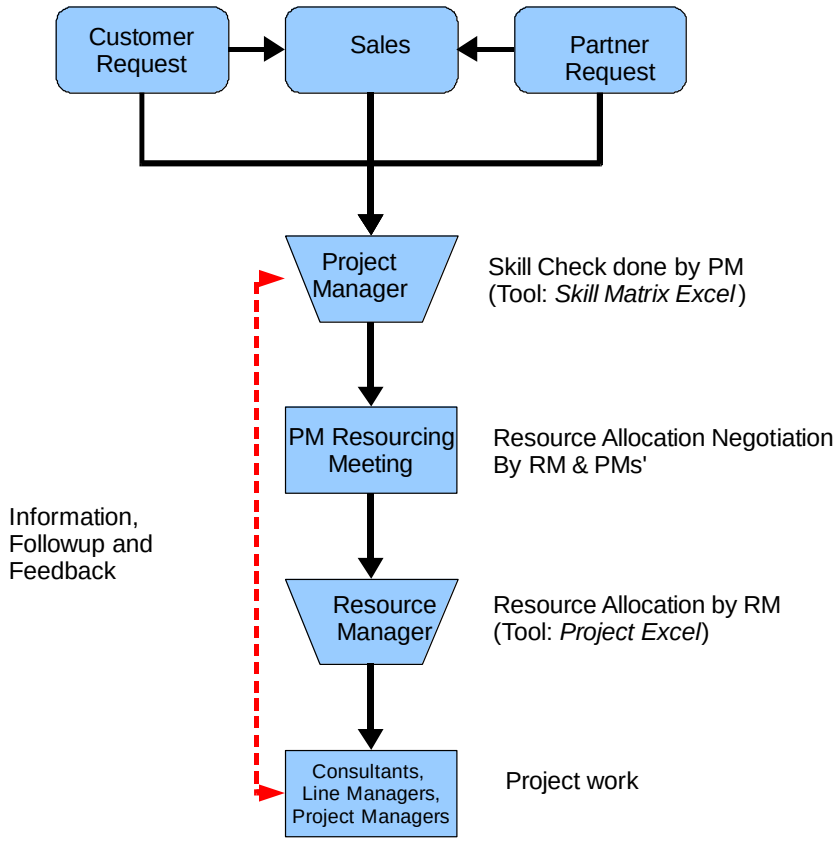

Figure 16. Resource Management Process of Benchmarking Company B.

In this new process the customer resourcing request comes either directly from a customer, through the Benchmarking Company B Sales Unit or through Partners. The Project Manager in charge of the customer conducts a skill check needed for the new project. The tool for this is Skill Matrix, an Excel based tool for matrix of skills and people. During weekly Resourcing Meetings, invited by the *Resource Manager* (a new role), the RM and PMs negotiate about the resources within projects. The critical projects receive the highest priority and other projects a lower priority. After agreement of general guidelines, the RM makes the actual, detailed people allocations using his knowledge, competence and judgment. The tool used here is Excel also. The allocation is expected to be done during the day after the Resourcing Meeting. After finished, the final allocation is distributed and visible to all the relevant parties such as the Specialists themselves, their Line Managers and PMs accordingly.

The Benchmarking Company B's experience about the new process is encouraging and they feel they have better visibility and thus less last minute changes for allocations nowadays. The allocation itself happens faster. On the other hand fast allocation might reduce individual specialist's commitment to the customer as projects and even customers might change rapidly. The person falls in uncertainty whether he or she is allowed to take care of this customer for a longer period of time or in the worst case even finish the project himself. The other subjective drawback is that the specialists may feel that their possibility to choose the projects they want to get involved with could be reduced more than before. The specialists' opinions vary when it comes to their work content according to the new process. Some of them think that the work becomes boring when they join similar projects time after time. On the other hand many specialists appreciate this possibility of repeated projects, as they feel they can learn to master their work and become an expert of their limited segment.

Managers noted that the new process has reduced their work and actually allowed them to work as part time Senior Specialists. This possibility has given them more variability in their work and managers feel they find more time to focus on employees' competence development, recognized by specialists too.

On the loser side of this process change are the Project Managers. They used to "own" the resources in their region and had learnt to decide resource utilization on their own. Now they have had to learn some humbleness and cooperation to get their resource needs fulfilled. From the process point of view this is a positive aspect as now the project resourcing is not that dependent on single persons anymore and this encourages the cooperation within staff. The only question remains on how to motivate PMs to adapt in this new environment. Also Sales personnel dislike the new model since previously they were able to use their personal network and just ask a specialist directly. Now they have to follow the Resourcing Process and thus state their specific needs better and obey the process schedule.

The old model was very unorganized and chaotic although fast on rare occasions. The head of the EMEA Project Support Unit praises the new resource allocation model since his specialists have a higher utilization rate, on an average allocation can be done faster, most of the employees are more motivated and the customer projects are finished faster than before.

Process comment: Compared to the Case Company, at Benchmarking Company B the Line Managers do not do the resource allocation, but one person, the Resource Manager, takes care of it in a centralized manner. He does not have the line management responsibility. After one incident, the Benchmarking Company B decided to decrease process dependency on one Resource Manager and they hired another one. Now the two RMs are responsible together for the Resource Allocation Process. The appreciated benefit of the Benchmarking Company B's new process is that there is no single person the process is dependent on anymore.

In this new Benchmarking Company B's Resourcing process the Line Managers do not have a role except for taking care of their people. Their main duty is to ensure specialists skills are up-to-date, matching current business strategy and technologies used. For a Line Manager there are their personal objectives and incentives tied to the amount of billed hours and utilization rate of their specialists. (Interviewee M.B. 2011)

4.3.3 Benchmarking with Company C

The Benchmarking Company C works within the health care business. They provide physicians and nurses mainly to the public sector. They are one of the largest health care companies in Finland. They do business nationwide and have several locations around the country. Due to the nature of the public sector, the Benchmarking Company C has customer contracts one to three years long usually. This reduces their need to conduct resource optimization. On the other hand, the scarce availability of doctors causes their high attrition among the companies in this business. This leads to the high amount of internal resource changes within assignments.

The Benchmarking Company C receives their invitations to bid from the web tool called Credita. Credita is a web service meant for the public sector to inform public procurements to private companies and other parties. (Credita 2011). The Benchmarking Company C uses Microsoft Dynamics (CRM) with their own add-ons to keep track on

business information. The sales department and CEO follow the Credita service. The resource planning is done by the CEO in case of new and important cases. Smaller assignment resourcing is planned by the Chief Medical Officer directly. After a resource check and financial calculations done by the Sales Department the decision is made by the Business Unit Director and CEO if the company should participate the bid or not. If the decision is no, the customer is informed and customer record is updated. After the offer the lost case is reported in the CRM tool. If the offer was accepted by the customer, the resourcing starts with the check of internal specialist availability. If found and no other resources are needed, the actual resource allocation takes place. In case of missing resources the company starts a recruiting process. This is possible because of normally long contracts. In such a case the Benchmarking Company C utilizes a pool for doctors and nurses not allocated directly into any assignment. The pool has an important task to take care of substitutions in case of absence, over load or "Service Guarantee". In case of internal resource changes the responsibility finding a substituting resource lies mainly on the Regional Head.

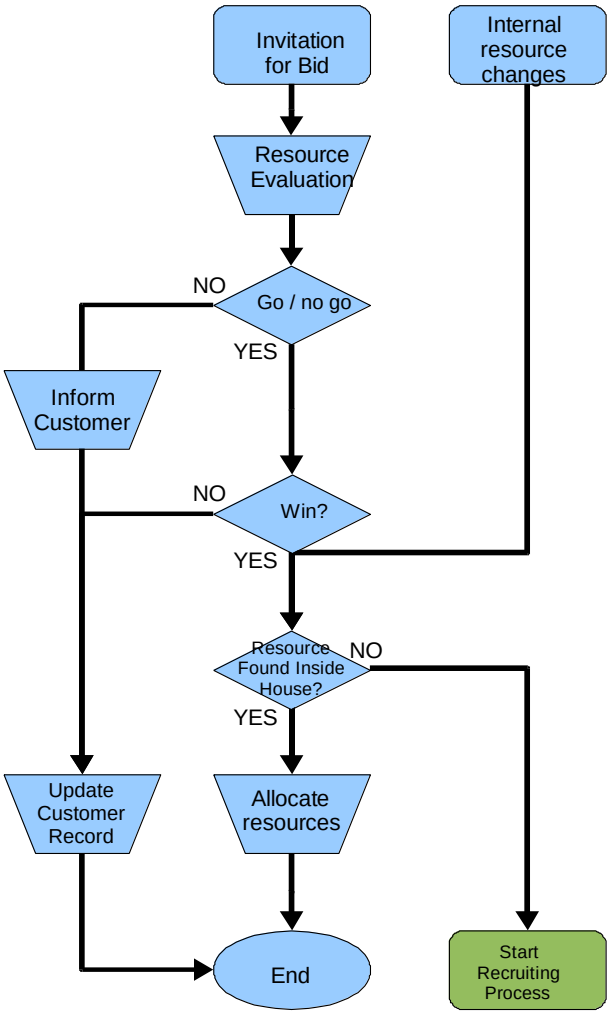

Figure 17. Resource Management Process of Benchmarking Company C.

