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Customer Success Management In The Subscription Business Of Manufacturing Companies: Towards A Task-Oriented Reference Model

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Abstract

Manufacturing companies are constantly increasing their efforts in the subscription business, also known as product-as-a-service business, offering usage and outcome based solutions (value-in-use) instead of transactional services and products (value-in-exchange). Customers are becoming contractual subscribers of the solution in return for recurring, performance-related payments. To address arising, inevitable challenges like (1) reducing customer churn, (2) increasing usage intensity and outcome quality, (3) ensuring the adoption of product and software releases as well as (4) fostering customer loyalty, leading manufacturing companies are setting up a new organizational, customer-facing unit, called Customer Success Management (CSM). This unit has its origins in the software-as-a-service business, operating next to established entities like sales, key account management and customer service. Since there are currently no holistic models for an end-to-end description of CSM-tasks in the manufacturing industry, this paper contributes to a task-oriented reference model, using a grounded theory approach, examining both manufacturing and software companies. Containing a reference framework with 8 main tasks, 17 basic tasks and 76 elementary tasks, the reference model supports manufacturing companies in adapting and customizing a company-specific CSM-concept.

Keywords

Customer Success Management; Subscription Business Models; Value-in-use, Manufacturing Companies; Task-oriented Reference Model

1. Introduction

Economic growth and competitive differentiation in the manufacturing sector are no longer based on product innovations and digital services alone but on the ability to monetize the usage phase of products in customer operations [1]. Due to market saturation and interchangeability of products, manufacturing companies are increasingly examining entry and growth opportunities in the subscription business as a way of supplementing the conventional sale of products and services [2]. In the subscription business, instead of a product or service, the productive state in the customer's operation is paid for [3]. In the following, we subsume related terms such as product-as-a-service, everything-as-a-service or pay-per-x-models under the term subscription business model, as this term puts the focus on the underlying shift from a product-centric to a fully customer- or subscriber-centric business approach [4,5,1]. While subscription business models, especially in the software industry, are often narrowly defined by the attribute of periodic payments in return for a recurring service, the possibilities of digitization lead to a broader definition of the term subscription in the industrial context [6,7]. Thus, the definition of the term subscription in this paper is based on four key characteristics [8], as shown in Table 1.

Table 1: Subscription characteristics and derived requirements for a Customer Success Management

Subscription business model characteristics	Requirements for Customer Success Management
-1- Recurring revenue mechanisms such as pay-per-use or pay-per-outcome	→ Reducing financial risks by preventing customer churn and increasing customer retention
-2- A value proposition geared to individual customer success (e.g. increasing productivity)	→ Monitoring customer operations, increasing usage intensity and outcome quality
-3- Digital performance systems networked via the Internet of Things, consisting of integrated bundles of products, services and software	→ Ensuring continuous onboarding, training, performance consulting and the adoption of product and software releases
-4- Long-term customer relationship based on a trustworthy partnership	→ Fostering customer loyalty and a positive lock-in-effect while becoming the “trusted advisor”

From a research perspective, the subscription business can be interpreted as the operationalization of the value-in-use concept proposed by VARGO A. LUSCH: Instead of delivering value-in-exchange by selling products or services on a transactional basis, suppliers align their economic success to the continuous value realization or co-value-creation in the usage phase of products and services [9,10].

However, despite the overarching opportunities of a deep customer relationship, data-based understanding of changing customer needs and economic growth after overcoming a period of starting losses due to smaller recurring revenues over time, subscription businesses are associated with numerous challenges, especially through the proportional assumption of risks from the customer processes [11]. This places new demands on customer management in particular [12], as shown in Table 1. Existing customer-facing business concepts or units, such as customer relationship management, customer service, sales or key account management are often holistically not designed and incentivized for these new proactive, analytical tasks to ensure and increase customer success [13] Therefore the subscription business requires the setup of a new customer-facing business approach or unit called Customer Success Management (CSM) [14].

