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ACTIVITIES OF SERVICE DELIVERY MANAGERS IN SOFTWARE-AS-A-SER- VICE OPERATING MODEL

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ABSTRACT

Elena Zorina: Activities of Service Delivery Managers in Software-as-a-Service Operating Model
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Currently, the main customers of software as a services companies are medium and large organizations around the world. Software-as-a-service is a great solution for companies looking to cut their operating costs and pay only for the features they need. In the context of services, there are several studies on after-sales service delivery, but there is no certainty mentioned in literature about the correspondence between software-as-a-service operating models and the responsibilities of service delivery managers. As a consequence, the provision of services without clear divisions into areas of responsibility between managers has led to difficulties in the distribution of services.

The main goal of the study is to identify the activities of service delivery managers in software-as-a-service operating models based on collaboration with a software company. The results were designed not only to help the case company with their internal processes and give recommendations for other companies that are interested in this topic, but also to fill a literature gap by conducting more extensive research into the activities of service delivery managers in the SaaS operating model. This research was performed as a qualitative case study in cooperation with a case study company. The empirical data was gathered from 12 interviews with managers at different levels of the case company and observations. The primary focus of the interviews was on the area of responsibility of managers and on possible bottlenecks from the side of operating models used in different regions.

In order, to support theoretical knowledge, a literature study was conducted with a further answer to the main research questions by combining theoretical information and data obtained during the interviews. The research findings showed that the successful provision of services in SaaS operating model requires a clear division into areas of responsibility between service managers within the organization. It was also found that regions' reliance on operating models also affects a company's overall performance, and that moving to a more unified operating model will help avoid bottlenecks in service delivery.

The results of the study showed the difficulties faced by service delivery managers and that often all bottlenecks stem from a lack of clear documentation within the organization. A division of responsibilities with further guidance between two defined group managers was proposed. It was also proposed to introduce a single operating model with minor exceptions for individual regions.

Keywords: operating model, software-as-a-service, service delivery manager, software service, bottlenecks

The originality of this thesis has been checked using the Turnitin Originality Check service.

PREFACE

Writing this thesis was a long and fascinating journey, from which I gained not only the knowledge, but also skills that I believe will support my working life in future. I would like to acknowledge some of the people who have supported me along the way.

First of all, I want to thank professor Miia and Beheshte for their constant guidance and comments. And also a big thank you for my manager Ville for providing such an opportunity for writing this thesis for the company and for the constant interest and support in the writing process. I am also very grateful to all the people from the company who participated in the interviews and shared their experiences with me.

The constant support of my family and friends has definitely helped me to move forward. The comments of my classmates and discussions together are also very valuable to me, thank you for being with me all this time.

Tampere, 16 May 2022

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LIST OF SYMBOLS AND ABBREVIATIONS

API	Application Programming Interface
B2B	Business-to-Business
CRM	Customer Relationship Management
CSM	Customer Success Manager
DACH	Deutschland, Austria and Confoederatio Helvetica
EMEA	Europe, the Middle East and Africa
ERP	Enterprise Resource Planning
IaaS	Infrastructure as a Service
ID	Identifier
IT	Information Technology
KPI	Key Performance Indicator
NPS	Net Promoter Score
PaaS	Platform as a Service
ROI	Return on Investment
RQ	Research Question
SDM	Service Delivery Manager
SLA	Service Level Agreement
SLT	Service Level Target
SQM	Service Quality Model
SaaS	Software as a Service
TSM	Technical Support Manager

1. INTRODUCTION

1.1 Background

The development of SaaS models is connected with the growth of global networks. It is the transfer of software products to outsourcing that logically completes the previously mastered processes of rental, outsourcing of services and personnel. It is known that the readiness of enterprises to use software services largely depends on the scope of their activities and is strategically determined by the level of competition in a particular industry. (Benlian et al. 2011) The work of SaaS organizations is changing the relationship between software providers and customer. In the service environment, there is a convergence of interests between the customer and the provider that is closer than in the world of on-premises applications. Knowing how customers are using the application gives the vendor a consistent set of metrics. This information is used to improve usability, performance and functionality by improving the software. (Wainwright 2006)

The theme of the thesis is the activities of service delivery managers in software-as-a-service operating model. This study examines the roles and main areas of responsibility of service managers in the SaaS context. The research is also intended for studying operating models in different markets to identify feasibility of unified models.

The Benlian et al. (2011) study explored the security and flexibility needed to classify the service performance of SaaS solutions. The quality of service is critical to the continued success of SaaS companies. Failure to meet customer expectations for service condition, for example an availability of functions or provider openness, can poses urgent consequences for providers as well as for customers. The convenience for SaaS clients is that they do not need to maintain the infrastructure to run the software, and the service is paid using different payment models (Benlian et al. 2011).

Running a SaaS service business involves using interdisciplinary approaches to achieve an understanding of service design, delivery, and how it should be maintained. The Bardhan et al. (2010) study checked distribution in support service, service management, and customer service level agreements environments. At the moment, more service-oriented research is focused on service architectures using data networks. (Bardhan et al. 2010) In the process of improving the software in the standardization of services, there were visible advancement in services value perceived by the client (Davenport 2005).

The operating model in SaaS business includes the ways and procedures for implementing the company's corporate strategy. The service delivery managers have a significant role in process of delivering service. The operating model serves as a determinant of the level of integration and standardization of business processes required to create and provide a company's goods and services to its customers (Ross et al. 2006). In terms of operating models in management, those same models need to be clearly defined and extended in order to integrate, maintain, and store these unified models to simplify organizational decision support services (Goul & Corral 2007). To make effective decisions about the operations of a company or to control, coordinate and monitor processes, it is important to follow a single system (Petit 2002).

Quite often, customers using SaaS face many difficulties associated with sometimes even hidden costs caused by the complex process of implementing software and the costs associated with post-sales support (Waters 2005). The above statement only confirms the need for competent support by service delivery managers of their customers in the after-sales market. In order to do this, clearly defining the manager's area of responsibility could be an important performance factor.

The main responsibility of the service delivery manager (SDM) is to communicate with customers and present the services of the company to them. In most service organizations, managers often rely on their frontline employees to ensure customer satisfaction (Hartline et al. 2000). The Theodosiou et al. (2012) study highlights the need to pay more attention to the role played by account managers in service organizations. Managers must increase the level and area of responsibility of their job responsibilities, this contributes to the improvement of the efficiency of their branch.

1.2 Research context

The research work was done in collaboration with a case company providing SaaS solutions. The company is an expert in implementing automated forecasting and replenishment systems for all store formats, product categories and distribution centres using a unique solution. World-class software based on artificial intelligence technologies covers all the functions of goods distribution, thereby significantly increasing the transparency of operations and allowing flexible adaptation of processes to the development of the network

A single software-based automated platform uses an extensive data library. By analysing this information, the system accurately predicts the sales of each product in each store and plans shipments to fully meet demand. The solution allows to manage the settings

and calculation logic, which makes it possible to flexibly adapt it to the specifics of a particular group of goods, as well as free specialists from routine operations, entrusting them to machine learning, and direct their efforts to solving non-standard tasks.

This thesis focuses on the post-sales phase of business-to-business (B2B) customer service and support. Since the company is a service organization, this thesis is about services and service business. In the study, the main focus is on a specific group of actors, such as SDM. Gaps in the knowledge and responsibilities of the SDM also affect the processes, the lack of knowledge of the areas of responsibility causes disagreement with the people who carry out the activity. The reason for this research topic is that with so many differences, SDMs ended up in a confusing place because they did not know exactly what was expected of them. The thesis will consider the roles and responsibilities of different managers, and will also give recommendations on the division of responsibilities. The study also includes determining whether the company case needs a unified operating model and what bottlenecks need to be addressed to achieve a more unified model on a global scale.

1.3 Objectives of the research

The main objectives of the research were to identify the inconsistency in operating models. By observing current bottlenecks in operating models as ways of operating are different within countries. As well as define activities of service delivery managers in SaaS operating model. In order to create recommendations to increase efficiency and quality of services, as well as increase consistency. For the case company researcher select whether company should have unified model and what are the bottlenecks in operating models that should be fixed if company want to have more unified model globally.

With inconsistency that case company has now, goal is to investigate whether it would be possible to procure more consistency or similar types of operating models. The target is increased efficiency and quality of services, by increasing the consistency within roles and operating models.

Taking into account the previously mentioned research problems, the following research questions (RQ) were made:

RQ1: What are the main activities and responsibilities of SDM in SaaS service?

RQ2: What are the current bottlenecks in operating models related to SaaS?

The thesis is limited to SaaS business and concerns B2B clients. The study is aimed at creating theoretical knowledge and practical advice for the company's case in order to

answer research questions and achieve efficiency and quality of services by increasing consistency within the organization.

Since the activities of service delivery managers and operating models within the SaaS business are the main focus of the thesis, the product itself is not explored, but mentioned. The main focus of research is based on after-sales service phase in service delivery context.

1.4 Structure of the thesis

The thesis consists of six chapters with the division of each chapter into sections and subsections. The first chapter of the introduction describes the main idea of the study. It includes definitions of concepts used in the context. The need for research describes briefly the case of the company and how the results of the research will be used. At the end of the chapter, the author formulates the problem and research questions.

The second chapter provides the main theory related to the research topic, explores the characteristics of software as a service, SaaS operations, and the activity of service delivery managers. Also in order to validate the theory, the literature review focuses on establishing a solid theoretical base to support empirically derived data.

The third chapter presents the research methodology studies used in this thesis. A case study been used in collection of empirical data. This chapter contains a description of the interviews that been held with service managers of the company. It also includes a more detailed description of the case company and how the data was collected and analysed.

The fourth chapter describes the results of the empirical part of the study. The chapter structure is divided into two subcategories. The results regarding operating models are divided into three chapters, including: the billable service process and the problems associated with it; resourcing and bottleneck. In the second subcategory, there is a discussion of SDM activities, namely their area of responsibility and main activities; role uncertainty and customer value. Quoting directly from the interview is used for analysis.

The fifth chapter includes a comparison and analysis of the results of the practical part of the study and conclusions from the literature. It also discusses the answers to research questions ranging from the activities of service delivery managers and discusses in detail operating models and the complexities associated with them. This chapter also provides future guidance for the company case.

The final chapter presents the collected results and contributions in order to summarize the main findings. It includes recommendations for the case company. There is also a discussion of existing limitations of the study. Finally, possible topics for future research are presented.

2. LITERATURE REVIEW

2.1 Software-as-a-service

2.1.1 Software in business

Software-as-a-service (SaaS) is a software selling model in which a vendor develops a web application and manages it, when the customer is given the possibility to work with the provider's operation software running in the infrastructure and approachable through various customer applications or through a browser or program interface. According to Turner et al. (2003) SaaS provides software range of capabilities as a group of services that can be set up and linked at time of delivery thus can reduce many of the ongoing limitations that hinder software use, deployment, and development.

Business software creates a profit for the companies using software. When choosing software, company need to clearly comprehend what activities it should fix without failing, which criteria it must align with, and what range is key for the business. SaaS solutions offer significant advantages for small and medium enterprises. In last years, SaaS and solutions have developed to meet the cost and time for smaller and medium-sized companies. In that regard, SaaS organizations are gaining new clients in both small and medium enterprises. (Cristescu 2016)

Software-as-a-service can eliminate costs and improve quality to extant operations (Loukis et al. 2019). Service delivery may involve the dynamic creation and development of entirely new services using existing ones. A main advantage of the SaaS model for the consumer is that there is no need to install, update and maintain software (Turner et al. 2003). The handling of the foundation of the cloud, including network, servers, operational systems, storages, and personal functions capabilities is performed by the provider (Kim et al. 2017).

Software-as-a-service it is a model of cloud computing related to other categories of cloud computing: infrastructure as a service (IaaS) and platform as a service (PaaS) (Ruparelia 2008). The figure below represents the structure of cloud computing. The provider exports the infrastructure that supports as a platform to application developer, that deploys a specific software-as-a-service application for an end user (Fortino et al. 2014). The application interface may be designed for example for a single solution to enable certain features.

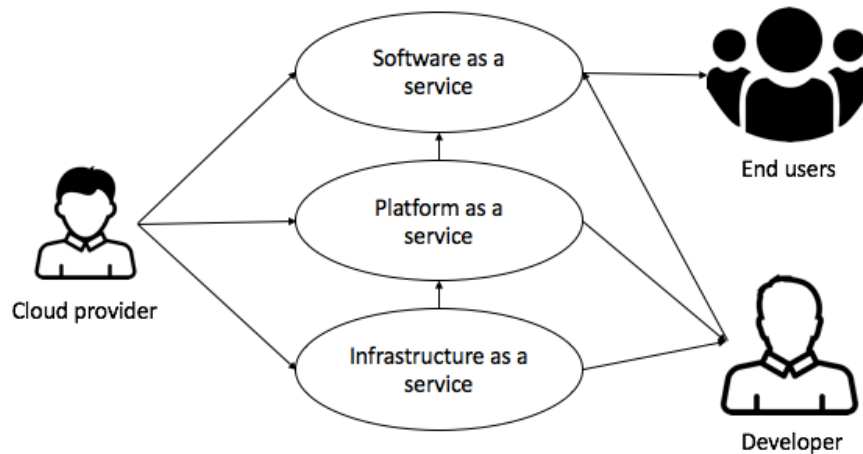


Figure 1. Cloud computing (adapted from Fortino et al. 2014)

SaaS is often seen as a business model (Susarla et al. 2009). Advantages depend mainly on the specific area, in some cases it is a higher degree of security, in others unprecedentedly convenient synchronization and the availability of comfortable multi-user work, due to cloud storage (Levina, Kubarskii 2018).

According to Loukis et al. (2019) the company's transformation to software-as-a-service type plays a good role on operational and innovation perks. Unlike the traditional model where software needs to be updated, server-hosted software can be updated centrally. With the latest software SaaS can be maintained at any time.