The Benchmarking Company C uses forecasting in the sense that they keep track on all the bids received from Credita. As the bid conditions are public, the Benchmarking Company C knows when the competitor's contract is ending and the new bid competition is about to start. This gives them more time to prepare for the assumed new bid competition.

The allocation of resources is relatively simple due to the nature of the assignments. The public sector usually needs full time resources only and thus part time allocation does not possess a major role in the Benchmarking Company C's business. Due to the shortage of physicians and nurses there is more work available than there are resources available. Thus the optimization of resource utilization is not an issue – all the specialist personnel are maximally allocated.

The Benchmarking Company C does not calculate and follow resource utilization rate, as their specialists are almost fully booked all the time. As the public sector is a major customer and usually has many ongoing assignments, the Benchmarking Company C does not conduct feedback collection per assignment but per customer once a year. Obviously the Benchmarking Company C has a communication channel for their customers in order to handle operational issues and receive sporadic feedback. (Interviewee H.P. 2011)

The information received from the Benchmarking Company C shows that although the business concept is similar to the Case Company's, their resourcing environment is rather different. Thus it is hard to find any useful practices or ideas to be adapted in the Case Company's operations.

4.3.4 Benchmarking with Company D

The Benchmarking Company D is one of the largest in Finland in the law and juridical field. They provide juridical business law services. They have three levels of Lawyers. The *Associate Lawyer* is typically a younger or less experienced in the profession providing his or her expertise on a wider and more general field. The *Senior Lawyer* is a person having a long and approved experience about one or more of juridical sub areas. In addition there are stakeholders (Partners). The *Client Accountable Person* is in charge of one or several clients depending the size and importance of the Clients. The *Accountable Lawyer* is an experienced person who has the leading role in business operations (assignments). In addition there are stakeholders who usually are senior level Lawyers as well. The Accountable Lawyer may have stakeholder status. The *Head of Service Area* is a person having the line manager responsibility over his or her Service Area people.

The nature of Customer requests often leads one Lawyer to work with few cases at the time. This means partial allocations for resource management and the same resource allocation dilemma as for the Case Company. The common concept to the companies is the Accountable Lawyer, i.e. something similar to the Bid Project Manager needed during the tendering phase. The Accountable Lawyer creates the project plan and calculates the costs for the Customer case (assignment).

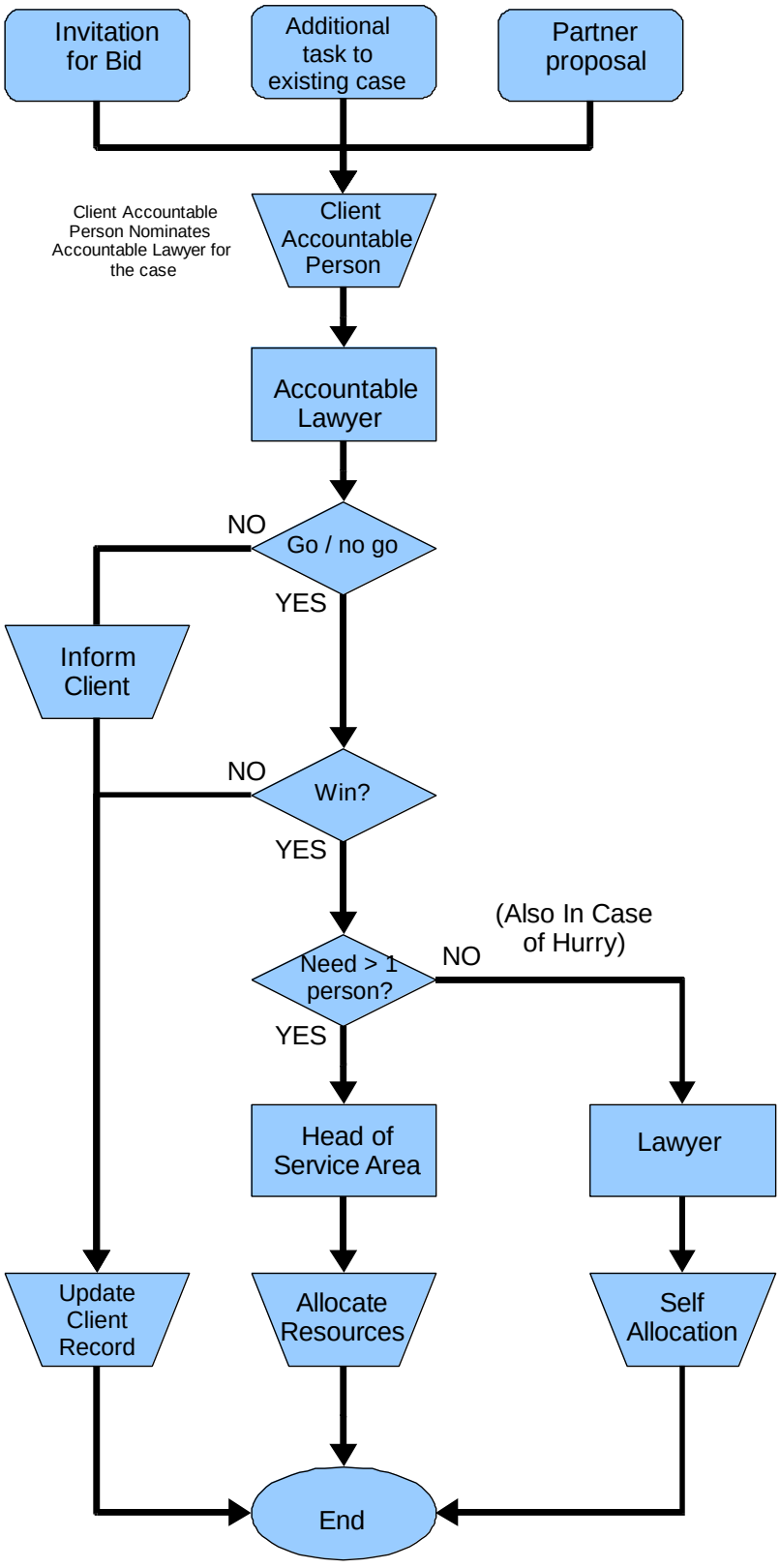

Figure 18. Resource Management Process of Benchmarking Company D.

The Benchmarking Company D has three sources of Customer Requests. See Figure 18. The first is the bid competition for new assignments and the second is the existing

customer requesting additional tasks under an existing contract. The third source of assignments is the Partner Company's proposal. Usually the Partner Company makes proposal if the original company of law abroad, specifically a partner for the Benchmarking Company D, receives a request which actually belongs under the Finnish Law. Then the Partner Company may transfer the assignment to the Benchmarking Company D. This may also happen vice versa, the Benchmarking Company D proposing a case to the Partner Company. All the cases come through a Customer Accountable Person. The Customer Accountable Person nominates the Accountable Lawyer for the case. The Accountable Lawyer prepares the bid if needed. He or she may utilize the help of a Head of Service Area with a resourcing topic and Associate Lawyers in legal topics in case of large projects. Often these same people will continue with the case if it is won. If won, the size of the estimated work amount is the decisive factor whether one Lawyer can handle the case alone or not. In case one Lawyer is enough, the Accountable Lawyer diverts the case to a suitable person by knowing the person or by checking from a common Excel based tool called *Week Report*. The receiving Lawyer updates his or her allocation in the Week Report accordingly. In case there is a need for more than one Lawyer to handle the case, the allocation request is diverted to the Head of Service Area for finding the suitable Lawyers from his or her team and updating the allocations in the Week Report. If a "no go" decision is done either due to strategic reasons or disqualification rules stated by the law, the task of the Accountable Lawyer is to inform the customer about the decision and to update the Client Record in a Customer Relationship Management Tool.