In contrast to the more subjective terms of value, value realization and co-value-creation, we define *customer success (CS)* as the measurable achievement of economic, factual, environmental or person-related individual customer objectives. Based on this definition, Customer Success Management, whether as a business concept or as a separate unit, monitors and analyzes the usage phase of the products and services and proactively supports the subscription customers in achieving and increasing their individual objectives.

While Customer Success Management has already been established in the software industry for several years, companies in the manufacturing sector are still in the conceptual phase of Customer Success Management, parallel to the setup and expansion of their subscription business [14]. Since no descriptions of CSM reference tasks for manufacturing companies are available so far, this paper aims to answer the following research question: How does a reference model need be designed to describe the end-to-end tasks of a Customer Success Management for manufacturing companies? In the following chapter, the need for research is identified based on a literature review, before the specific approach to answer the research question is derived. As result of the research process, we present the task-oriented CSM-reference model. Finally, the limitations and the resulting need for further research are discussed.

2. State of research

In recent scientific literature, first contributions with the CSM as the subject of investigation exist, mostly against the background of the software industry and thus without direct reference to specific tasks of a CSM in the manufacturing sector. EGGERT ET AL. provide a differentiation of CSM from other management concepts such as quality, customer satisfaction, key account, and customer experience management by

emphasizing CSM competencies to proactively engage in the customer experience processes [15]. The authors focus on the development of a scientific perspective on CSM and the conceptual adaptation of CSM from the IT context to other industries. However, there is no detailed description of the implications and CSM specific tasks for the manufacturing industry. HILTON ET AL. name the three necessary research fields Goal Management, Learning Management and Stakeholder Management for investigating Customer Success Management [16]. They refer mostly to the software industry by naming practical examples. There is no explicit consideration of the implications for manufacturing companies. HOCHSTEIN ET AL. look at CSM developments from a combined service and sales perspective [17]. The authors describe CSM as a way of breaking down the service-sales ambidexterity, i.e. selling through service and carrying out service activities through sales, so as not to overburden the customer with too many supplier contacts. In this context, the authors see CSM as a fusion of existing concepts such as customer centricity, management of customer touchpoints and after-sales service activities in a new function. While discussing specific CSM tasks that are relevant for manufacturing companies, the contribution does not provide a referenceable model for CSM tasks. PORTER A. HEPPELMANN examine the changes in business activities and organizational structures in companies due to the development of intelligent, networked products [14]. The authors name selected tasks of the CSM, such as the responsibility for the customer experience as well as the data-related monitoring and assurance of value realization by the customer. The article can be directly applied to manufacturing companies, although it does not yet provide a holistic, task-oriented CSM reference model. ADAMS provides a comprehensive CSM model with his management-oriented contribution, which, however, does not directly refer to the requirements of the manufacturing industry [18].

With regard to the scientific literature in the area of subscription business models, the requirements for a CSM are named, but neither CSM tasks are described nor referenceable processes are designed. SCHUH ET AL. refer to new organizational functions and tasks within the subscription business and explicitly name Customer Success Management as the unit responsible for the ongoing customer relationship and for generating value in the customer process [2]. Furthermore, the authors examine the digital shadow within the IT-reference framework Internet of Production as the data basis for carrying out CSM tasks. STOJKOVSKI ET AL. primarily compare the advantages and risks of the subscription business for suppliers and customers in the manufacturing sector, without explicitly addressing the CSM [1]. TZUO A. WEISERT as well as LAH provide current standard works describing the transformation from product-centric to customer-centric companies in the course of the so-called subscription economy [12,3]. Customer Success Management plays a central role in their contributions, since success in the subscription business will continue as long as customers use the services successfully. To this end, the authors demand that the daily use of the service, customer satisfaction as well as specific downtimes must be monitored. The article is primarily written with reference to the software industry. However, the authors repeatedly make reference to the manufacturing industry, so that the models developed for CSM can be partially applied in manufacturing contexts.

Regarding the scientific literature in the field of reference modelling, to this date no explicit models for CSM tasks can be found. For example, BECKER ET AL. contrast numerous existing reference models, none of which explicitly encompasses the tasks of a CSM, neither in software nor in manufacturing contexts [19]. For this reason, we consider the current research gap of a task-oriented reference model for Customer Success Management in manufacturing companies as persisting.