SaaS infrastructure development requires much more effort than client application development because it involves developing a program to help client operations in the internet utilizing mechanism hold in software-as-a-service collection of data (Tsai et al. 2014). It is not uncommon for user training to require integration with other hardware, software, or certain mission-critical features. For SaaS, ensuring that all users are running the latest version of their software is a priority. Companies often prefer to stay on an older version of software with features that are specific to the version they are used to. Unfortunately, this is not possible with SaaS, which is frequently updated for all users to the latest version. (Gao et al. 2011)

2.1.2 Essence of software-as-a-service

The need of business users for information technology is due to the fact that they use corporate software: enterprise resource planning (ERP) systems and customer relationship management (CRM) systems (Boillat, Legner 2013). Quite many software developers are planning to implement software-as-a-service in their business.

One of the main factors for software publishers to promote the adoption of cloud services is the desire to reduce transaction costs associated with the delivery, activation of products and the provision of technical support. Other factors include improving customer service by facilitating transactional issues; the ability to enter new and niche markets; additional opportunities for usage analysis; and speeding time to market. (Strader 2010).

According to the study of Boillat and Legner (2013) the impact of cloud computing affects customer-facing elements, such offerings include new features, new customer segments, recent flows and contacts with customers to provide clear connection to application. Further the easier access to product information adds value to product differentiation (Clemons et al. 2003).

The difference between SaaS and earlier methods of delivering applications over the Internet is that SaaS solutions were designed specifically to work with web browsers (Seethamraju 2014). Because the service provider takes accountability for information technology base and support, SaaS implementation can reduce the demand for technology possibilities and assets (DeSisto 2009). The SaaS-based application architecture is specifically designed to support the processing of requests from a large number of users. This is the big difference between a traditional client-server application and a solution hosted by service providers. On the other hand, SaaS service providers increase economies of scale when deploying, managing, maintaining, and maintaining their offerings. (Benlian & Hess 2011).

Software-as-a-service functions usually execute a multi-tenancy method, meaning that the SaaS will work in the host servers, and that single case would aid every registered client. With a multi-tenant environment, minimal customization, and characteristics of the provision of services, software-as-a-service types differ essentially from on premise types. (Seethamraju 2014) The app can run in the same version and configuration for every customer or tenant. Although various subscribers would work in similar cloud instance with same base and platform, information from separate tenants would be different. (Benlian et al. 2009).

In terms of ability foundation and cost arrangement, cloud system supplier need to provide developed web applications, and manage and control necessary base for clients (Boillat, Legner 2013). The typical multi-tenant SaaS application architecture indicate that the cloud service supplier control support systems, with related version upgrades, and bug resolutions faster, simpler, efficiently. Contrary to making adjustments to many cases, developers can make changes for every client while maintaining one shared in-

stance. (Accorsi 2011) By making the SaaS provider responsible for applications, enterprises can reduce the administration and management costs required to support their own enterprise application (Choudhary 2007)

In addition, multi-tenancy allows more people to access more resources without sacrificing critical cloud features such as security, speed, and privacy (Benlian, Hess 2011) The level of management of interactions with software-as-a-service providers affects the importance of functional and innovation advantages derived from SaaS (Loukis et al. 2019).

Server virtualization can be used in a SaaS architecture instead of or in addition to multi-user support. The main advantage of the virtualization platform is the increase in system performance without the need for additional programming (Schneider, Sunyaev 2016). The effect of combining resource sharing and a virtualization platform into a SaaS solution provides greater flexibility and performance for the end user (Benlian, Hess 2011).

Because tenants can store their applications in a database, applications in SaaS are often not stored as a single entity. In this way, each client application is broken down for its interface, workflows, services, data parts, and each part is located in the database along with parts of the similar type. (Tsai et al. 2014)

Below is a sheet based on research made by Tsai (2014) which describes the list of activities made by software-as-a-service with the appearance of a user request:

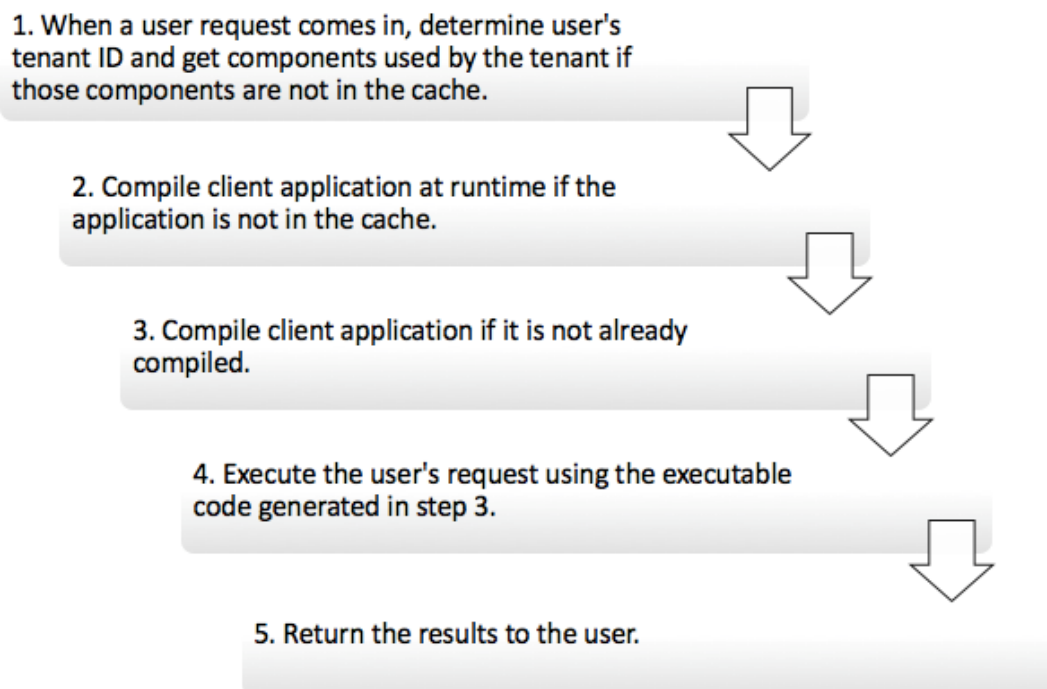


Figure 2. SaaS activities (adapted from Tsai 2014)

In terms of demand, private users have less complicated information technology needs than business users because they use enterprise software to support their core business operations (Boillat, Legner 2013). Most SaaS applications have integration with third-party tools through extensible application programming interfaces (APIs). These customization and integration options are good, and they greatly improve workflow and productivity. However, they cannot be compared to fully customizable enterprise software (Schneider, Sunyaev 2016).

According to studies conducted by Seethamraju (2014), the final factors in the decision to implement SaaS are the authority of the software provider, the alignment of the software with the interests of the company, the vendor's customer support services throughout the solution life cycle, provider's involvement in value adding, and overall advantages of adopting an integrated system. It is also essential to identify operations in SaaS to know all the intricacies of managing that type of business.

2.2 Operations in software-as-a-service business

2.2.1 Service operations

The SaaS business is more complex than the traditional business. Traditional business metrics do not take into account the main points that define the effectiveness of SaaS. In the SaaS world, there are several key variables that matter a lot to future results. That is why it is so important to define the basic operations in a SaaS business. From financial perspective in SaaS, the money for the services is received over a long period of time such as the lifetime of the customer. If the client is satisfied with the service, he will use it for a long time, and the profit that can be made from this client will increase significantly. Conversely, if a customer is dissatisfied, they leave quickly, and the business is likely to lose the money it spent on acquiring that customer. This creates a fundamentally different dynamic compared to a traditional business, companies need to pay off acquiring a customer, as well as keeping him.

To clarify on context, the SaaS companies are relatively new companies meaning there is much about traditional companies that will not particularly fit into their business processes. According to definition of service operations written by Martinsuo et al. (2020) it is the impact on the quality of customer service that described by the actions and tasks of the company.

Skivington and Daft (1991) introduce in their study that the configuration of tasks and activities is indicated by the organizational structure. Zheng et al. (2010) argue that organizational structure, culture, and strategy are three key carefully studied organizational asset, because of the relationship with organizational performance.

Considering the structural aspect of company, few studies have been identified that show the positive impact of high centralization on organizational performance. Most researchers have concluded that a decentralized organizational structure promotes organizational effectiveness because it encourages communication and increases employee satisfaction and motivation. When the free flow of horizontal and vertical communication is encouraged in less centralized environments, experts have more say in decision-making than the designated person. (Zheng et al. 2010)

It must especially be noted that the it is generally recommended to create a service division with responsibility for profit and loss (Araujo & Spring 2006). Turunen and Toivonen (2011) have stated that the main point is that in a different division, services are visible, measurable and controllable. The topic has been widely studied by Gebauer et al. (2005) who stated that A decentralized service organization operates in accordance with and in coordination with a pool of different performance points such as customer satisfaction, employee satisfaction, business success. Therefore, achieving those goals is more complicated.

Service appointments are counted front office activities and are distinct from back office activities as they are related to service activities that client can see and experience. Back office activities refer to that part of a firm's operations in which clients do not interact directly, including development, information systems support, accounting, and finance. (Martinsuo et al. 2020).

Service operations usually develop personnel, property or information. (Wemmerlöv 1990) The service map can be used to display operations as it focuses on visualizing processes and identifying customer touch points. A service plan is a map or flowchart of all the transactions that make up the process of providing a service. (Shostack 1984).

As mentioned earlier, the activities in service are divided into front-office, related to customer interaction and back-office, non-customer interaction activities. (Martinsuo et al. 2020). The line of sight separates the activities of the front office from the activities of the back office. The interaction line separates the customers and their activities from the activities of the front office. Front office activities are performed by the service provider at the initiative of the clients. (Biege 2012) The processes are presented below.

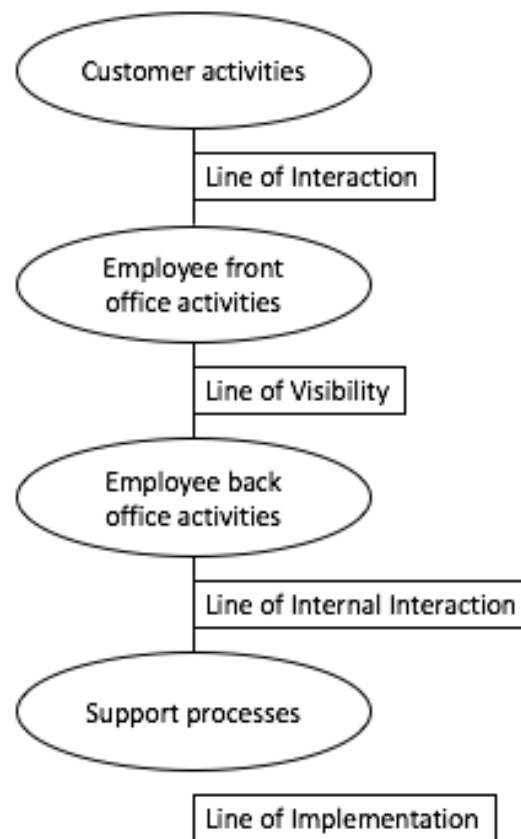


Figure 3. Service blueprinting (adapted from Zeithaml and Bitner 1996)

Service operations bring financial and valuable benefits to companies and their customers, directly or indirectly obtained through services (Martinsuo et al. 2020). Compared to on premise models, SaaS gives the customer more freedom to switch vendors when the solution or service is not what they want. To continue providing services and business, SaaS providers must continually improve our products and services through innovation. This can be achieved through backups, frequent software update, contingency planning, recovery plans, and security updates. (Corsello 2009)

Software firms may be limited by the customer service skills needed to deliver software. The main operational challenge lies in hosting the software, so companies must develop arrangements for managing bulk data centre operations, system and network monitoring, and billing. (Dubey & Wagle 2007)

Service provider companies serve the needs of customers and organize production and employees to meet demand. To save production costs, proper operations management planning is required. In a software-as-a-service business, cost savings come from test interactions between a supplier company and a customer. (Yao et al. 2017).

Software-as-a-service providers' understanding of operations, company needs, and understanding of current offerings, including future offerings, will improve with the development of a high degree of relational control. Thus, the company can better use the services of SaaS providers to satisfy its needs. (Loukis et al. 2019)

Johnsto (1999) argues that new contributions to the core area of business-oriented operations management could be made by good service management and service operations. Contributions such as customer centric approach, development of service strategies and the role of service in the product range discussed within service team.

According to Heskett et al. (1990) the potential effectiveness of the implemented service operation strategy is determined by the choices made by service providers regarding the concept, practice and procedures for service delivery. With the help of the right decision, managers can contribute to the development of the competitiveness of the company. (Roth & Menor 2003). Turunen & Toivonen (2011) concludes that extensive internal service operations are not always associated with the presence of service units.

There are several areas of responsibilities of service operation. According to Axelos (2011) presented in Table 1.

Table 1. List of service operation responsibilities (adapted from Axelos 2011)

Service operation responsibilities
As part of the service lifecycle, service operation is responsible for:
<ul style="list-style-type: none"> ▪ Executing and performing processes that optimize the cost and quality of services ▪ Enabling the business to meet its objectives
As part of the world of technology, service operation is responsible for:
<ul style="list-style-type: none"> ▪ Effective functioning of components that support services ▪ Execution of operation control activities to manage and deliver services
As part of the overall business, service operation is responsible for:
<ul style="list-style-type: none"> ▪ Delivering services efficiently and at acceptable cost ▪ Delivering services within prescribed service levels ▪ Maintaining user satisfaction with IT services

When finding the right balance between the priorities of internal and external views, as well as stability and responsiveness, quality and cost, reactive and proactive behaviour, can insure the success of a company providing a service. Mandatory involvement of service personnel in all phases of the service life cycle ensures successful development, transition and improvement of services by providing metrics and operational functions to meet business needs. (Axelos 2012) In accordance with the presented theory given the specifics of the services, there are special requirements for quality management with the

support of the necessary documentation, since the production of services must be carried out on time (Biege 2012).