There might be exceptions to the process. It may happen that the case is very urgent and if the Accountable Lawyer knows the suitable persons to take the case, he or she might bypass the Head of Service Area and convey the case directly to the persons even it actually needs more than one person to handle the case. This is a breach against the common process, but it is not critical because every Lawyer can make self-allocation in the Week Report. From the Report the Head of Service Area receives the information anyway and is up-to-date when it comes to the resource allocations.

The Benchmarking Company D conducts forecasting only through near future estimations by Lawyers. Every Lawyer needs to report once a week their workload and absences three weeks ahead in the Week Report. For longer forecasting the Benchmarking Company D does not have a uniform method in use.

The Benchmarking Company D follows the performance of operations with the utilization rate of Lawyers. The information to calculate the utilization they receive from the Week Report. The target is to get Associate Lawyers fully booked with billable work Senior Lawyers should be 80% booked with billable work and 20% with development, marketing etc. indirect customer work. Accountable Lawyers should pay more attention to indirect customer work by having the relation 60/40%. (Interviewee H.I. 2011)

The business model of the Benchmarking Company D is very similar to the one of the Case Company. The task lengths, concern of competition and utilization rate, partial allocations and the bid process are all similar to those of the Case Company. The difference is the allocation method where allocation is allowed to be done by each Lawyer individually in addition to a line manager. Even in case of self-allocation, there is all the time the full picture of allocations available in the Week Report. The commonality is that there is neither a single person nor an entity having the responsibility over all the allocations and resourcing. One difference is that from the resource request point of view all the Customer cases come through a single point namely Client Accountable Persons and no other route is possible.

4.4 Drawbacks of the Current Operational Model

The Case Company had multifaceted issues on their operational capability. Some of the hindrances are caused by the organization structure they have in use. One important issue mentioned by the interviewed personnel of the Case Company were Customer Reclamations related to the service deliveries. Outside of technical problems there were some unclear responsibilities. It frequently happens that some issue is pushed back and forth inside the Case Company units as nobody sees it belonging to their responsibility area. The second problem is the Case Company's internal guideline stating that overhead costs are to be carried only if the Customer Contract is longer than three months. This leads to the situation where all profit responsible units try to split their Customer Contracts into smaller than three-month pieces to increase their internal

profitability. This leads to frequent consultant changes within the same Customer Project. This results in increased internal training costs, lower consultant's customer commitment and organizations reduced overall efficiency. The next difficulty the interviewees mentioned was the tight IT control from the headquarters. All the tool, including software tool, purchases must be approved by the headquarters, which leaves no room for unit's internal method and tool development. The Case Company's cultural problem is the way how financial success is measured. The current Corporate Guideline says that the units' success is measured with the revenue they acquire. However, the inter unit co-operation is based on relatively high transfer prices defined at the headquarters. It often happens that the internal transfer price is higher than the external sub contractor's price. In that case a manager is tempted to hire a subcontractor instead of the neighboring unit free specialist. This stimulates the corporal inefficiency, organizational silos and staff motivational problems. (Interviewees E.V. et al. 2011)

Selling short or part time Consultant allocation has been an issue. Customers are not willing to take short time consultants if the person happens to have free time. Instead Customers often require short or partial allocation because of their own business reasons and their own schedule. This is a business environment related topic which is difficult to address. One way of dealing with it is to increase the usage ratio of the consultants by improving forecasting and allocation techniques. Influencing the customer behavior is difficult, but Demand Smoothening Techniques such as Yield Management used in airline companies could be considered (Fitzsimmons and Fitzsimmons 2008: 270).

The current Resource Management model used in the Case Company has some drawbacks listed by the interviewees. It is clear that the Company does not have a clearly defined and shared terminology. As the Case Company is a result of several merges, the employees working there have only partially common Service Management vocabulary. This causes unnecessary misunderstandings. This can be addressed with proper, detailed and easily accessible terminology. The other mentioned topic is the gaps in management tools and work procedures. For example, forecasting is not recorded every time, but only occasionally. Furthermore there is a missing link between the forecasting, allocation and reporting tools. The improved tool integration would be an answer for the latter dilemma. Another example is the implementation phase of a project.

It should contain a process of recording all the project changes (scope, schedule, effort, conditions etc.). Currently this is missing and knowledge is lost. (Interviewee E.V. 2011)

The Case Company has defined *Competence Categories*, but they are not maintained and do not match today's situation. The Competence Categories are written on a general level rather than providing exact information about the actual skills needed in each category. This has led to omitting competences and skills from the current documentation and tools. Currently the Role Descriptions are the responsibility of each unit. This causes some differences between units. (Interviewee M.J. 2011)

All the interviewees rated the usage of email for RM as a major challenge. Currently the majority of RRs are coming through emails sent with a relevant management distribution list. This causes emails being sent to persons who are not directly related to the request at hand. The senders of the emails cannot know to whom they should send the RR email as there is no distribution list provided for this purpose. This leads to the excessive email forwarding and replying. One RR can generate a dozen of emails, resulting in hundreds of them in a month per person. The email challenge is even worse in real life as there is no standard format for RR emails. The recipient must go through every email to find if the email is something for them. This causes the fact that it is difficult for recipients to pick up the emails meant for them and to notice the urgent or important RRs from the rest. This is the reason why some urgent Resource Requests come through the phone to the Team Leaders responsible for allocation. Sometimes people see that their personal network serves them better than the current way. Obviously these cases are seldomly documented. (Interviewees E.V. et al. 2011)

4.5 Requirements for the New Model

4.5.1 Resource Management

Resource Request processing can be distributed between the PMO, SePO and Resource Managers based on the type of the request or the size of it. However, there should be a single entity which has the full picture of the ongoing requests and which have the power to supervise, guide and prioritize the operations. The Resource Allocation instead should be done centrally. Based on good experience from the Benchmarking Company B, the most effective allocation is achieved when allocation is done by a sin-

gle party only. The new process description is based on topics discussed earlier. The first improvement is about communication methods. To reduce email load related to the resource requests the email recipient number should be limited. This can be done by sending RR emails to the relevant people only. It can be considered if there should be created separated Workspaces for different units to further reduce the email amount. With this case it should be ensured that the separate workspaces do not affect the visibility to the overall resourcing situation. Documentation of allocation decisions is important in order to reduce misunderstandings and to show reasoning for the decision in a common way and location such as common Workspace. The next topic is how to find urgent or the most important RRs among all the received ones. This can be achieved by standardizing email titles. It eases the recipient further if the email contents are standardized too. The other action is to create standardized urgency levels based on business needs. The Resource Requests should have both a deadline and status field with status values defined. In that way everyone working with resource management will notice when the need is over and what is the status of the request.

During the customer bid phase there should be prioritization between ongoing bids based on the company strategy. Currently this does not happen but all the bids demand the same bid resources equally. However this is a marketing unit internal issue and thus left out from this Thesis.

During the projects implementation phase there should be a process of recording all the project changes (scope, schedule, effort, conditions etc.) in order to track changes and to set up the feedback loop from project realization to the project planning phase.

Once a project has been finished, there must be a common place where to collect and process customer feedback. The feedback must be recorded and handled as it is one part of customer satisfaction according to the international quality standard. (ISO 9000 2008: chapter 8.2.1)

The Resource Request Template tool should be visible and accessible to everybody involved in resourcing. This refers to the fact that the tool should be updatable for every resourcing manager. If a resource is not found within their own unit, there should be a standardized way to search the other units for a suitable resource. The tool should be common for all the consulting units in order to provide a better view on the resource allocation situation and work load balance at one glimpse.

4.5.2 Reporting

Reporting related to resourcing should be designed so that it serves several aspects. First it should support Corporate Reporting. Those are Billing Rate and Resource Utilization Rate. Then reporting should support effective resource allocation, competence development and recruiting by showing the need or excess of certain types of resources or competences. The third aspect for reporting, the WTR specifically, is the Customer billing and work time related costs. In case of a fixed price contract with a Customer, the reporting serves the internal cost control. When the contract is Time and Material based, the Customer costs are formed directly by multiplying the recorded work time with the hourly fee. The billing element here requires a great care and accuracy for the reporting. The project or any task related WTR should be recorded as frankly as possible, including non-billable work done. It is then the matter of a project or development manager to form the customer bill without those extra work items. The fourth aspect of reporting is the future forecasting. In order to implement any estimation system, the reporting should provide an aligned view to the current resourcing status. The current WTR system should be modified so that it is possible to find automatically the detailed work conducted. This means that if a resource request forecasting is based on roles, the Work Items of the Sonet tools should follow the role division. If the model is going to rely on skills, Sonet must separate all the defined skills and/or skill sets. In any case the refunding work and other topics irrelevant to the RM records must be easily removed from the report. The WTR data needs to be stored for 2 years. This is because a consultant's work history with customers and business areas is valuable information. When available, this data allows checking of situations afterwards. It is a proof of the work done and related competence. (Interviewees E.V. et al. 2011)

There is an important aspect to be considered when collecting WTR information. If collected information is too detailed, people might stop reporting frankly or "collate" data they report. This refers to that even when the instructions say that the accuracy

or reporting is half an hour, employees might start to combine the actual working sessions over a long period of time. This might distort the reporting results. If the collected information is too general, it does not serve the purpose. To find the suitable balance the WTR process must be as easy as possible for employees to follow. WTR information recording must be done soon after the actual work has happened, as otherwise it is difficult for anybody to remember accurately the situation and the work done. Fast recording helps to avoid any disputes on the done work. The ideal situation would be that the WTR recording is done every working day. This reporting frequency is however a topic which needs discussions to find the acceptable compromise.

The DSWeb tool could be used for showing the work load situation. Now only project data is there, but for RM there should be something similar to a "other project" field to record all the other WTR info. It is a question of further study to find out the optimal tool solution for reporting the work load situation. (Interviewee P.K. 2011)

4.5.3 Competences

Competence structures need to be defined according to customer needs and according to the Case Company strategy. Once the structure is defined to fit the customer needs, it allows the Case Company to consider productization of their consultancy work and reduce the variability and improve efficiency. (Interviewee P.P. 2011)

The current competence structure is partially outdated as no active maintenance work has been done since its creation (Interviewee M.J. 2011). Furthermore the possible forecasting method sets some demands on competence structures. Competence structures and their content are out of the scope of this Thesis.

5 Proposed Model

In this section the Draft Resource Management Model is shortly introduced (section 5.1). This is because the actual Proposal Model is close to the Draft and it is described in detail including the new RR and RA processes in section 5.2. After this section 5.3 introduces the status fields to the RRT tool. The following section 5.4 talks about competence development, 5.5 discusses aspects of WTR and finally 5.6 provides some advices over metrics which could be taken into use.

5.1 Resource Management Model Draft

Based on interviews and literature it became clear that it is beneficial to have a single point for handling RRs and RAs. If a single point is missing, the overall picture is scattered and it leads into sub optimation. This in turn creates resource competition between units instead of genuine cooperation and work load sharing. The experiences from the Benchmarking Company B and D formed a base model to the RM model Draft. The Draft Model is close to the proposed model so the detailed description can be read in section 5.2. This section discusses only the differences and reasons for changes.

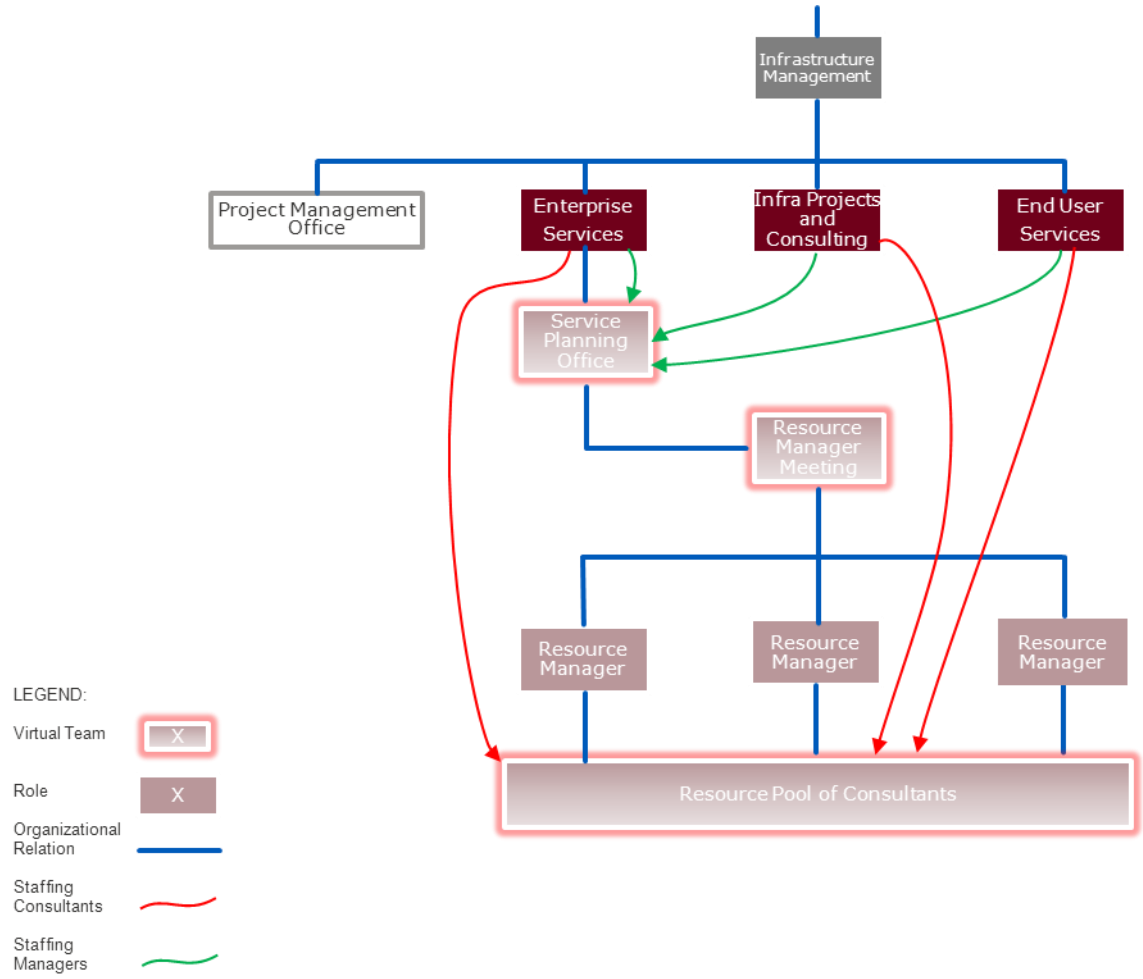

Figure 19. Resource Management Model Draft.

The Draft Model seen in Figure 19 was created on the idea of having both Resource Request handling and Resource Allocation responsibility under one organization, namely *Service Planning Office* (SePO). The Draft Model assumed SePO could be capable of taking all the responsibility to their scope. In the Draft Model it was seen beneficial to introduce minimal organizational changes which could have received the widest acceptance. After evaluation interviews it was suggested that SePO is not the optimal entity to have all the responsibility. First as their current scope is very operation oriented, it would have needed a thorough planning of the SePO role and responsibilities. Secondly they do not have a natural visibility over new projects coming through the sales organization. This would have had to be created from scratch. The third aspect was the SePOs close connection to the ES unit, which was seen as a threat to the operation objectivity and hindrance to the cooperation between units. After discussions the new Model was created in order to overcome these concerns.

5.2 Validated Resource Management Model

In this section, the vision of the new Resource Management model is described. The goal here is to build a process which answers the needs but also takes into account the realities within the Case Company. This section discusses the proposal and improves the Draft Model to overcome the issues found during the Draft Model verification discussions. Based on the positive experience from the Benchmarking Company B and D, the most effective allocation of resources can be achieved when project prioritizing is done according to the Case Company's IT Strategy and allocation guidelines are set by a single party only. Based on the model verification discussions it was suggested to divide the strategy and operation aspects into different entities. This is due to the fact that they look at things from clearly separated standpoints. Combining them would have been a challenging task. The single party for Resource Request processing in the new proposal is the *Project Management Office Meeting* (PMO Meeting). All the resource allocation guidelines based on the strategy and work priorities should be done by it as the PMO Meeting is the only instance capable of doing them. They already have the full visibility over new and existing Customer requests. Thus the scope of the current PMO Meeting responsibilities might not need to be changed. This is a topic of further study to go into the current scope details and find the ones which might not be aligned with the new model proposal. In this proposal the discussion about the PMO Meeting scope is limited to the Thesis subject only. The PMO Meeting must possess the ultimate decision making, supervision and guideline setting rights. The Meeting itself should be staffed with the Heads of each sub unit or persons they nominate to represent them. As this proposal can be seen merely an extension of the PMO Meeting responsibilities and SePO, RM Meeting and *Resource Pool* (RP) (see Figure 20) being virtual organizations there is no need for organizational changes. It also means there are no official instructions available so the key for success is the cooperation between the units and their commitment to the process. The scope of the existing PMO Meeting should be enlarged to cover all the RRs whether customer case or internal task derived. For other than project requests the PMO Meeting keeps record and supervises them in order to be aware of all the ongoing activity. Thus the PMO Meeting will have a strategic view point to the resourcing and to the tasks RP members conduct. The PMO Meeting intervenes operations only when responsible parties need guidance or if they see it necessary. To be able to carry this out the PMO Meeting must possess the ultimate responsibility over all the work involved. This refers to the fact that if any of

the tasks faces difficulties the PMO Meeting would be the highest point of escalation. The reason for this requirement is to keep resourcing responsibility on the shoulders of one party only. The PMO Meeting should meet monthly.