2.2.2 Operations management in service business

There are two types of SaaS business. Those with monthly contracts, with some longer term contracts where the focus is on recurring monthly revenue. Also, those with mainly annual contracts, in such contracts, the focus is on recurring annual revenue. The definition of operations management according to Martinsuo et al. (2020) is organizing, coordination and improvement of services needed in order to reach client's service experience. Harvey et al. (2016) argues that services in terms of operations management consider levels of customer interaction and service delivery specifications, these levels must be at a high level to achieve the best performance in the business.

Nie and Kellogg (1999) introduce in their study A problem in service operations management is caused by the choice of strategic operations and decision making under the influence of service characteristics. The limitation of strategic choice and tactical decisions may be caused by service characteristics.

It must especially be seen that service operations must be proceed differently. The service operations in SaaS businesses possess uncommon aspects that are not exist in other types of businesses, for example, the level of influence of customers, intangibility factors, the close relationship between production and consumption, heterogeneity, perishability and labour intensity. The tasks assigned to the heads of operational services also differ due to the unique specifics of the SaaS business. Given previous studies, they point to an increase in complexity in service operations due to poor communications with customers. (Davis et al. 1999)

There will likely come a point in any SaaS business when it realizes that not all customers are created equal. For example, larger customers are harder to sell to, but tend to place larger orders and leave less often. Companies need a way to understand which ones are the most profitable, and this requires them to segment the customer base into different types, as well as calculate unit economics for each segment individually. Most often segmented by size and industry of the client. Since it is likely that customer satisfaction will be a good indicator of future churn, it would be useful to investigate it. The recommended way to measure customer satisfaction is to use NPS.

The dependence of the uniqueness of characteristics is due to the level of attitude to services. Scientists attribute factors such as customer involvement, intangibility, and other previously mentioned characteristics. The independence of characteristics from

each other is not a mandatory factor, since they can be interdependent and intersect depending on the specifics of operations. The complexity in managing service operations is caused by a combination of these characteristics, and at the same time, the uniqueness of services. (Nie & Kellogg 1999) Aswathappa and Bhat (2009) have stated that productivity can be more challenging to measure in service operations because outputs of service operations are generally intangible.

Mills and Moberg (1982) service operations from clients can be buffered by technology intervention. Operationally, this improves efficiency, but for personalized services, it does not strategically isolate customers and operations. In operations management, the classic conflict is between customer service and efficient utilization of resources. (Wright 1999)

Heskett (1986), described an integrative strategic service management process from identifying key market segments to developing a service concept, moving on to developing an operational strategy and service delivery system. The definition of the overall strategy of the company and its relationship to marketing, finance, operations and other departments is included in the concept of operational strategy. Heskett (1986) also insists on defining the main focus of management services, which includes investments, quality and cost control, or an indication of the results that the company expects in comparison with competitors. Throughput, automation, quality, queues, staffing, customer awareness, and multi-site operations are key features in a service operations strategy. (Adam & Swamidass 1989).

International expansion is only recommended for mature SaaS companies that have already honed their business practices in their primary market. It is much more difficult to experiment and establish business in remote regions with linguistic and cultural differences.

Service operations degree of standardization of the processes carried out and the results obtained influence the classification between standard and special services (Aswathappa & Bhat 2009). Specialized services with a high level of quality are provided to more customers by service providers (Chase 1978). Customer feedback on the service provided can be assessed through an environmental audit (Fitzsimmons & Fitzsimmons 2008).

According to Adam and Swamidass (1989) an important tool in the strategic operations management process is strategic planning. Improvement in operations management and

strategy can be achieved through the development of classification schemes. For a better and more thorough study of the components of strategies and models of operations management strategies can be achieved by developing a taxonomy for study.

To understand the structure of services and how they are managed, companies can also use the service process taxonomy, which includes the way in which different types of processes are organized in service systems. Designing or restructuring service systems can also be achieved using taxonomy as a strategic positioning for service processes. (Fitzsimmons & Fitzsimmons 2008)

The transformation process is considered the main concept of operations management (Bitsaki et al. 2008). Adding value to an action group by transforming and then delivering the results to customers is called the transformation process. (Applegate 2001). In operations management, the resources are considered as an inputs to the transformation process (Cardoso et al. 2015)

The customer transactions can be divided into high and low contact levels in the context of service delivery systems. The ability to isolate technical factors associated with low-contact operations affects the success of the operational approach given the amount of communication with the client when creating a service. (Chase 1978; Fitzsimmons & Fitzsimmons 2008)

Wright (1999) argues that The success of SaaS companies depends on proper and highly efficient operations management. The design, analysis, and use of operating systems in order to achieve the intended service outcomes defined by the company for customers is called operations management. Possible solutions can be both short-term and everyday, and long-term. (Wright 1999)

The concern of the operations is with providing the services, explained effectively by the enterprise procedure. The importance of involving the operations manager in all process categories from suppliers to customers is highlighted by the value chain. (Wright 1999) In many SaaS businesses, people that responsible for service delivery have important activities in after sales market. In such situations, the number of effective and skilful managers will be a key redundancy factor.

2.3 Activities of service delivery managers in software-as-a-service business

2.3.1 Service delivery systems

The systematic provision of services to the client for the purpose of service is carried out by service organizations (Wright 1999). It is important that the service provider understands the target markets and their requirements so that new services can be created. (Heskett 1986). A clear approach to scheduling service operations and delivery problems based on customer preferences is provided through discrete choice analysis (Pullman et al. 2001)

The service marketing perspective is emphasized by the service quality model (SQM) delivery (Berry et al. 1985). In this model, the process of transformation of the function is observed with a further transition to the service process, where the client expects the promised result, gains experience in providing the service and exits the process with a perception of the level of satisfaction (Haynes & Thies 1991).

Service delivery systems and their development can be considered a complex process, as differentiation from competitors and the uniqueness of the services provided are the main factors. Companies carefully analyse and identify all possible alternatives before deciding on the achievement of goals. An important distinguishing feature is the duration of the development of services, since the system of service delivery changes with the requirements of customers. (Fitzsimmons & Fitzsimmons 2008). For some service industries, the maturity stage for the essential service can last for many years; however, services are always changing and service providers find themselves constantly in new areas of endeavour. (Wright 1999)

Voss (1992) shows differences in operational factors that affect the quality of service perceived by customers as well as their satisfaction with the services provided. The operational takeaway is that as services expand at different levels, there is a need to understand and monitor customer interactions. (Cook et al. 2002) In the absence of effective and efficient communication within the system and between the organization and its clients, the functioning of service delivery systems is limited (Martin 1989). Since the result of the operation varies depending on the stable work of all personnel providing the service during each service operation, the provision of services requires a large amount of resources, as well as proper management of them (Lovelock & Gummesson 2004).

Martin (1989) argues that checking up on service delivery performance requires an ongoing system of a service audit system, which allows to target in the key indicators of

service quality. A replies gathered from the clients concerning the quality of service provided which enhances client convenience in daily operations, and reports collected from personnel which keeps organization up to date. By using these three measurement systems company can check up on the quality of the service.

With process diagrams, a degree of customization can be provided as customers can define a sequence of maintenance activities to meet their needs. Personalized services are also achieved by tailoring the service to the wishes of the client, which is also shown in the diagram. Problems associated with the management of service delivery processes can arise when interaction is caused by a high degree of customization. (Fitzsimmons & Fitzsimmons 2008)

In the process of providing services, the quality of services is assessed. By comparing the perception of the received service with the expectations of the desired service, the degree of customer satisfaction can be determined. (Fitzsimmons & Fitzsimmons 2008)

The type of service offered affects the degree of intensity of interaction between the customer and personnel within the service organization (Wright 1999). The contribution of clients being proactive entries or coproduces of the process of service should be taken into consideration to support decision with adjustments in the service delivery system (Fitzsimmons & Fitzsimmons 2008).

The development of new services includes the process by which they will be provided, since the service industry itself depends on customers as input for the provision of services. The process flow chart is a useful tool when designing and comparing alternatives, given the level of customer involvement. (Wright 1999) Ways to bring benefits to the client and the supplier include allowing the client to participate in the process of providing services (Fitzsimmons & Fitzsimmons 2008).

Hayness and Thies (1991) suggest that the client is responsible for the actual processing and evaluation of the services provided, and with the use of technology, this responsibility is increasing. An important criterion for the improvement of the provided technology is its reliable use by the client, with the requirement of providers for the participation of users in the process of providing services. In such a case, management must understand certain behavioural characteristics in the presence of the client in the service delivery system. (Haynes & Thies 1991).

Economic differentiation for the client can be obtained by transforming alternative service delivery mechanisms, which can then be considered an incentive to use an alternative system regardless of technology. (Haynes & Thies 1991) Since high-quality services reduce waste in the process of providing services, Li et al. (2002) believe that improving

cost and quality indicators will lead to improved financial results. Martinsuo et al. (2020) argues that the Since the service wait time also consumes resources, you need to take into account spare resources when calculating and estimating the cost of resources.

Value for customers can be added by customizing service offerings for each customer, so you can see the flexibility and increased efficiency of service delivery with standardized service modules. (Rahikka et al. 2011). One of the main tasks for the continuous and reliable provision of services, together with the determination of the capacity of the service, is to determine the sequence of service operations and allocate resources for them. The rules for ordering and allocating resources vary between service units, as they could be either informal or the formal allocation systems. (Martinsuo et al. 2020)

Jaakkola et al. (2007) introduce in their study that an organization must be able to manage the risks associated with providing services to customers and also be able to manage its resources. Only by defining the end users, including their expectations, can a system of service delivery be created with further provision of customer value (Martinsuo et al. 2020). The influence of client contact for the service delivery system can be highlighted through front office and back office (Zomerdiijk & de Vries, 2007).

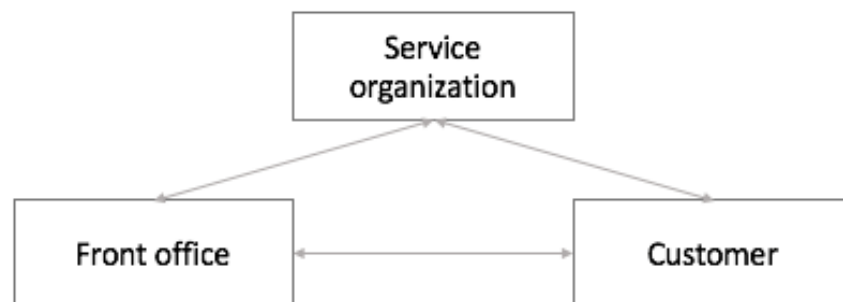


Figure 4. Service connections (adapted from Fitzsimmons & Fitzsimmons 2008)

To the relationship between the service organization, the front office and the customer is shown in Figure 4. Defining The efficiency and speed of the service delivery system is enhanced by the front office's instant service delivery activities (Zomerdiijk & de Vries, 2007).

2.3.2 Roles of service managers

The set of responsibilities, activities, and powers given to a person or team is called a role defined in a process or function (Axelos 2011). The production and marketing activities in an open system with the customer as a participant are included in the duty list of service operations managers (Fitzsimmons & Fitzsimmons 2008). The role of such specialists is especially important in the SaaS. A good service delivery manager is able to keep a large and solvent client in the orbit of the company for years, thereby generating

a large amount of revenue. In the context of this thesis service delivery manager and service manager mean the same.

From a higher-level management perspective, service delivery managers in SaaS business have three main responsibilities in the long run. The first one is to set up people properly and educate them on how to use the software. It is as well important to make sure people continue to benefit from the software and keep using it. The third one is to increase upselling and cross-selling of increasingly expensive licenses. According to definition provided by Axelos (2011) the manager who delivers the service is called the service manager. Often, the responsibilities of business relationship management, service level management, and continual service improvement are considered core responsibilities of service managers. Indirect control possible in routine operations is not peculiar to service managers (Fitzsimmons & Fitzsimmons 2008). The earlier research in fact stating that the service managers takes a place in the post-sales chain and focuses on developing relationships. The main tasks include strengthening relationships with clients and expanding the interaction area and provide new possibilities.

The manager achieves his work tasks by exploring the demands and details of the activities of his clients, helping them to meet their needs and achieve results. The goals and activities may be overlapping or contradictory depending on the functions involved in the work of the service. A clear understanding of actions and responsibilities should be a must. Performance requirements to be met must be included in new service designs. It is important to avoid misunderstandings and communication problems within the operations and development staff. For efficient and effective implementation and development of new services, operational requirements must be clearly communicated. (Axelos 2012)

Developers of new services need to know what operational requirements need to be met (Axelos 2012). Discussing the contribution of management to creating a customer service orientation among employees results in a highly correlated perception of service quality shared by contact staff and customers. (Fitzsimmons & Fitzsimmons 2008) The service delivery manager acts as a long-term spokesperson for the company. He becomes a trusted advisor to the client. In other words, sales is an operational activity, while customer service is more about building long-term relationships.

With a clear understanding of operational characteristics focusing on the differences between service systems, a manager will be able to improve service systems as well as managerial skills (Chase 1978). By creating design logic by managers, it can be useful for companies, but it is not always possible to achieve results in practice (Lewis & Brown

2012). Understanding the needs of his clients, the manager helps to answer their questions and solve their problems. Customized solutions in the form of products or services must be offered to customers, thus creating a long-term strategic partnership with the customer.

In research, the operational relationship of value management perceived by the consumer is of tactical and strategic importance. Heskett et al. (1994) changed their thinking to include the concept of value. The importance of a mind-set that is different from the usual simple delivery of services is noted by Heskett et al. (1986) when implementing a strategic vision of value, value chain and profit for the client.