Under the PMO Meeting there will be the Service Planning Office. This proposal extends the current SePO tasks by offering it the operational responsibility over all the resourcing tasks. SePO is to be manned by managers from each of the units and by Resource Managers. They can invite other participants such as HR representatives if they see it useful. The members in SePO are there to share the understanding of the situation, to plan resourcing, reporting to the PMO Meeting, making the resource hiring decisions and deciding the staffing of the Resource Pool. SePO should have the right over all the IM units and their consultants in order to be capable of staffing the Resource Pool. The exceptions on IM staff coverage are expected with special duties units, such as Selected Services and continuous services (called Production). Exceptions must be negotiated beforehand and should be agreed on at the SePO Meeting. SePO should keep an eye on the overall resourcing need at IM. SePO will be the escalation point for Resource Managers. SePO financing should come from PMO instead of ES. This is to guarantee objectivity of SePO's actions. SePO must own the *Task List*. The Task List contains record for all the tasks ongoing with their priorities. Tools are discussed more thoroughly later in this section.

The Resource Manager Meeting should be the operational meeting for Resource Managers (existing role) and people they might see reasonable to invite such as Team Leaders. The main task for this meeting is to make and be in charge of the actual allocation decisions for the task at hand according to the SePO instructions. The tools used for this are the Task List, Calendar, Resource Request Template and the *Skill Matrix*. These tools and their usage are discussed more below. Resource Managers will have the key role in the process, because they are the connecting party between management guidelines and the daily operations. The RM Meeting has the single and unified view on the resourcing situation. This is also the place where resourcing related escalations are handled. It is common that changes in project schedule for example cause rearrangements on project resourcing. The settling of these escalations is the responsibility of the RM Meeting. If the RM Meeting cannot solve the escalated issue of the project, they have rights to escalate the case further to the SePO. The manning of the

RM Meeting consists of two to five Resource Managers depending on the size of the staff under them. There should not be more than thirty consultants per RM to allow effective resource management (Brander 2011). It is logical that one RM takes care of the consultants of one unit only. However this will lead into uneven workload between RMs. Furthermore it may discourage cooperation between RMs. To avoid both issues it might be better to find another distribution solution such as a technology based or customer based one. This distribution topic will be under further study. Because of the key role RM has in this process proposal, substitute persons must be agreed on. It can be achieved when RMs are to back one another up. The RM Meeting should get together once a week and in case of escalation.

The actual resource allocation happens through the Resource Pool. The RP will be staffed by consultants nominated there from each unit either permanently or on a temporary basis. Each unit can decide how they want to carry out their agreed part of the RP manning. The consultant nominated there can be full time or part time allocated for the RP. Once nominated, the RP related tasks will be the first priority for the consultant. This means that if the team where the consultant organizationally belongs to needs resources, they must first try to find it somewhere else. If they cannot possibly solve their resourcing problem by themselves, the escalation to the RM Meeting can be done. The consultant in the RP cannot change his or her work priorities without the Resource Manager's approval.

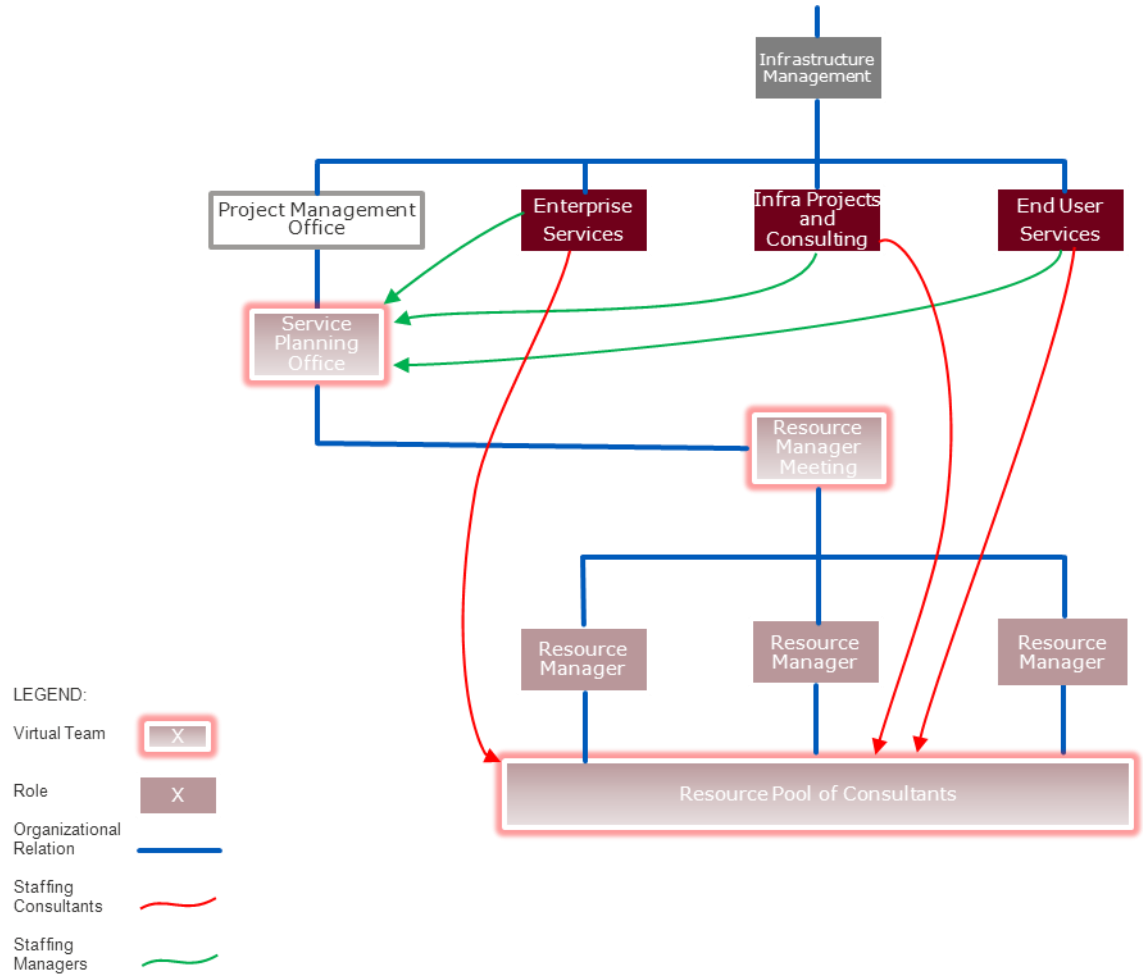

Figure 20. Proposed Virtual Organization Structure for Resource Management Model.

The inputs for Resource Requests are the same, but this proposal suggests that no RR can go directly to the Resource Allocation (see Figure 21). The PMO Meeting would enlarge its scope to follow not only Customer projects but also those small requests which used to go directly from Customer to RA, the development requests coming from Continuous Service and Case Company internal RRs. The PMO Meeting should be aware of all non-Continuous Service work. This means that Continuous Service daily operative work such as error ticketing, problem solving, standard environment changes such as change of firewall settings are out scoped from this resourcing proposal. Instead, any other work, such as development of internal or customer systems, development of processes and tools, all the projects and so on would be included. The PMO Meeting should be informed on the work and regularly discuss and decide at the PMO Meeting the priorities of the proposed work keeping in mind at the same time the Case Company's strategy. The tool used here could be e.g. an Excel based Task List where

all the scoped tasks are listed and prioritized. It is under further discussion whether PMO Meeting, SePO or some other party would be responsible for creating and updating the Task List. The PMO Meeting can also create a guideline document and delegate the prioritization decision, if it sees feasible. If delegating, the PMO Meeting must take care that no overlapping prioritization decisions happens. What the PMO Meeting cannot delegate is the overall prioritization responsibility.