When making decisions in the organization, employees are guided by the norm of behaviour and a set of values created by the managers of the service organization (Fitzsimmons & Fitzsimmons 2008). Based on Turunen and Toivonen (2011) study writers mention that sufficient time should be given to the customer information channel. There are many methods of obtaining information about customers related to questionnaires and feedback. Information must be collected from all reliable and accessible sources. (Rowley 2002). To analyse future customers, it is useful to study information received from existing customers.

Client information should be well structured and documented within the company (Turunen & Toivonen 2011). Collecting information is not as difficult as analysing the information received, but it is the analysis that plays an important role in organizational strategy and successful practical operations (Nordlund 2009).

Given the wide variation in service type, it is difficult to give specific points about service management, but service managers must clearly understand the unique characteristics of the service environment in order to accomplish their tasks (Fitzsimmons & Fitzsimmons 2008). It is unacceptable for an organization to have a manager who is less aware of the company's activities than its client. The quality of employee training directly indicates the quality of services provided by the company.

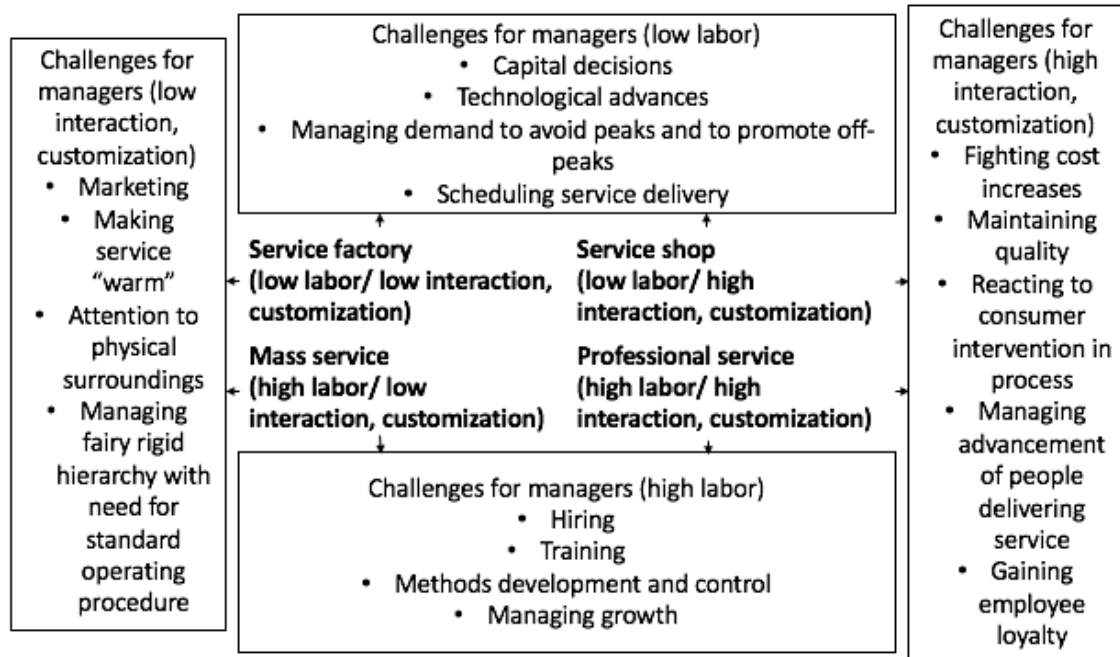


Figure 5. Service manager challenges (adapted from Schemenner 1986)

Services managers have same issues, as noted in Figure 5. The quality control of the service provided and the perception of the service by the buyer is influenced by the degree of customization (Fitzsimmons & Fitzsimmons 2008).

The service manager needs to define the number of actions performed on existing resources under normal operating conditions during a specified period (Martinsuo et al. 2020). From the point of view of an open system, the role of the service manager is defined. The presence of customers in the service delivery system is the main focus environment for service managers. (Fitzsimmons & Fitzsimmons 2008)

Providing customized or personalized service offerings is a top priority for service managers (Roth & Menor 2003). An environment in which customer satisfaction is facilitated, supported and encouraged can be created by managers while improving the quality of service (Salvaggio et al. 2007). Based on Hoch et al. (2000), human resources are the main management issues for SaaS companies, specifically controlling and getting personnel resources were highlighted as major challenges for growth.

By gathering the essential elements of service design, managers can have confidence in building a high-quality service business. Focusing managers on the factors to achieve excellence and improve performance should be key to creating a successful service offering. Investing in the factors that matter most to clients should be a priority. (Frei 2008)

Due to the specifics of service, service delivery managers possess few charge over quality of services (Bowen & Schneider, 1988). A work environment that promotes service

quality must be created by service delivery managers in service companies (Schneider et al. 1998).

2.4 Conclusions from the academic literature

After examining SaaS and the role of service delivery managers, their relationship and operations management concepts, in this chapter the author discusses topics covered in the literature and summarizes important findings from the literature studied.

Given that although SaaS business models are popular among service providers, the proper use of managerial methods and resources such as personnel is very important to achieve the desired success of a company. Operating model management in a SaaS business is a broad concept that spans from the idea of establishing a business for the improvement of operational components and the further continuous development of the service provided. These concepts are covered upon in the scope, allowing this paper a more broad discussion.

The relevance of SaaS research and business-related operating models as a concept is growing. There are clear trends in the development of not only technologies, but also business models of interaction between the supplier and the consumer. It can be assumed that the development of technologies and business models are two interrelated aspects of one process in a situation where the customer seeks to reduce their IT costs in the face of constant growth in their importance for the core business. In the last few years, companies have seen a growing market interest in the SaaS model (Loukis et al. 2019).

The literature review covered several different topics, from defining business models such as SaaS, IaaS, and PaaS; to studying key operating models in the business and defining the roles of service managers and their collaboration with customers. The literature review was quite extensive and covered several important concepts with the aim of strengthening knowledge for further research and answering key research questions. It is important to mention the impact of the literature covered on the study of the research topic as a whole.

The literature used in a research emphasised the importance of involving customers into service delivery processes. Because understanding the unique characteristics of a business is essential to understanding the challenges facing service managers. The service operations manager role includes functions in open system with the customer as member. (Fitzsimmons & Fitzsimmons 2008)

Several literary sources came to the same conclusion. It is much more difficult from a practical point of view to implement the solution, not all sources are specific in the implementation of cooperation between clients and managers in a real business environment, no special instructions for implementing the full inclusion of the client in the service delivery phase have been established in practice. Also, no actions were described, not excluding the moment of realization of the importance of such cooperation. Below is a list of authors who indicate direct cooperation with clients: Fitzsimmons & Fitzsimmons (2008), Wright (1999), Shostack (1984), Biege (2012), Harvey et al. (2016), Nie & Kellogg (1999), Davis et al. (1999), Mills and Moberg (1982), Chase 1978.

According to the research conducted by the author, it is important to note that no published materials were found on the study of effective operating methods in SaaS and the improvement of business processes for these methods from the point of view of service managers. All the literature on this topic has been focused on separate concepts that are not related to each other. As an exception, it should be considered the aforementioned early customer engagement that appears in many research sources. Readers can find the topic somewhat vague, as it includes many different concepts. However, the relevance of the chosen topic is dictated by the need for a qualitative leap in the development of product in the growing SaaS market, by identifying key operating models and identifying the main management tasks facing service managers to improve the proposed solutions and add value to the customers.

Most of the sources studied indicate the importance of a detailed study of service delivery systems in a SaaS business, however, the detailed steps remain at a very abstract level due to the uniqueness of each case in a real business environment. The process of providing services at service enterprises includes customer service processes and processes related to the performance of the service itself. Of course, the duration of the service life cycle and its stages, the level of income depends on objective socio-economic factors, as well as on subjective factors. The following authors wrote about the complexity of unified solutions for operating models due to the exclusivity of each individual case company: Fitzsimmons & Fitzsimmons (2008); Heskett (1986); Nie & Kellogg (1999); Rahikka et al. (2011).

Most of the authors noted the importance of choosing the right strategic operating models for SaaS businesses. However, specifying that it only represents a set of methods and techniques used by the company to implement its strategy. The operating model is the interconnected processes, business structure, management system and corporate culture of the company, aimed at achieving the main goal - meeting the needs of the consumer and, as a result, achieving the success and prosperity of the organization.

Based on the literature, the framework shown in the Figure 6 shows the design of services and its relationship within the parties involved, also the figure represents the tasks of service managers depending on the level of labor intensity and interaction / customization. This framework brings together important information from the literature.

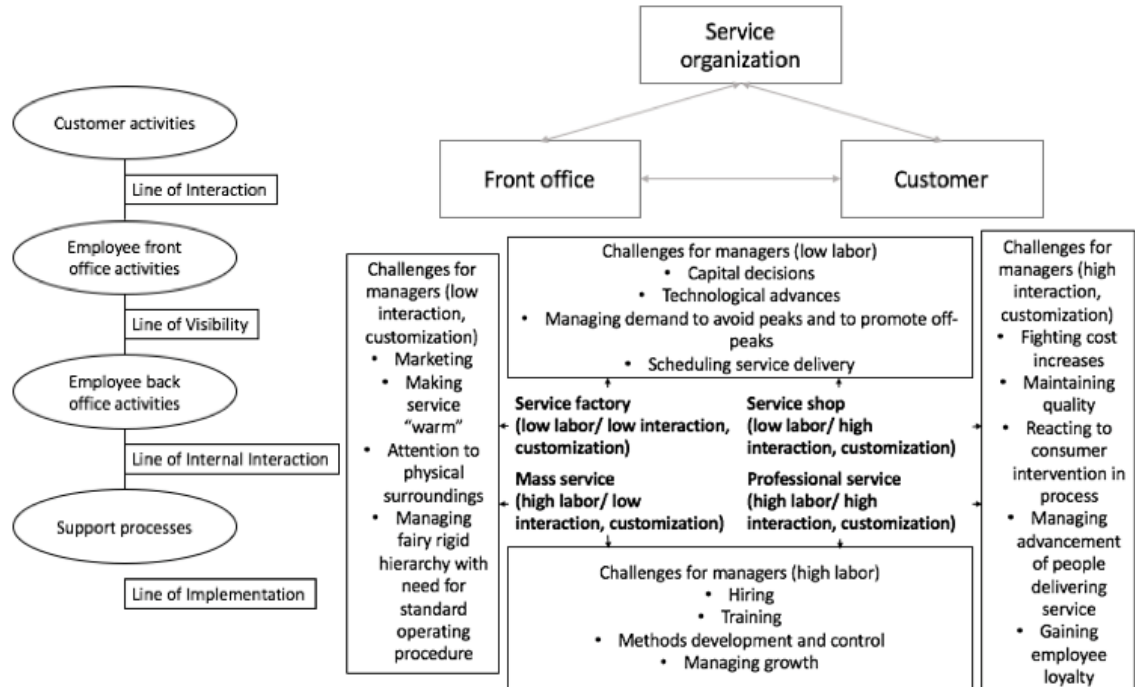


Figure 6. Literature based framework

This structure is based primarily on the studied materials from the literature selected by the author, and as it was noted earlier, in modern literature very little is said about the specific steps of providing services in SaaS from the point of view of the service manager, due to the uniqueness of particular cases. Therefore, given the shortcomings of the structure, it is possible to continue the study in the empirical chapter, where the final structure was created.

3. RESEARCH METHODOLOGY

3.1 Research design

Empirical studies can provide strong evidence to test a given hypothesis and are also supported by observation or experiment (Aggarwal et al. 2006). The empirical level of scientific knowledge is a sensory study of real-life objects and phenomena. The main task of a scientist at the empirical level is the fixation and grouping of scientific facts. Empirical research is a set of methods that involve the collection of information obtained from the study of a certain object.

Research is the part of systematic learning of a topic for determine its model of occurrence, development and change, and transform it in the interests of society (Blaxter, 2010, p. 14). Together quantitative and qualitative data collecting patterns can be executed during case studies. Gummesson (1993) presents five qualitative information collecting patterns for case studies research on managerial topics. According to author, methods are used in combination for better research outcomes.

In the case of qualitative research, there is an opportunity to increase awareness and sensitivity to the assumptions that can be associated with many qualitative methodologies. Different approaches to qualitative research leads to separate expectations about the theory and the relationship between method and theory. (Gehman et al. 2018) Qualitative analysis is social in nature, since its main measurement mechanism is the perception by individuals of the studied population or those who witnessed the phenomenon being assessed.

A researcher conducting a qualitative study uses interviews as one of the methods for obtaining information, as well as his own observations based on work experience in a company case. The company case is a firm on which base study was made, more detailed information about the firm is written in the following chapter. According to Beuving and Vries (2014) a case study is made with the aim of developing a set of hypotheses or theories on a particular topic, so that as a result of these theories, more detailed studies can be carried out and developed with a much larger sample. Based on Maanen (1988) a case study can be carried out with one person as the object of study, or with several subjects that have certain characteristics. This requires the person or persons who conduct the case study to resort to methods such as observation or administration of questionnaires. The case study was chosen because with the help of the company facing the

problem raised in this thesis, the author can conduct a study and obtain more information, thereby contributing to the gaps in a literature.

3.2 Case company

The thesis is written in collaboration with a large European company that provides software as a service in the technology retail industry and develops its own solutions for enterprise software. The case company was briefly mentioned in the introductory chapter as the company where the author works. The firm, originated in Finland, has been founded in 2005 having a goal of improving retail operations through more accurate and efficient use of data. Given the rapid growth from a start-up to a large international company, the development of internal factors is a key indicator for management. The service business of the case company employs personnel serving both domestic and foreign customers. The data used in the study have been generalized for confidentiality reasons.

The company has experienced significant growth over the past few years. While writing the thesis, the firm had more than 1300 employees with offices around the world from America to Australia. The central office offers remote support and monitoring to the company's clients. Having several offices abroad and on different continents, allows case company to ensure a global presence and the ability to monitor customer at any time. The firm presents a collection of applications used to streamline retail processes for demand forecasting, order placement, designing planograms and managing workforce. One of the main area of the company's focus lies in SCM, namely, the provision of forecasting the demand and replenishment order system along with a software-as-a-service standard. Services include solutions and a platform that can be used to improve the efficiency of clients' businesses.

Solutions are developed individually for clients, understanding the specifics of their business and operating region. As the company grew rapidly, product development did not stop there and became more and more complex, it required a high level of service and support. In the company there is a clear division between customers into large, medium corporate customers and smaller customers. The responsibility of SDM is to operate and support certain types of clients distributed among managers. Each client had a dedicated account manager who was responsible for helping client teams adapt to the platform. Customers also have access to 24/7 support and a support centre with training documentation. Client management was divided geographically. Each sale of software, as well as preparation for implementation for the client, requires significant efforts from all parties.

3.3 Data collection

The discussions held upon a data gathering method and how they apply within a thesis. This prompted the researcher to find an approach to identifying activities of service delivery managers in after sales market. Later, more confirmed data was obtained from case company, which further confirmed this approach.

The following gathering methods were used during the project.

- Qualitative interviews
- Direct observation

The research helped to find proper results and gave new perspectives about the case study company. Starting with identification of an issue, through observation and discussions, the service process was completely understood and studies were made.

The interview questions have been divided into four themes supporting the main research questions. The first theme was focused on activities and responsibilities of service delivery managers with descriptions of the task and areas of responsibility. The second theme was about processes of developing service delivery, the key players in a process and the resource management. The third theme highlighted operating model with description of billing process and identification of bottlenecks in those models. The last theme described the customer role within organization and the value, specifically how their needs been mapped as part of service development process. Additionally, there been extra questions, mainly including feedback and the reflections to any addressed questions or themes. All empirical data from remote interviews has been gathered via video recording program and transcribed using text identification programs. The full list of interview questions can be seen in attachments.

In total twelve interviews were held within the case company. The interview is not considered a normal conversation, but it is given a formal, intentional character, which implies the goals included in the investigation. The interviews have been executed as structured. This requires planning how the interview will develop, the questions that will be asked are planned, and during the interview the interviewer acts as a moderator, preventing the process from deviating from what was planned.

Interview problems are related to problems with the use of data that people themselves report, as the information may be incorrect. There may also be difficulties in reaching an understanding between interviewers and interviewees, for example, language problems, incorrect questions, misunderstandings. It is very important for researchers to guarantee

the characteristics of study during the research process through fact-checking, as well as checking the participants themselves. (Roulston 2019)

The author, with the help of the vice president of service delivery department in the case company, selected group of people suitable for the research scope. In total twelve people were chosen and interviewed. All interviews been held during data collection phase of the research and on average, each interview lasted an hour. Among the interviewees were several managers of service delivery operations as well as personnel from value development team and head of service delivery. All people that been interviewed hold their positions in different countries such as: Finland, Sweden, Germany, UK, Italy and USA. It is important to note that all respondents had different experience and length of service in the company and the role they held. The duration ranged from a few months from the start of their duties to several years. The table below contains a summary of the interviewees.

Table 2. Interviewees data

Interviewee	Role	Office	Experience (years month)	Length of interview
1	Manager of Service Delivery Operations	USA	1y	55 min 7
2	Service Delivery Team Lead Global Service Delivery	Finland	4y 5m	57 min
3	Service Delivery Manager	USA	4m	45 min
4	Manager of Value Development	USA	9m	50 min
5	Service Delivery Manager	Finland	1y 8m	55 min
6	Head of Service Delivery	Sweden	3m	57 min
7	Junior Service Delivery Manager	Sweden	6m	57 min
8	Value Development Team Lead	Finland	1y 4m	50 min
9	Project Manager	Sweden	1y 8m	54 min
10	Service Delivery Manager	Germany	4y 3m	60 min
11	Solution Delivery Director	UK	1y 3m	55 min
12	Service Delivery Manager	Italy	1y 5m	50 min

Direct observation of the phenomenon under study is a valuable tool in this field, as it provides information about its characteristics and the factors that influence it. Has the ability to describe and explain behaviour by obtaining adequate and reliable data corresponding to behaviour, events and/or situations ideally identified and inserted into a theoretical context. The direct observations were based on author experience working in the case company.

3.4 Data analysis

In most scientific study, the characteristic that drives research is information. Information is a tool for analysing that data, and the information that materializes from the data are the main outputs that scientists use for progressing research. (Heckman & Singer 2017) Often data analysis combines a set of methods and applications related to data processing and not having a clearly fixed answer to each incoming object.

Since the last interview, all data has been transcribed and analysed in a tabular manner. It was done in order to get clear structure of responses and better visibility of the data gained, so that comparison of the interview outcomes could be done. The categorization has been done according to the main topics of activities and responsibilities of SDM, processes, operating models and customer value. In the table 3 can be seen the structure of data categorization based on interviews. The definition of the categories is based on main research questions that cover all abovementioned topics. Each category has its own subcategories that shown in following table. The findings in the research has been following tabled structure.

Table 3. Structure for data analysis

Categories	Sub-categories	Definition	Example quote
Operating model	<i>Billable service process</i>	Focuses on defining the billing activities from SDM perspective	<i>"...because I held responsibility for the costs..."</i>
	<i>Resourcing</i>	Focuses on resource allocation within operating department	<i>"We always need to ensure when we have a new people that they have enough knowledge..."</i>
	<i>Bottle Neck</i>	Identification of possible bottle necks in operating	<i>"...I don't think it's the priority for many people."</i>
Activities of SDM	<i>Activities</i>	Specifies the main activities executed by SDM	<i>"...I am the single point of contact for the customers."</i>
	<i>Responsibilities</i>	Lists all responsibilities of SDM	<i>"The similarities of the responsibilities of SDM and head of value development team can be seen especially..."</i>
	<i>SDM involvement in value creation</i>	Answers the question of adding value for the customer by SDM	<i>"...we need to follow the KPIs and also think what actually impacts on the customer..."</i>

The results were analysed to further identify points to consider when deciding on a single operating system within a company or specific to a particular market. Also, with the help of the table, it was possible to find out how each of the interview participants imagines the role and main responsibilities of the SDM position and to what extent additional skills are required in the requirements from the company to successfully complete the business. This way of structuring data helps to see common answers and patterns within key areas.

The results of the findings further shown in chapter 4. While chapter 5 shows discussions on empirical results combined and compared with academic literature for results verification. During the interview analysis, certain collusions were made according to the answers as well as suggested solution for better operational model has been made and clear activities for service delivery managers have been defined.

4. RESULTS

This chapter includes results of empirical findings gathered and analysed from the case organisation. This chapter has two subchapters focused on operating models and activities. Additionally, the interview quoting is used for analysis.

4.1 Operating models

The results for operating models case have been divided into three chapters. It includes the billable service process and the problems associated with it; resourcing and bottleneck. Those three topics are important characteristics of the operating models, therefore as followed by interview questions they allow to understand broad overview of the models more.

4.1.1 Billable service process and challenges related to it

The billable service process is part of operating model and it is relatively the same and follow the standard stated in the company between regions. The work starts with performing project specifications and workload estimates. The billable service process shown in Figure 7 below.

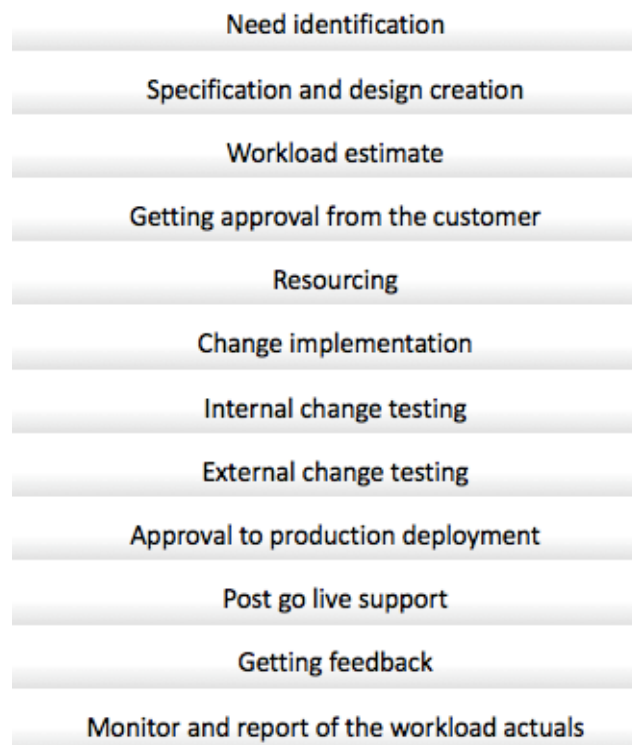


Figure 7. Billable service process

Billing rules are created on the project level and are required to inform the system to convert time entries/billing milestones into correct charges for the customer. The process follows as before invoicing the customer, everyone should approve their hours they worked on a certain project or incident. After one person submitting his or her timesheet project manager need to approve the hours before sending invoice for the customer. SDMs looking through what has been reported as billable or non billable and checking that time was correctly reported. SDMs are approving the hours in weekly basis and everyone should submit their timesheets in the end of the week so then there is enough information concerning billing hours weekly and the actual invoicing is done in the beginning of every month.

UK and Germany had slightly different ways of doing billable services and they still do have slightly different ways of doing it. Currently company is trying to streamline that process partially. First company identify if any request come in. And if there is a request how does it come into company. It is expected from customer service success managers and service delivery managers to take ownership of relationship with the customers. So the idea is that those new requests come through them.

As identified through interviews, the billable service processes have been slightly different through the operating regions. For example, in USA service delivery managers are just starting to do billable hours approvals in internal system. Here main issue occurs, as before CSMs did all of invoicing in the United States and that makes it hard to perform SDMs job, as it makes it hard to control costs because service delivery managers do not see where costs are. The solution for this issue been suggested to implement hybrid model, that starts in near future, where SDMs will approve the billable hours and build the invoice for the customer for further approval of CSM. According to interviewee that will give SDMs more visibility. That is how one of the managers commented the current issue in USA region:

“What I am seeing now it is very hard to control our costs if we do not know until after we have spent the money. So everyone goes in and records their time. I do not see any of it until I pull an internal system report. Well, if the times already approved, then I have to go ask somebody to reject this person time because it was wrong. So it's a little kludge.”

With new hybrid system implemented in USA should allow SDMs to react quicker. Also it will bring visibility while creating the invoices as managers will be able to see the time that has been recorded. As well as it will increase awareness of any minor value development work that has being done for the customer. With all this information SDMs will be able to get all hidden before hours invoiced as well.

As currently CSM's have responsibility of everything in USA region and with the hybrid model the responsibility will be divided in a way that bill will be coming from the person who holds the business relationship and it allow the service delivery manager making sure that the billable time is correct. The fact that CSM's are the only ones who have the visibility over that process, make the job of SDM's complicated. That is how another interviewed service delivery manager commented current situation in USA:

"I have to go and try to find what certain consultant has been doing with each customer. So it is awful. Because I am held responsibility for the cost, but I do not see it until after it is already has been pushed through the system."

Certainly new hybrid system will bring better accountability towards the billing process. As company has been growing during last couple years the problem in the USA was that there has never been SDMs position until recent times, compared to other operating regions. The whole responsibility over that process has been put to CSMs. Currently company working on dividing the responsibilities and introducing new positions such as SDMs. Another comment from management concerning the new operating model can be seen below:

"It is super exciting the visibility that we will get into not only the billable items, but where people are spending their time. The percentage of revenue that is spent with the CSMs and SDMs or other people that are logging to internal system, we will be able to have that visibility."

From the cost management perspective, it will increase awareness of issues related to spending a lot of revenue on certain customers monthly. By looking to the percentages growing, company will have the ability to control and analyse what is driving this cost and with that visibility company can get ahead of problems. The usage of internal tools that help to follow and control the costs been highlighted by one of the managers, who commented towards the challenges with billable service process:

"We are not taking advantage of the tools that we have. So if we had been watching, we could have seen that we had burned out. We weren't burning down on a project, but that our money allocated on it was higher than it should have been. So that system gives us great visibility into all aspects of where our costs are."

The situation in Finland and Baltics towards usage of internal billing system differ from the one in USA. When SDMs using that system, there are some challenges occurs. For example, in the time approval process, when someone is logging the time, manager need to approve it, but quite often it is unclear if the work has been billable or non billable when logging the time, so after approval that time it should not change anymore that causing

some challenges when doing the inverse. When some hours have been logged as billable, but it was eventually non billable. One of the headquarters managers gave a concrete example of that challenge:

“When we find out that issue was some bug and we do not invoice it from the customer. So then we cannot ourselves move those hours anywhere. And then we just need to create the non billable charge and I'm not even sure how what kind of impacts those might have that they are in basically incorrectly originally marked in our internal system.”

One issue that been recorded related to whole billing process is that SDMs are not able to edit time reports themselves in the system. If someone had put in comments something not clear what has not been done or too much of information or wrong information that can not be shared, and as a comment viewable for the customer the SDMs are not able to change it, they we need to reject the recording and send it back so the person rewrites it and then send again for approved by SDM. That process is quite time consuming. Also difference in time zones affects billing process. Support is doing the work all over the world, so SDMs can not do the invoice right after person uploaded own hours, they need to wait for all the other people as well. It leads to closing time challenges, because it is tight schedule to get the invoicing done. In order to do the invoicing, it often occurs that some hours have not been approached, in that case SDMs need to move the hours for the next invoice and that has been challenging.