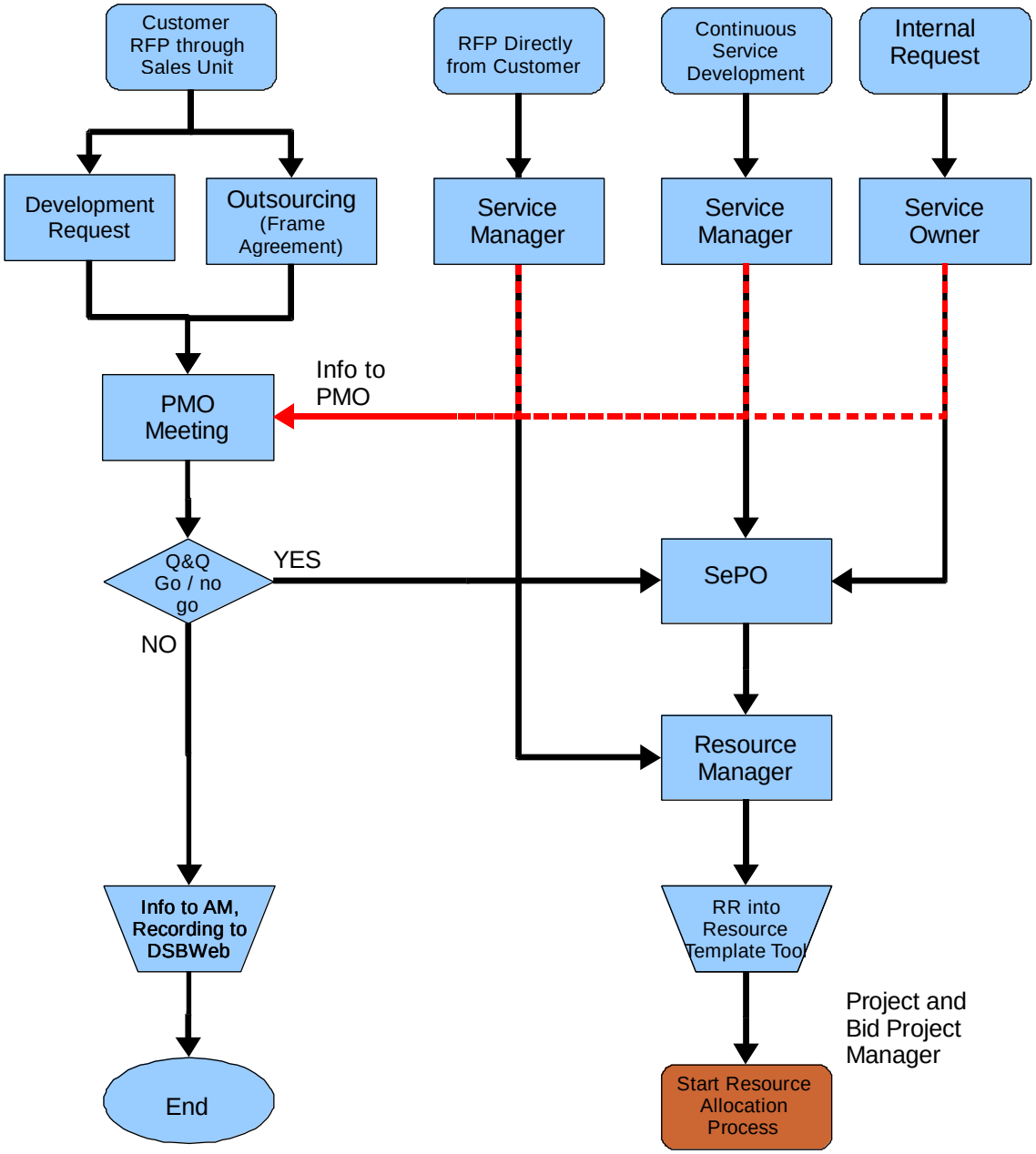

Figure 21. Proposed Resource Request Process for Resource Management Model.

It is for further study if the actual RRs should be conveyed through the PMO Meeting or could some of them go directly to the SePO without the PMO Meeting. To avoid loading the PMO Meeting too much, it might be desirable to let SePO decide the priorities of small RRs according to the PMO guideline. This case is presented in Figure 21 flowchart. The SePO's main responsibility is to be in charge of the operational situation. There the members, discussed above, follow the progress of work tasks on an overall level and take care of the escalated issues. The most important task of SePO is agreeing on the amount and competences of the Resource Pool members which the Accountable Units must deliver. SePO will do the Resource Allocation preparative work by deciding the amount and type of Consultants needed for the work task at hand. The Resource Managers as the members of the SePO Meeting will update the RRT tool according to the decisions made.

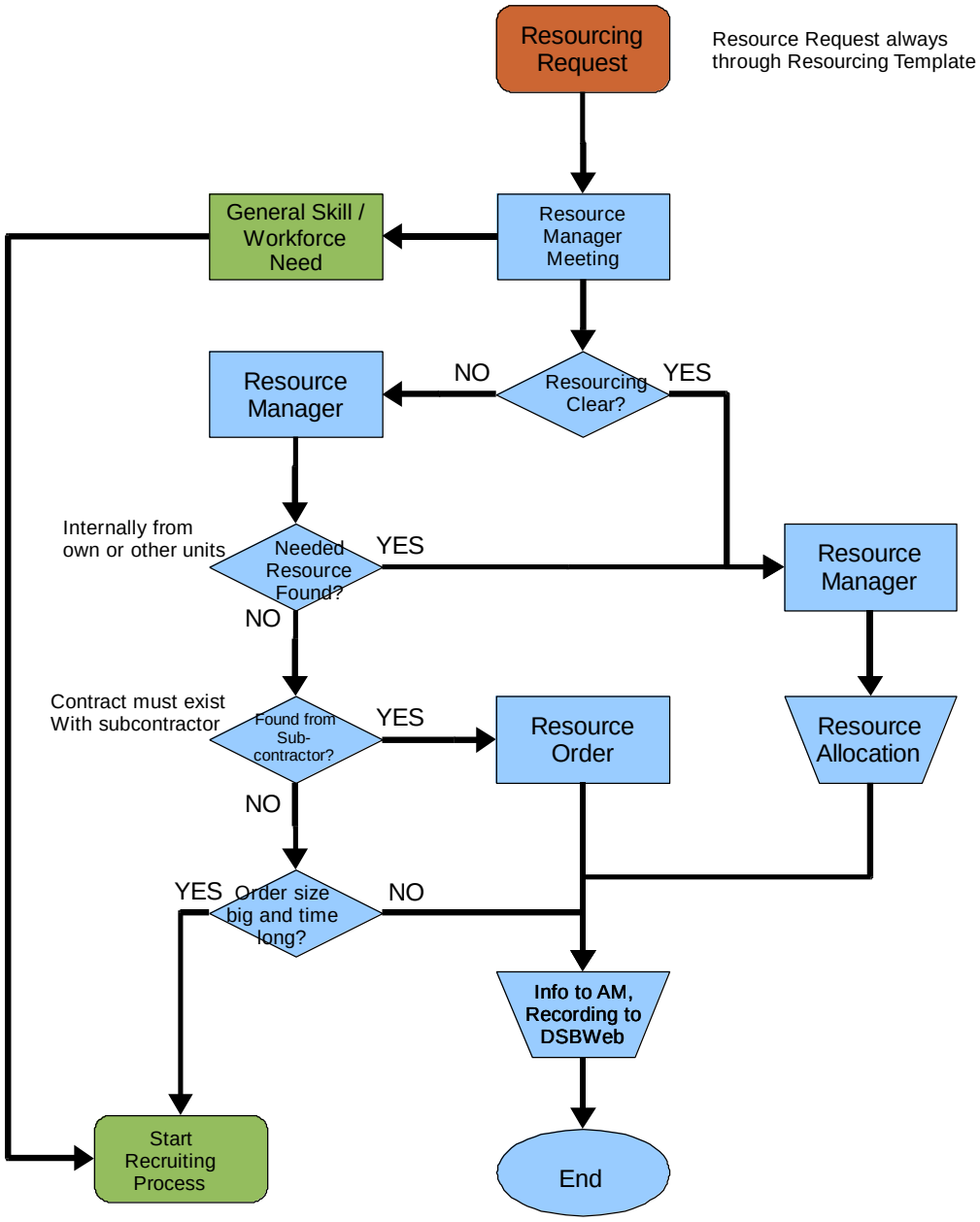

Figure 22. Proposed Resource Allocation Process for Resource Management Model.