Another challenge has been with the notes that people are writing on their time report and those are directly visible for the customer. New practise has been unified so people mark only the issue number and the subject of it. In some exceptions customers might require a bit more explanation towards what has been done. Several managers reported that it will make the invoicing easier for them. The challenges towards billable services occurs from the customer side as well. For example, in Finland and Baltics SDMs noticed that customers have been misunderstanding the case company billing processes. As after approval of time estimate customer thinks that that's the invoicing time where it starts, that they can invoice, but in fact some work has been done before that, so sometimes customer does not understand it. From EMEA region main challenge as well been identified in the communication part between case company and the customers. The example from the manager as follow:

“The time I am using for explaining to the customer our invoicing, I am putting as non billable supporting and more often I need to explain that it is taking the profitability down. One way to avoid that could be more proactively explaining invoicing to the customer in the beginning of service phase. But I'm quite sure they will question that anyway.”

Another solution to that challenge could be to have better structure in the invoicing. If everyone write notes the same way and nothing seems to look wrong on the invoices, customers probably would not question it.

4.1.2 Resourcing

The way resources handled in the case company been identified during interviews. In the USA managers divided up the customers and assigned them to people, by following the dashboards that set up to track how customers are doing. If there appears case where minor development needed, SDMs coordinate that with the team lead that responsible for that customer, who then manages resources from the board. The comment proving the resourcing handled within the organization by one of SDM from USA:

“The work is done primarily by the minor development team and and we were assigning resources to those individual cases. We assign a team to the ticket so that they can log time against it. And then if manager needs extra help he or she heads up the minor development team in EU. If manager needs somebody from our project team to come in, then we direct assign them.”

The resources allocation is done based on SDM experience level. The manager determines how many customers they can handle and a balance of what tier is the customer and how demanding the customer is towards any minor development work. The level of involvement of certain manager towards customer can be checked by how much time are they spending on each customer and see if they are overwhelmed. The manager of service delivery operations commented as:

“I do weekly check in, so if they tell me that they're drowning, we have a problem then we go and we dig further and say, you've got all these problems. How long have they been there? What's driving those? And we can try and get the work level down.”

Resourcing for SDMs as well as for consultants been forecasted based on the sales pipeline at what projects and customers are coming. The main struggle was with value development team as it has a backlog. Sometimes those resources are difficult to get, but it has been improved by creating a team within continuous services and since each customer has a technical services person assigned to them as well as consultant helps in this process as well.

In Finland and Baltics region resourcing done by booking business consultants or technical support. Each big customer has approximately two technical consultants from the technical service team. For smaller customers all resources been received upon the need request in internal system and then the value development team lead will do the

resourcing on their team. The team lead will be responsible for selecting who will be that person and how much she or he has time to do work for certain project. Usually consultants working with multiple customers.

The resourcing still has areas for improvement, due to growing list of customers and projects, the factor of complicity of the solution offered by case company it takes time for new people joining the company to learn the system in a way that service delivery to the customer would be on desired level from the moment person joined the company. This has been confirmed by the service delivery team lead, who stated that:

“It's been quite challenging to hire people and get them up to speed with our system. I think that that's being the case, that we haven't been just able to hire enough people, or it just takes time to find new people. We always need to ensure that when we have a new people that they have enough knowledge to support the customer.”

Another manager from USA commented as such:

“Customers are being added pretty quickly and I think our resources are not. We don't have enough resources to support them enough.”

The issue of scarcity of the resources is vital in USA, as the value development is a brand new team that had been recently created. However, in other regions there are enough resources for the projects and customers, but then issue seems to be with the way of managing them.

Head of service delivery in Scandinavia mentioned that he considers resourcing as a weak spot in that region because the process is not exactly as it should be according to the best practises. When there is a need for a change from the customer side, SDMs are not always informed, because business consultants or technical consultants are talking directly to the customer and making a changes. Because according to the process for change management, every change for the customer should be approved by a SDM, but that's not happening to the extent it should happen. As every change depending on the scope of the change and for getting the resources to the development if it is coming through a CSM or through SDM.

“Target is to try to start using the resource management in internal system. Have not yet really started in Scandinavia, but it is the plan for now the coming year to make sure we start using the system to do the resource management and request resources.”

The same information has been confirmed by SDM from Swedish team, as managers can not allocate resources like some other teams do. So it is the team leads in the business consultant teams that distribute resources for value development and if SDM need

people for some urgent case, they internally contact to one of the team leads and see if there any resources available. In Scandinavia region there have not been any cases where continuous service was limited by availability of resources, as for USA or DACH region with rapid customer growth.

According to minor development team lead in Finland and Baltics resourcing there focusing on own region and own market only. No involvement in resourcing to another regions been made on normal basis, but there could be exceptional cases where extra help be needed from headquarters. The time limits for reserving extra resource depends on the size of the case, the bigger cases, the bigger the lead time usually is.

There are two kind of resourcing from minor development team. There is a pool that consists of people who are supporting smaller customers and doing developments for smaller customers. Also there are dedicated consultants for bigger customers. So for the pool the SDM forecasts the need for development for three to six months ahead, and that is marked as a tentative need to indicate that it is only a forecast and assigned to value development generic consultant. After team lead check the sum of these requests to know how many consultants is needed and then time from the pool members is reserved that to ensure that there is right amount of people marked towards the pool.

Current challenge when it comes to resourcing according to team lead is the transparent overview to have right reports available and detailed information related to topic that will be worked on. As there is no clear visibility on needs from the minor development team, as well as needs for these specific customers. The reporting and the visibility in the system is challenging at the moment. One approach to this issue could be done better is the ability to collaborate between countries to have more visibility on extra resources availability and where it is. So that in countries where the situation with resources is really tight that team can collaborate across regions. The team lead commented it as:

“The better forecast we get from the SDM's and the better we can plan, and I think one key thing there would be to be more collaborative with the customer. So plan ahead proactively with the customer creates a road map for the next half year the next year. With this overview, if the customer has road map for the future, they can also ensure that they have the budget for that development.”

Even with dedicated project team, the expectations of what the customer is thinking appears to be way less than what company is actually doing. Service delivery manager from DACH region suggests keeping that transparency open for everyone that the customer is understanding what is happening from company side and what he can expect from company performance. The comment as such below:

“It's taking too much of resources on our side, it's like. It's a constant battle between keeping the customer happy and keeping the workload of our team at a reasonable level, so to say.”

In cases of change management close customer collaboration is needed in order to make thoroughly validation before the production. Because resources allocation depends on the project, so by making customer more aware of what is needed can benefit the company as with closer involvement the concrete days can be set and company will not have to waste it resources to the project that can be moved on, but stays due to customer low level of awareness and slow validation.

Another issue with resourcing and more specifically with hiring new people has been highlighted by several SDMs. The knowledge of the documentation that was done beforehand to get new people on boarded to the project. Although company is trying to document everything, but sometimes there is not enough time for it, or sometimes managers do not consider things to be important to document. When new employee comes to join the company he or she finds a gaps in the information provided. One of the managers commented the time inefficiency that occurred due to lack of right documentation:

“They can't on board themselves properly on their own pace, because they're saying that there's no written document about that, so they need me to explain things and that's what's taking my time away.”

As the company has many operating regions in Europe, main problem been encountered related to the local market language. In DACH area it is challenging to find people for after sales services support that would have enough knowledge of the system but also who would have good communication in German language. The same situation with languages appears in south region, where customers from Italy, France and Spain require service in local language only, which brings certain complexity with finding and managing resources to support local market.

As in France all the support cases are managed internally by the one person who combines roles of service delivery manager, customer success manager, business support manager and technical support manager at the same time. So all French customer cases escalated to the to the central team. In Spain the customer supporting is done by project team as in that region they do not have enough resources. In Italy project team has to decide to support the customer or do projects, as most of the time projects been more heavily scheduled. Company constantly hiring new people in that region that will facilitate the support process. That would mean supporting the customer directly instead of the

headquarters support teams. The communication would be done in Italian, that would also bring a value to the customer. The opinion of SDM from Italy can be followed here:

“We need people who understanding more the cultural approach. But not because of the language, but because of mind-set. This probably is more cultural approach, so Italians sometimes do raise those kind of cases having someone that could translate also the cultural approach with a probably, will help the process to be more like timely.”

As in France there is a one person that covers the entire support process, while in Italy plan is to add a layer between the customer and the support that will provide a better support not only to the customer but also to internal support teams.

4.1.3 Bottlenecks

The next block of questions was focused on bottlenecks in operating models related to resourcing and billable service. The biggest bottleneck according to SDM from USA region is visibility of the available resources.

“For getting work done, our biggest bottleneck is if we need project team resources. And that's I've been doing this for a long time and it doesn't I don't think changes company to company, it's always the bottleneck.”

As observed from interview, the implementation teams grow to support the business that sales are driving, with pipeline starts to narrow, workforce are either moved to different teams or move to a different company. The process can go down when that happens if resources have not been shifted in order to take care of continuous service work. The solution delivery director also mentioned:

“The current bottleneck is professional services resourcing. So having availability of consultants.”

Several SDMs in USA have referred to the problem that might cause the bottleneck in the operation side related to internal system for time recording and billing set up. Issue is that the other teams are not working in a pooled model resource. Every time a different person builds a project, there will be different people billing whoever is working on that. There is no consistent person who will always be assign to that project.

SDM team lead Finland and Baltics also highlighted that the resource researching had been really challenging. Another bottleneck that been found related to the scheduling with the customers. With the minor development work it is getting more challenging, as input from the customer side is needed, but company have not been able to engage them enough. The work can be done after customer validate their solution and if the validation

on their side takes months for them to reply, then the team cannot resource that task. Minor development usually also causes extra work due to passive customer involvement.

A very interesting finding has been made, as several SDMs stated that they cause the bottleneck in support. That happening because of is scarcity of senior resources.

"I fear that we cause the very problem we want to prevent."

"I'm a bottleneck for my team because everybody has to contact me. In order to move forward, and of course they have different resources."

"I think in the like last spring I had very much work, so I was the bottleneck. I felt that I had very many service meetings and emails coming that this and this needs to be done. But I wasn't able to do all of those, because I was so busy in the meetings."

If workers lack the software knowledge, it would be challenging for them to move anything forward with the cases. That was a serious issue past two years and it is quite crucial especially in continuous services phase.

After make certain change to a customer within solution that company offers, if SDM do not update the internal knowledge page to reflect that change, that information would be out of date. As every change in a business rule going to change the outcome of the solution. Without proper documentation all employees from support will struggle to help customer as they were not aware of any rule change in customer environment. This issue could be avoided with a proper documentation and right knowledge management.

"The more custom our customers are, the more we going to struggle."

It has been learned from conversation with one of SDM in USA that documentation is not updated often enough to support company in solving customer cases. Some people do not find it that important, because all their resources shifted to solving the next problem. Unfortunately, documenting the previous problem is more important because it would help for the next time if same issue appear and it would keep information current. It is understandable that people focus more on urgent cases, especially with growing customer base.

"It's just not what everyone else doing. I don't think it's the priority for many people."

Manager of value development team in USA has the same opinion towards issue with proper information sharing and documentation. Some projects had no documentation, so team need to contact the resource for the implementation work. In terms of urgency minor development case, the information must be obtained fast, but if people who have experience with the case are busy then project is not following desired timeline.

“If it's not documented, well so that I would say that's our biggest bottleneck.”

4.2 Activities

4.2.1 Area of responsibility and main activities

The first question from the interview regarding the area of responsibility and main tasks was asked to all interviewees. A lot of useful information was collected regarding the main activities in the work of the SDM. The answers of the respondents were similar, although there were some differences in the main tasks and approaches of work in different countries. Several respondents highlighted that minor development is a biggest area of their responsibility together with version upgrades. The key focus of SDM for the company is towards sales revenue and billable support. Main activities been identified:

- **operational responsibility of continuous service customers**
- **coordinating minor development**
- **incident management**
- **knowledge management**

The operational responsibility of continuous service customers includes all the communication with the customers in after sales service that are related to minor development work, project progress, incident management communications as well as health checks by getting updates from the customers on current state. Also it includes invoicing the customers, by collecting time reports and creating the invoice. The coordination of minor development includes that manager assures that development work done according to schedule and scope, so that no changes before approval, testing and validation are taken into production. The incident management means cases when customer raise an incident ticket SDMs made aware of it through systems and follow up on that incident to make sure that customers are getting the information that they need and the help that they need. The knowledge management activity includes working in close contact with other internal departments in order to deliver support to the customers. For example, SDMs can work in close cooperation with following people and teams: CSMs, technical service team, implementation teams and minor development team.

One of the SDM summarized his work as:

“In case of incident management or any minor development work that needs to be done, I am the single point of contact for the customers.”

Interesting to notice that some SDM from Sweden mentioned their involvement in CSM activities such as customer success work. The reason for it, according to solution delivery director for EMEA Central, was that historically, service delivery was always bundled together with continuous service, customer success and relationship management. In the year 2021 it was the first time that service delivery was quite clearly split out from customer success and created as its own function. Through the year company went through a slight structural change where several regions were combined. Focus was on looking at what are the challenges across the regions. Improving service delivery performance for the customers and predominantly looking at transition from a project into service.

The agreement towards split was that CSM will stop doing any SDM tasks. This decision meant that SDM had to provide coverage across all customers, that resulted in the need for new SDMs. The work load was increased as more customers were moving into service phase from project phase. Based on interviews it was found that all markets are growing, but UK and DACH regions have the biggest number of customers at the present, but the knowledge of how to be service delivery manager is currently limited.

4.2.2 Role indeterminacy

Here can be noticed as a transition due to split of service delivery caused the inconsistency in the way of operating within different regions. Because of that split the of SDMs responsibilities was not that clear as their role in continues service has been strongly aligned with CSM and value development. It caused the confusion with executing the work as SDM do not sure exactly what is expected from them, there is global guidelines for their role, but local application of it depending on the region.

From the continuous services side the people from value development team have been interviewed as well, in order to see their contribution towards service delivery. The results obtained from USA team highlighted the importance in minor development for need of business rule change or needs. In that case SDMs will contact value development team and they will have responsibility of that.

The relatively same picture of value development team in Finland and Baltics, which has both business consultants and solution consultants in the team. The head of the team is focused on resource planning for team members, as well as planning the need of the consultants to other projects. Based on interview it was mentioned that work of value development team tightly combined together with the SDMs, because they are the ones adding the need of resources into internal system. Value development team works to maximize customer satisfaction by improved quality, increased level of system setup,

increased knowledge level and proactive customer development consultancy. The similarities of the responsibilities of SDM and head of value development team can be seen especially in Finland and Baltics as the head also a project owner for some key customers in terms of resourcing and invoicing the projects that company has.

As interviews were held with several SDM from different levels as from junior to senior as well as from different experience. It was clearly seen that a few respondents that have been interviewed had lack of experience in that role due to their recent employment or to switch in position within the case company, as the answers were generalized and not always explicit towards main responsibilities. Also all respondents have different knowledge of the system itself, that sometimes makes communication with the customer more difficult.

4.2.3 Customer value

As one of important areas for research related to SDM role is to identify how to add value to the customer through the service provided. Therefore, the last interview theme focuses on improving customer value within management activity.

By referring to USA operation managers the way SDMs can add value is to focus more on eliminating time spend on billable support. In cases when the customer finds it difficult to use the software and they do not know how to solve certain problem, they refer to support and company bill them for it. That could be improved in the beginning of customer relationship during the training phase. SDMs part of the value creation is that they help to customer use product right. With assuring that the customer is paying enough attention to the training. The value is added when customer sees that those billable hours spend for support are decreases. The customer should be trained properly how to use software more efficiently and how to avoid issues due to lack of experience with it.

“It seems kind of counter intuitive. I'm going to get rid of billable support. Well, why would we want to get rid of that? That's revenue, but it's also It's causing the customer pain. It's like punishing them in a way.”

The team lead for service delivery in Finland mentioned the health checks for the customers. With the checks managers can try to see what central team has been doing. Health checks are about reviewing customer environment & processes, identifying problem areas, planning and delivering correcting actions, advising about future development areas. SDMs want to ensure that customers in continuous service phase benefits of best practices and have well functioning environments. They analyse where in the service

delivery processes could be found areas that needs development or immediate improvements, that could be shared with the customer as well as service KPI work and checking annual NPS. The business KPI are set for all customers and company follow those.

“It's been challenging to ensure that we are bringing the value for customers. So in those cases we need to follow the KPIs and also think what actually impacts on the customer and how we can improve this situation.”

Another comment from SDMs concerning customer value was gained through the customer feedback during service meeting. The customer had small environment change going on and as SDM was on holiday it was agree that responsibility switched to technical consultant. The issue in communication between technical consultant and customer appeared and information share was not organized the way customer would expect it to be.

“In the next service meeting customer commented that communication did not go well and now he understands why SDM is needed, as we are speaking our client language. We are being not so technical and therefore more clear.”

The clear communication is one of the values that SDMs providing. It is essential within that role to making things clear for everybody. SDMs can be considered as the link between company product experts and customers. All customers appreciate to have a stable contact person that they can reach out to, even considering the fact that sometimes the questions are supposed to go to support. That is how it commenting one of SDMs:

‘They can write to me. I think they value quick responses. Sometimes support doesn't respond that fast, so customers can call to me.’

One idea of how the customer value can be added from SDMs side was shared by one project manager. Who stated that managers need to become even better with recommendations for customer regarding the software usage. Additional value can be reached through more proactive discussions with customers. All improvements regarding solutions offering and also be more eye driven in developments.

5. DISCUSSION

5.1 Activities of service delivery manager in after-sales market

The first research question has been defined as:

RQ1: What are the main activities and responsibilities of SDM in SaaS service?

As known per interviews in the case company after sales services have three distinct areas: service delivery, customer success and minor development. Service delivery is the operation, maintenance and support of all production services and their sub-components. The goal is to provide quality service to customers within SLAs and financial targets. The main activities of service delivery include:

- Maintenance of service
- Incident management
- IT Change management
- Problem management
- Disaster recovery tests
- Release upgrades
- Invoicing and reporting
- Service meetings

Before service operations had combined two roles of SDM and CSM for some regions. Different units for service delivery and customer success were established later. Even though the software service business had grown significantly by this time, not every region had enough resources to fulfil the new roles. These activities have been distributed to the services units. According to the Martinsuo et al. (2020), rules for ordering and allocating resources, can be informal rules or a formal distribution system for different service departments.

As case company has been oriented on growth in its service business, it started investing in personnel. For the customers the change was creating certain confusion about first point of contact either SDM or CSM. Also in the cases in which a customer contacts SDM, the service request could be immediately escalated to CSM or consultants that takes care of the delivery of the service. However, even this solution has been preferred

because it simplify work of SDM, but the change had several consequences that appeared in confusion between roles that SDMs have found themselves in a confusing place, because they do not know exactly what is expected from them.

As majority of interviewed SDMs noticed that sometimes it can be unclear of what work is supposed to be done by the SDM and what the CSM. In case company have been quite a lot of discussions regarding responsibilities for each role. Many aspects and activities have been quite unclear. When the transition from unified roles to more SDM and CSM development have been made, some customers appeared to be a bit annoyed because they usually had only one contact point for every service request. With the structure being changed customers have to reach out to SDMs. It is important to clearly define the roles and make sure that customers aware of it and how communication is supposed to go. Those findings have been supported by the literature as several authors such as Zheng et al. (2010) and Martin (1989) stated that without effective and efficient communication within the system and between the company and its customers, service delivery systems cannot function optimally.

According to the operating model each customer has one allocated SDM. The CSM has been allocated for the strategic Tier 1 customers and the Tier 2 customers. For the small customers Tier 3 and some Tier 2 customers, there only the SDM who is also responsible from the CSM side work because customers are expecting that to be done. Communication with customers can be built in the following forms: with the help of call centres, with customer support personnel, managers and personnel responsible for operational actions. The distribution of work occurs on the basis of an internal resource system, which includes data on projects and current operations. Despite the numerous channels, the distribution of tasks between employees occurs not only based on their workload, but also taking into account their previous contacts with specific customers. The SDMs continuously interact with the consultants, technical and business support. According to Harvey et al. (2016) who pointed out that services from the point of view of operations management are understood as high considering the aspects of interaction with customers and the quality of communication. That pattern allows the movement of fresh information concerning client's complaints and issues to the managers. The constant contacts with the customers in case company gives a chance for successful communication during after sales service process phase.

To see better picture of why confusion with new roles introduced appeared it is useful to explore main responsibility areas of CSM in details. According to company internal documentation it has been found that they are responsible for customer relationship management, that includes satisfaction, reference ability and growth. A group of researchers

led by Brodie et al. (2013) noted in their work that early customer engagement and interaction leads to customer satisfaction. The fact that CSM also serves as a central point of contact for the customer might be one of the main reason of internal confuse for SDM, as well as for the customer. Some role descriptions were somewhat vague as well as similar with SDM responsibilities. One of them is driving continuous customer development to ensure customers are getting maximum value from the software provided. CSM should ensure long term customer success throughout the customer journey. Optimizing customer's business processes and identifying opportunity areas to increase sales, reduce costs and maximize the efficiency of in-store operations together with improving customer's key performance metrics and proves value ROI perhaps the main activities of CSM that differentiate from SDM in operation.

Then looking closer into SDM role, as a new person starting in position of service delivery manager taking responsibility of coordinating maintenance activities. Including handling incidents, changes, and service requests for customers and internal services. With progressing in current role, SDMs gain more responsibilities and ensures that services are delivered according to SLAs. Tyrväinen & Selin (2011) made major findings on the importance of the relationship with customers and customer relationships. Service delivery manager is usually the counterpart for customer IT but can act as a first point of contact also for other matters for Tier 2 and Tier 3 customers. The goal is to keep the customer happy, ensure a stable and well-functioning service with proactive support, development and transparent communication. SDM coordinates and owns minor development roadmaps and capable to contribute to upsell/cross-sell activities. Service delivery manager has intermediate skills to work with selected internal and external customer KPIs.

One important aspect of SDMs work are service meetings, that are also essential for continuous service phase. In the project implementation phase, contact with the customer is intensive and after the project has been closed, it is important to maintain close relationship with the customer. Service meetings are important to maintain customer relationship and understand how customer's business is doing and what kind of solutions company could help them with. According to research of Harvey et al. (2016) face-to-face conversation with customers is the most effective form of communication. This is true for any working relationship. It is recommended to have service meetings face-to-face while meeting frequency depends on the customer and the service phase. Usually it is responsibility of SDMs together with CSMs to plan service meetings and the agenda.

Another aspect in SDM work that has been raised by many interviewees is the level of the software knowledge. If they would get to know the system, it would definitely help

them. Cristescu (2016) pointed out that employees in the company should be well acquainted with the software that will help them feel better in a corporate environment. Because SDMs are the ones who are discussing with the customer the first steps of the minor development. Even in the main responsibilities in a role it is stated that they do not need to know the deep specifics of the environment, but based on experience of senior managers the company would benefit from it. Because it will enable good conversations with the customer and give the customer confidence.

Majority of SDM's that are starting their position now do not have that knowledge because it is said that they do not need to, but when working with the customers they expect managers to have at least some basic knowledge of system. In cases when SDMs do not have the answer for the customer they need to do extra work for finding the answer or escalate it further. Which could have been done in a smaller training of how software works.

When getting feedback from the customer sometimes even simple changes could take time. Definitely having top skills of the system is not considered to be part of SDM job description and promoted from their manager as well. According to Gupta et al. (2020) software companies can continually innovate their business model value proposition by improving the expertise of their employees. It would have been a good thing if in the description additional trainings would be required. That aspect would bring additional value to the customer.

There are ways how SDMs can add value for the customer and again it reflects with the software knowledge. In project phase special attention need to be paid also to training of the customer and to validating if the training was really successful. Given the accelerated development of start-up SAAS businesses and the constant updating of software versions, considerable time must be devoted to customer training (Gao et al. 2011). It is important to check do customers really understood what they were trained for and do they really able to use software in a proper way. One downside of this improvement is that would take more time in the project phase.

Another topic to discuss lays towards the documentation issue with internal knowledge update that is done by the SDM. The information of any changes in customer environment needs to be documented in internal system. That is part of SDM responsibility, but it is quite hard to keep documentation up to date because changes are made very often. As mentioned in the study, documentation can be made available to clients for the purpose of training clients on managing their assets more effectively (Momeni and Martinsuo

2018). As one solution could be to arrange very thoroughly handovers for support department, so they are more aware of any change happening. That would save some time on documenting, but still will not cover all changes.

The customer satisfaction is key point for SDMs work, as they are in contact quite often with customers. By making sure that every customer has the right profitability and company has the cost on the control. For the source cost it is under responsibility of SDMs. The importance of customer satisfaction has been as well highlighted by the literature, Gebauer et al. (2005) noted that the service organization must operate in accordance with various performance criteria, the most important of which is customer satisfaction.

Based on the literature review there has been several areas of responsibilities of service operation identified and shown in Table 1. By comparing them it can be concluded, that literature covers the actual activities in very broad way, however it does not go so specific into operational part of activities. Considering the first research question the results gained through interviews and observations, showed what activities has been executed by SDMs in the case company. That results are important and relevant for answering to research question related to activities and responsibilities.

By comparing the findings with literature, assumptions regarding relevance can be made. In the literature activities have been identified as supported with findings made by Axelos (2012) and (Lewis & Brown 2012) who had similar results. However, in SaaS business the reality can be slightly different as interviews showed. Each company is focusing on its own core activities and make decision in ways to operate, based on this, personnel has been instructed for certain tasks.

5.2 Unified operating models

The second research question is presented below:

RQ2: What are the current bottlenecks in operating models related to SaaS?

The operating models are quite different between countries, which makes really important to agree or align that work is done the same way. The decision towards unified operating model discussed in this sub chapter together with bottlenecks in operating models. Main bottlenecks in operating models that has been identified mostly related to resource utilization and documentation.

In Scandinavia area there exists very good documentation for many processes. But it has not been followed to that extent according to information gained from interviews. There are high chances that it might be that people do not completely understand them

or able to distinguish own areas of responsibility. The operating model within executed role of SDMs not as spread out in organization, especially in Norway and Denmark where there were no SDMs before. Biege (2012) highlighted that the services provided, as well as the levels of responsibility within the organization, must be confirmed and supported by appropriate documentation. When everybody doing a little bit of everything, it would be more crucial enhancement and making sure people understand why certain process are needed and why it is important to the customer. To find a good way to document processes is something that could be helpful for the company.

The arguments for towards unified model is aligned with the fact that when people leave the company and new people coming there should be standard practices of operating. It is preferable that it would be unified. Going towards a very unified process could be beneficial. However, operating region can have local twists or applications, but the basic processes must be the same. Research of Grönroos (1990) confirms that because of the complicatedness of client demands, making a quality and unified model is especially difficult in the service industry. That would help in a hypothetical case if a few SDMs would leave the company and no one would be left to cover them until company recruited someone. Quite a lot needs to be a standard process, such as billing and minor development work and everybody in a company needs to understand that despite the region they are working in. It could be quite a risk practice by going outside the standard because that would just increase uncertainty.

Considering resource management, in USA there has been identified scarcity of resources. As an improvement idea there could be dedicated pool for minor development of technical resources and of business consultants dedicated to customers as well. So the model that is executed in headquarters and some European regions as well could be put in use within USA market. That would help to reach out to resources better in case of issue or minor development. By hiring a lot of new people would not resolve anything, because company needs to ensure that everyone really has work.