Figure 22 shows how the actual RA would happen. The Resource Manager Meeting would be the cooperative entity for RMs to agree who of them takes care of which allocation (the third paragraph in this section discusses this topic more). The tools for the RA decision are the Task List, which shows the priorities, the ongoing tasks and their schedules. The RRT tool shows the exact competence needs, time period for the need and amount described in FTEs. One resource or skill for one request is to be stored in the tool in order to follow up the demand. The topic of role and skill is discussed in sections 4.5.2 and 5.4, as the base of the competence structure must be decided first. The decision dictates what is the actual information to be stored in the

RRT tool. This means that one task in the Task List may form one or more RRs (roles or skills) in the RRT tool. The Calendar is needed to pinpoint the availability of the Consultant and the free capacity expressed in FTEs. Finally there is a need for a Skill Matrix. This can be an Excel based spreadsheet as well. In the Skill Matrix all the Consultants assigned to the Resource Pool and their free capacity are listed. It also contains the verified skills of those Consultants. The Team Leader will be in charge of keeping the Skill Matrix up-to-date and reliable. When the RM finds the suitable Consultant, he or she first checks the skills needed, the amount needed in FTE wise and time period. Then the RM should find the best possible consultant candidates from the Skill Matrix. Finally the Calendar is needed to find suitable free slots for those candidates. If a free Consultant cannot be found, the RM consults his or her colleagues. Only if a solution cannot be found together with all RMs the escalation to the SePO must be done.

There are three differences in the Resource Allocation process compared to the current process. The first difference is that no direct allocation is accepted, but all requests must go through the RRT tool. Second, the Resourcing Meeting is transformed to become a RM Meeting. The third and the most important change is that Team Leaders do not have resourcing responsibility anymore. It would be the RMs' sole responsibility to find resources for the tasks at hand and make the allocation. Changes to the work task of the Consultants assigned to the Resource Pool can only be carried out with the RMs' permission. Team Leaders still have an important role in nurturing their subordinates competences and development. A Team Leader must take care of all the usual line manager tasks, such as following up and approving the subordinates' WTR reporting. The Team Leader is the party taking care of the supervision of work and releasing that task from the PM who often needs to guide the project members. This change allows PMs to concentrate on project management tasks which is, after all, their main responsibility. Team Leaders will be in charge of leading and managing people which should be their main focus.

5.3 Resource Request Attributes

All the RRs must be recorded into the RRT tool. It needs to contain the priority information in order for RMs to clearly distinguish the importance of the request. The tool should contain the name of the RM who is in charge of this particular request. To cre-

ate more clarity to the Resourcing Process the Resource Requests should have deadline information added in the Resourcing Template tool. This ensures that it is easy for anybody to recognize if the Request has become obsolete for one reason or another. The request must have the status indicator field to show a reader in what phase the request currently is. The status fields can be e.g. *proposed, active, urgent, pending, filled in, finished* and *cancelled*. To address the communication mishaps the resource requests related emails should have a standard format for messages. The standard is needed especially in the message title. The priority information must be included already in the email title. This ensures that the recipient is able to select the resourcing emails from the flood of other emails the recipient may get. In addition, it is important to define a validity time or response time for messages. This is required to avoid the replies being late, which otherwise might happen. The detailed changes to the current tool and to the way of communication should be designed as part of the new process implementation.

5.4 Competence Development

Competence development is closely related to resourcing in consultancy business. Without proper knowledge and competences it is difficult for any company to prosper in this field. This requires a high level view to the topics of customer needs, resourcing and existing competences within consultancy units. One cannot manage only a narrow area, but must take into account the big picture. Thus the job descriptions, roles, competence sets and single competences should be aligned with the customer needs and business situation. The role is the basis for the model. The defined roles should match the customers' needs as well as possible. The next step is to write down a Job Description (and related job title) so that it reflects the role. The competence set consists of all the related competences which one single entity needs. This refers to all the single competences for example a Project Manager needs. Similarly a Bid Project Manager needs a different set of competences.

Once competences, competence sets, roles and job descriptions have been defined, one should consider the expertise levels for these. It obviously makes a difference whether a person is on junior or senior level on that particular skill. For the daily operations there should not be many competence levels for the skills. In the new resourcing model proposal it is becoming more important for Team Leaders to take care of the competence development for consultants and specialists. Thus some objectives and incentives should be created for Team Leaders to support this development.

The status quo with customer needs and thus with competences is not fixed but changes over the time. Thus at least competences and competence sets must be updated regularly e.g. once a year. The Team Leader will have the responsibility to follow up, encourage and support his or her subordinate's competence. The Team Leader should contact RMs frequently to learn their view of the competences needed in the future. If some major shift happens in the competence demand, the Team Leader and Resource Manager should consider a proposal to modify the competence structure.

A related topic to competence development is the consultant's *Curriculum Vitae* (CV). The CV is used when a consultant is considered as a possible solution to a customer's needs. In such a case the CV is sent to the customer for their acceptance. In order to get these CVs comparable there should be a standardized CV with the competence sets for every consultant and specialist. This would ease customer's decision making when the CV is standardized. The CV must be updated frequently to keep it up-to-date. Lara is a tool for CV storage. Lara might also be a suitable tool for recording competence evaluations. The details of competences needed, competence structure and the tools are topics of further research.

To tackle the competence topic of Project Managers it became clear during interviews that generally the PM competence should be a generic competence. This refers to the fact that any of the PMs should be able to lead any of the projects. It also means that a PM should not be too involved with the technical implementation or work from the supervision point of view. This is to improve PM interchangeability and their Utilization Rate. The clearer the separation between technical and project management tasks, the more the technical specialists' role is enforced. Furthermore it frees the PM capacity to focus on improving his or her project management skills instead of learning a bit of

everything. The one important exception to the generic PM skills is the Bid project skills. As mentioned earlier, it is a crucial capability for the success of the whole unit. The Bid Project Manager must be capable of calculating accurately the project costs, estimate the needed skills and reliable profit/loss estimations. Thus some senior PMs should specialize in Bid projects.

5.5 Work Time Recording

The WTR recording process and tool must be very simple. Otherwise employees will not be prompt in inserting the data and in the worst case might provide misleading or even false data. To make work time recording easier there are a few topics which could be improved or changed. To avoid the fact that WTR would be a too time consuming process some automatization possibilities should be considered. Certain tools allow automatic reporting directly from the tool itself. It could be possible to record time spent at a certain screen in the tool. This should be studied further if this feature could really provide easiness when recording work time. The implementation costs might become an obstacle. Another and more obvious way to reduce WTR related mandatory work is to modify the Sonet tool so that it prefills as many fields as possible and proposes a "standard" work day based on what a person normally does during his or her work day. Another way to reduce the WTR work is to start recording only deviations to the standard work week. Also a connection from the Project Management Tool to Sonet might provide more automatically inserted information for the employees.

For recording and reporting purposes the best choice would be to fill in WTR data once a day. A person cannot remember exactly what he or she has done if there are too many days between the actual work and its recording. The WTR data reliability is crucial both from the customer billing and fair work load point of views. To achieve a smooth inserting process and reliable data, there must be clear instructions in place and the users must be trained properly. The WTR process should be designed so that the process does not become the only purpose for itself and does not consume too much effort. In order to obtain prompt and reliable WTR data the metrics and employees and/or Team Leaders' incentives must be defined so that they do not distort WTR recording and that they direct people towards required behavior.

5.6 Metrics

One interesting metrics is the amount of Resource Requests per month. As a quality metrics of the requests a "hit rate" could be used. Hit rate in this context refers to the ratio of how many RRs are created versus how many are cancelled during the resourcing process. The other quality metrics could be "first time right" requests. This measure shows how many RRs have been created versus how many modifications have been done to the RRs during the request life cycle. This should be measured once a month. The other choice for this quality measure is to calculate a proportion of first time right and modified RRs continuously. One important measure would be the lead time for a RR. This shows how fast and effective the Resource Request process is. If measured per RR, it may reveal if there are some structural problems with processing certain types of requests. It may also make visible if the process is not working properly with some customer and in this way it could be used for continuous development. The lead time average reveals a trend, i.e. if process effectiveness increases over time as employees learn to work better. It can be considered if the lead time could be transformed into "internal Resource Allocation Service Level Agreement" figures promised to the projects or some other instance.

6 Discussion and Conclusions

This section concludes the research project by summarizing the Thesis results, discussing research validity and reliability and finally listing the relevant topics which should be studied in the future.

6.1 Summary

According to internal interviewees, the current model suffers from different types of problems. These are the lack of view on the total amount of resourcing requests and resourcing allocations status. This results in sub optimation which causes internal units to compete against each other over the resources. The competition hinders the cooperation between units causing unequal work load between consultants. The lack of strong leadership on business causes different units to implement variations to the resource request and resource allocation processes. This leads to misaligned understanding of the key terms and thus mixing the communication further. Missing prioritization causes work tasks of different importance to be treated equally when it comes to resource allocation.

The knowledge work relies on skills and competences of the person performing it. In consultancy business there is an aspect of service business added on top. In service the Customer is partially creating the service he or she receives. Furthermore the service cannot be produced forehand and stored. These aspects cause a complex resource balancing need for the consultancy business. The goal of this Thesis was to improve the Case Company's consultancy business unit resourcing model by utilizing the literature knowledge, the internal knowledge employees possess and comparing the models used in other companies. The method used for collecting information was theme interviews. After the initial round the Resourcing Model draft was created. The Draft was verified by the Case Company internal employees and modified based on those comments. The conclusion was the new Resourcing Model Proposal for the Case Company Consultancy Unit.

6.2 Validity and Reliability Considerations

The target of this Thesis was to improve the Case Company's consultancy business unit resourcing model by tackling the highlighted current model drawbacks mentioned above. From the positive experiences of other companies it was found out that one key

criterion for a successful resourcing model is the single point of visibility, responsibility and authority. In the Draft Model the SePO virtual unit was designed to become a single point of supervision for both Resource Request handling and Resource Allocation. After internal verification it was found out that SePO is not the optimal place. Instead the final proposal divided the strategic control of Resource Request handling to the PMO Meeting as PMO has good visibility on the Customer request status. The overall operational responsibility was given to the SePO. After this change the Resource Management Model Proposal is expected to answer most of the initial Thesis goals and new model requirements.

The benefits the new model could provide were difficult to measure in economical terms as they include a notable portion of intangible aspects, like saved time during process, improved visibility and role division, reduced miscommunication, improved employee and customer satisfaction. The financial calculations were decided to be left out because of their complexity and controversial nature. It will be the change project topic to estimate the scale of benefits including the financial aspect. Instead, the proposal relies more on the interviewees' intangible knowledge and experiences on good resource management practices.

One company accepted the interview request, but during the interview session it turned out that the Case Company is actually their competitor so they felt they cannot share their core processes. There were four companies of law, law association and one management consulting company who replied the query, but were not able to participate in the research. Finally there were two IT consulting, one health care and another four companies of law which did not answer anything to the query. Overall the four companies who participated in the research represented different knowledge consulting businesses and provided different points of view to resource management.

There are several topics, as tools, data collection details, financial metrics and personal objective alignment, which should be studied more. A deeper study is needed if this proposal leads to action in order to avoid pitfalls. In addition there are dependencies to the RM, such as competence structure, service productization and global standpoint, which might be useful topics to study further to improve overall consultancy business understanding.

6.3 Suggestions for the Future Study

If proper reporting is designed and taken into use, it will allow some tools to be adapted in order to estimate better the near future challenges and needs in resourcing. The possible statistical forecasting methods could be *Exponential Smoothing, ARIMA or SARIMA.* All of these statistical methods rely on historical data added with some estimated future elements such as seasonal changes and probable new customer needs. The seasonal changes can be found from some public business statistics or from Company's own experience. The new customer needs are easiest to find from the Company's Sales Pipeline.

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A List of Internal Interviewees and Referees:

Interviewee and Referee E.K. 2011 Program Manager with interview, Case Company, 2 interviews during December 2010 and April 2011

Interviewee and Referee E.V. 2011 Service Director with interview, Case Company, 6 interviews during December 2010 and April 2011

Referee J.K. 2011 Program Director, Outsourcing Services, PMO Case Company, 11.4.2011

Interviewee K.H. 2011, Senior Consultant with interview, Case Company, 3 interviews during December 2010 and April 2011

Interviewee M.J. 2011 HR Business Partner with interview, Case Company, 31.1.2011

Referee M.M. 2011 Director, Infra projects and consulting Case Company, 11.4.2011

Referee M.R. 2011 Director, Program Management Office with interview, Case Company, 11.4.2011

Interviewee P.K. 2011 Service Manager with interview, Case Company, 2 interviews during December 2010 and April 2011

Interviewee and Referee P.P. 2011 Service Director with interview, Case Company, 14.2.2011

Referee T.S. 2011 Head of Service Planning Office with interview, Case Company, 30.3.2011

Referee U.M. 2011 Service Director with interview, Case Company, 11.4.2011

A List of External Interviewees

Interviewee H.I. Development Director with interview, Company D, 8.4.2011

Interviewee H.P. Business Unit Director with interview, Company C, 17.3.2011

Interviewee M.B. Professional Service Consultant with interview, Company B, 7.2.2011

Interviewee M.K. Johtaja, Palkkapalvelut with interview, other company, 17.1.2011

Interviewee T.I. Personnel Consultant with interview, Company A, 16.3.2011

A List of Figures

Interview Questions

The structured questions used in interviews:

1. Please describe the Resource Request Process you have in use in your company?
2. What are the roles and responsibilities of people participating in process?
3. What are the tool or tools you use in your process?
4. What are the positive and negative aspects of your process and tool(s)?
    a. From management point of view
    b. From consultant point of view
5. Any other related issues you would like to share?

Benchmarking Company A

Face-to-face interview with Benchmarking Company A representative conducted on 16.3.2011 at their premises. The discussion followed loosely the interview questions (appendix 1) and answers to the questions were received. In the Benchmarking Company A's business area of staff renting the resourcing challenges are a bit different than those of the Case Company. The main difference is that the Benchmarking Company A usually has full time assignments for their consultants. Thus the allocation is far simpler for the Benchmarking Company A. This also means that no optimation is needed other than if a consultant has an assignment or not.

Benchmarking Company B

The interview was conducted face-to-face on 7.2.2011. The process figures and the text were sent by email to the interviewee for comments and corrections. Only one comment round was needed.

First the Benchmarking Company B representative described the process they used to have and drawbacks they faced with it. Because of system difficulties the management decided to renew the process. The representative described the new process. See Figure 3. The interviewee described the roles and tools involved. Then we discussed the positive and negative experiences of the new process.

Benchmarking Company C

Discussion with Benchmarking Company C took place on 17.3.2011 at their office. The discussion was face-to-face and the interview questions were discussed in free form. The Benchmarking Company C is one of the largest in their field. Their revenue is almost 50M€ a year and they have roughly 1900 nurses and physicians on their payroll. The company has the benefit of getting some forecasting information through Credita service and thus can preplan their resourcing. In the discussion it became apparent that the business environment of health care is rather different from that in IT business although the basic business logic is the same. The major differences are the allocations which are full time for health care assignments and the scarcity of the available physicians on labor market. The representative of the Benchmarking Company C thinks that the tools are suitable for their needs. Their private health care business sector is growing steadily, but moderately. Thus the organic growth of the company is not too fast and the employees, physicians and nurses are satisfied with the employment situation.

Benchmarking Company D

The interview took place on 8.4.2011 at Benchmarking Company D's premises. The discussion happened face-to-face where the questions were discussed freely and with no specific order. Notes were taken and the Resourcing and Allocation Process was sketched. The Benchmarking Company D business is in the juridical field. They handle law cases and provide advice internationally. Their annual revenue is about 30 M€ and the number of employee is about 200. The intensified competition in law business has forced them to look for improved performance and lawyer utilization rate. The business of the Benchmarking Company D has a lot in common with the Case Company, but there are few differences. One major difference is that the Benchmarking Company D is not always capable of taking the offered Customer case because of disqualification rules stated by the law. Thus they must perform the validity check with every case they receive or bid they are going to be involve in. The other difference is that within their business, the marketing is run by lawyers and not marketing specialists. This is due to the fact that their business needs deep juridical knowledge even in the marketing and tendering phases.