With better planning of billable support and having a visibility of what is needed, what discussions are happening with customers can help better support centrally. That will ease more pressure on the teams and the professional services teams to constantly keep getting involved so they can focus on other things. According to Seethamraju (2014) resource management is the main component of building a profitable SaaS business. One way to do this better is to enable collaboration between operating regions to have more visibility on additional resources availability. That countries with serious scarcity of resources could benefit as teams can collaborate across regions. As the resource allocation depends on the projects, by making sure the customer is aware of what is

needed would definitely benefit the company. As with closer involvement the concrete days can be set and company do not have to waste it resources to the project that can be moved on.

It is also important to have a good structure and a good explanation of how to communicate with the customer and which step would need to be taken for minor developments. As has been mentioned before by Zheng et al. (2010) well-structured communication with customers allows the organization to achieve its goals faster. From the service side quite many companies can make too quick promises to the customer about when something can be done and how it can be done. In most companies will not have the resources for that promises and here where communication needs to be improved.

Towards minor development bottleneck due to slow customer validation and involvement managers should be stricter towards the customer by clearly stating the development timeline and make sure customer agrees to follow it. As been learned during series of interviews from the customer side, it is quite often that the schedules are unrealistic, so managers should reconsider that more. Their contribution can be done by discussing with the clients if they really think that is realistic times.

The importance of doing collaboration with customers has been highlighted several times within this paper. As an addition towards discussed topic creating the neutral road map together with the customers would help case company a lot not only for resourcing purposes, but also in terms of more general collaboration and productivity that could be a good approach. Vojvodic and Hitz (2018) found evidence of moving towards a customer-centric roadmap in terms of process, process alignment, and process optimization. This initiates proactivity, an individual client, supervision and interaction with that individual client, supervision of a selected set of clients. Another idea that might be useful is to do resourcing internally more broadly, by not only planning customer work, but also planning internal work, because that also requires time from team leads and and team members.

The case company uses quite many internal tools to facilitate its business performance. Different teams from some regions are using their own tools, that might affect difficulties in communication channels. It is hard to compare third-party application integration to fully customizable enterprise software according to Schneider and Sunyaev (2016). By reducing some of the tools and trying to identify which options every tool provides, because it is high probability that users have not explored the depths of every tool that they have, by using every tool on the surface. By eliminating the amount of tools for internal communications and exploring the all offers that specific tool can get could be more helpful, than having multiple tools.

For the differences in operating models within regions case company could improve it by clarifying the process from the headquarters, making one standard. For example, towards resource bookings pool in internal system. The other regions should follow that standard, but if internal adjustment to it needed. For example, due to small customer base or scarcity of resources within an operating region, managers could modify that implication. What is most important to keep all information documented and explained to personnel. The operating teams within regions should be aware of the changes in case of resourcing bookings from the pools. Switch in organizational structure is normal as the amount of customers grows it probably increased amount of bottlenecks within organization as well.

5.3 Future recommendations

With the findings gained from literature and qualitative study, author is able to answer the research questions and make recommendations for the case company. The main recommendations based on research and interviews performed is discussed in this subchapter. First of all, it is important for the case company to make clear difference between roles of SDM and CSM. To state who is responsible for which activities, make sure those activities do not overlap and explained explicitly avoiding vague statements. It is essential to make sure that the customer aware of each role and how it refers to the actions, and each role has own impact on the customer. It must be ensured that CSM and SDM are not making the same work twice and furthermore not causing bottleneck in operating models. In that sense roles have to be defined and customers should be aware how and with who communication is meant to be.

High level of software knowledge should not be demanded from SDM, but somewhat it is highly appreciated based on customers and internal consultants. Perhaps more advanced training should be provided for the SDMs that would cover the gaps in their knowledge. Another idea would be to recruit internal consultants into managerial role as they are more knowledgeable with the software and working with customer cases. In activities of SDMs it should be clearly stated that what kind of knowledge level of the system they should poses. By knowing a product on a good level would bring benefits for the customer as well as for internal personnel. As the time SDM answers to customer request or any raised issue by escalating it further or trying to solve itself by searching in documentation could be eliminated, if the proper trainings provided in the beginning of onboarding program.

Training on how product works or the basic information about product should be part of every onboarding for every role who is facing customers. Because maintaining a software without knowing how it works can be difficult. Especially while communicating with the customer. As when they ask question quite often SDMs need to involve somebody.

The same problem comes from the customer side as well. Customers are pushed to the service phase and they should get more training in order to be confident users, that would also make the project team work easier. By making sure that the customer is confident with software usage as well. It can be done by putting more focus on training, making exams to check if customers really understand, give support to their learning, make it as explicit as possible, make knowledge check, insure that new members in the customer team are well on-boarded with the product usage.

Another recommendation would be to simplify the transfer for growing regions to switch for new operating models by supporting internally. As stated in discussions before more documentation is better, as it can support the personnel, team leads can not help if they are not aware themselves of the changes. Not only having things documented, but also maintaining the documentation by keeping information there up to date is essential. By finding a good way to document processes is something that could be helpful for the company. The operating models in different regions should follow the same unified model, but with exception on the country and market growth, as well as more resource management should be taken into consideration.

Based on the interviews and discussions, the author presented several specific recommendations for future actions of the case company. All recommendations should be studied and examined by personnel who is involved into operation activities. That would allow managers to make their own ideas for executing suggested activities.

6. CONCLUSIONS

6.1 Academic contributions

This study supports the findings that understanding operating models is important for developing new services (Berry et al. 1985; Heskett 1986). Also, operational factors tend to differ, thus having a different impact on the effectiveness and efficiency of communication within the company and its customers (Martin 1989; Voss 1992). The study also found evidence of how service delivery systems are designed, starting from the concept of a service, the design process never ends, as changes are often made to the delivery system if conditions require it (Fitzsimmons & Fitzsimmons 2008). Sources of information about uniform operating processes and the roles of service managers in the context of SaaS are rare in the literature. Thus, this thesis, based on the knowledge of the author, is the first attempt to identify the main actions of service delivery managers in SaaS operating model.

Most of the literature used for the study emphasizes not only the importance of communication with customers, but also well-established intra-organizational communication and information flow (Harvey et al., 2016; Martin, 1989; Tyrväinen & Selin, 2011; Yao et al., 2017; Zheng et al., 2010). However, not much information has been found through the literature about what a company's requirements are for a service manager role in a SaaS context. While Axelos (2011) provides insight into what service operations involve, in practice these factors can vary from firm to firm and business to industry. The results of this study fill this research gap by providing information about the requirements of companies for the role of a service manager in the context of SaaS on the example of a case organization. Certainly, the results may be individual for each company, however, general information regarding the activities of service delivery managers in the software as a service operating model that is missing in the literature is filled with the help of this study.

The impact of customer support during transitions to aftersales has been widely discussed in the literature, with most authors highlighting similar aspects (Nordlund, 2009; Rowley, 2002; Turunen & Toivonen, 2011). This research contributes to the results of previous studies in terms of software usage by customers in SaaS context.

6.2 Managerial contributions

The contribution to this thesis lies in the proposals described in chapter 5.3 and in the discussion using the existing literature and the results presented in chapter 5. Overall, this study provides several recommendations regarding the operating models and roles of the SDM within the organizational case. The ideas proposed by the author can be useful for many other companies in deciding on the choice of operating models, as well as in describing the roles and responsibilities of the SaaS company's SDM. As a result, recommendations regarding unification of operating models together with activities and responsibilities of SDMs in the SaaS business were made. Also several bottlenecks within operating models were identified and recommendations were made to eliminate them.

The difference between managerial roles, namely SDM and CSM in the context of the thesis was not found in the literature studies, according to the author's knowledge. Based on this, there was no clear idea of what responsibilities these or those managers should be and how the area of responsibility should be divided. This study collected enough data from the company case to conclude that companies need to ensure that the actions of various managers do not overlap and are explained explicitly, avoiding vague specifications. Additionally, a division in the area of responsibility is proposed. It is also very important to ensure that clients are aware of the division of roles and how the SDM and CSM affect them. It is very important to make sure that CSM and SDM do not do the same job and thus do not create bottlenecks in operating models.

With regard to operating models, the study raises questions regarding the transition of different regions to the same operating models. As literature not specifies differences on operating models in SaaS businesses in different regions, the findings fulfil that gap by giving the explanation on differences and recommendations. The recommendations are to facilitate the transition of regions to new operating models through internal support. More process documentation and clear instructions about interactions should be the key focus area. The author also came to the conclusion, based on the data obtained, that in the case company, operating models, regardless of regions, should follow the same unified model. However, small exceptions can be included, such as country and market growth. In the context of resource management, the company should develop a strategy for allocating resources both within the regions and in general.

Previous observations regarding external business management tools (Wright 1999) that can give a better way for scheduling service delivery and operations challenges originated on client choices (Pullman et al. 2001) have been confirmed. It was found that in the case of the company, the personnel used a significant number of management tools, however, not all brought the same benefit, but rather created bottlenecks in operating models. The recommendation proposed from those findings include internal evaluation of the tools used by operating personnel. That problem can be very common for many SaaS companies, by reducing the amount of tools and increasing the usage of remain ones will help companies to do their daily work more focused and error free.

Fully customizable enterprise software and the solutions it can offer is a critical success factor for SaaS (Schneider, Sunyaev 2016). In research, the author tried to delve into the level of knowledge of the system that is required from the SDM. Various gaps in the knowledge of the system itself and its functionality were identified. Although literary evidence does not directly indicate the obligation of certain company managers to have special expertise, according to the author, this is the most important point. However, it turned out that the case company does not currently have the necessary resources to replenish the knowledge of the software by managers. Furthermore, in the description of the duties of the SDM, there is no obligation to know the software, after taking introductory courses at the beginning of their work, managers have very limited knowledge, which naturally makes it difficult for them to work with clients, since the product develops very quickly.

The author makes a recommendation that more in-depth training should be provided for SDM and continued as the product evolves to keep information up to date. The author also put forward the idea of hiring internal consultants for SDM positions, since their knowledge of the product and how it develops is more practical. Also, in the description of the activities of the SDM, there should be instructions on what level of knowledge of the software they must achieve in order to work confidently with customers.

In addition to these basic guidelines, there are a few additional ones. All customers must receive additional training and be well instructed on every change in the functionality of the system. This will also facilitate the work of not only the support department, but also the SDM.

6.3 Limitations

There are several limitations to the results of this study. Since this study focuses on the SaaS context, outcomes should not be generalized to other cases. The applicability of

the results to other companies is not obvious, but it can be assumed that many start-up companies also experience similar difficulties with the separation of roles and responsibilities. However, the separation of functional roles may not be applicable in a different operating system due to the specifics of the business and the type of cooperation with customers in the post-sales phase.

Since the type of study was based primarily on interviews and the author's personal experience from observations, the results do not provide theory, but provide practical advice to achieve the goals of the company's case and increase knowledge in the field of certain groups of personnel. Some concepts have been specified, so it will be difficult to offer generalized results. All results are valid, but are more applicable to a particular company case than to other industries and organizations.

With regard to data collection, since the number of interviewees is limited to 12 people, which is one of the reasons for the uncertainty. Typically, for a master's thesis, the number of interviewees during the data collection process ranges between 10-20 people. However, there is a risk of possible limitations in scope, as the questions were narrowly focused on topics of the thesis. As well as restrictions on the quality of the information received, since the answers of the respondents may be subjective. The personnel involved in the interviews had different roles and organizational levels, which ensures that problems are considered from different points of view. It is also important to mention the limitations associated with practical applicability, since the solution depends only on the company's case.

6.4 Topics for further study

The SaaS field includes many research areas in terms of service management. Learning about different operating models in different business contexts can be difficult. For a deeper dive into the topic, more research is needed to explore the relationship with other concepts. Additional studies are also needed to confirm the acceptability of the results of the research.

The study showed how little the division into operating models in the context of SaaS is presented in the literature and how different these models can be. This can be explained by the narrow focus of this study, as well as understanding the possibilities of providing after-sales services. Therefore, additional research into SaaS companies with similar operating models should be considered.

The most obvious additional study is the applicability of the results in practice. Such studies could simplify future implementations. During the interview, many respondents

mentioned current information flows and intra-organizational communications, so a deeper study of these topics could also be one of the studies.

Future research on segregation of duties could be explored in relation to creating value for customers and how this can be achieved. An interesting topic would be to explore examples of co-creation of value.

In addition to the current research, a number of interviews may be applicable to the customers of the company's case. Since the data obtained is dependent directly on the respondents and all data comes from internal sources, therefore, the study directed from the point of view of customers could be explored further for a more customer-oriented service delivery in the after-sales phase.

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APPENDIX A: INTERVIEW QUESTIONS

Activities and responsibilities of SDM

- Please describe what you do? What is your area of responsibility? Main activities, main customers?
- Please describe the billable service process according to your country specific operating model? What are the weak points in it?
- Which challenges you usually face related to your role in billing? (invoicing billable support?) What do you think could be done better with invoicing process?
- Do you have any concrete example in mind? When does it happen, how does it happen?

Operating model - billable service

- How resources managed? How coordinating the work and ensuring that scope has been delivered?
- How resources allocated within the customers?
- How often are there cases when an after sales (continuous) services is limited by the availability of the resources (technical support, consultants)? What are the main reasons for lack of availability?
- Do you have any concrete example in mind? When does it happen, how does it happen?

Bottleneck

- Which bottleneck in operating models related to billable service do you see?
- How could these challenges be avoided?
- Do you have any concrete example in mind? When does it happen, how does it happen?

Customer value

- How can SDM improve/add value to the customer through billable service?
- What kind of metrics or KPIs have been used to measure how well the service answers to the needs of customers?

Extra

- Do you have anything to add to any addressed themes or questions?
- Do you have any feedback or questions regarding the interview or the thesis in general?