3. Methodology

Since the Customer Success Management is a new management approach or business unit in the manufacturing industry and since the results of this research are intended to be directly suitable for reuse in the form of a reference model, an applied research approach is chosen for data collection and analysis. Therefore, we use the Grounded Theory according to GLASER A. STRAUSS to systematically collect data as

a theoretical sample, identify recurring elements and derive a theoretical reference model that is finally tested and validated in practice [20]. In this approach, different research methods for collecting and analyzing primary data are combined, such as expert interviews, observations and focus groups. In addition, the results of the literature analysis will be used to enrich the reference model with secondary data. Table 2 provides an overview of the applied research process that took place between the years 2019 and 2021.

Table 2: Overview of the applied research methods with company and interview partners

Company	CSM status	Interview partner role	Applied research methods
Machine tool manufacturer	CSM in preparation	Head of Subscription Head of Process Management	3 interviews, 1 company visit, 2 joint workshops between 2019 and 2020
Printing press manufacturer	CSM in action	Head of Customer Success Management Operative CS Manager	4 interviews, 1 observation of a customer success meeting with customers between 2019 and 2021
Machine tool manufacturer	CSM in action	Operative CS Manager	1 interview in 2020
Software as a Service	CSM in action	Director Marketing Campaigns & Channels	3 interviews, 1 joint workshop in 2020
Software as a Service	CSM in action	Success Management Lead	2 interviews in 2019
Various manufacturing companies	CSM in preparation	Various roles	Focus group in the context of a joint remote workshop in 2020

4. Results

In this section, the task-oriented CSM reference model is developed. At first, a regulatory framework of the reference model is presented in Figure 1, serving as a top-level guidance tool through the reference model.

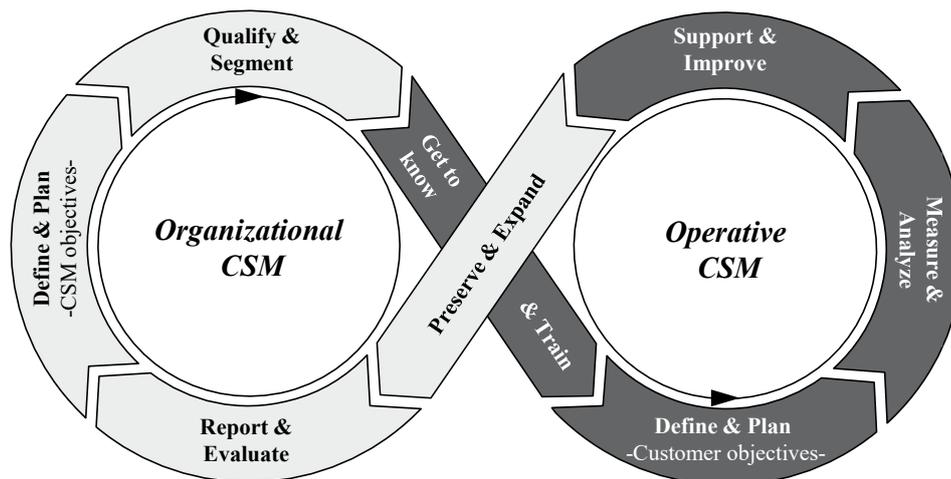


Figure 1: Regulatory framework of the task-oriented CSM reference model

On the one hand, the framework presented in Figure 1 consists of eight successive, order-giving dimensions, which at the same time represent the main tasks of the CSM reference model. Since the core function of CSM is the continuous improvement of customer processes to ensure individual customer success, the DMAIC-cycle [21] was used in combination with the concept of the customer journey [22] to derive the

eight order-giving dimensions of CSM tasks. On the other hand, the graphical representation as a “lying eight” illustrates the cyclical character of the CSM tasks and divides the CSM reference model into two levels, in analogy to the St. Galler Key Account Management model [23]. The organizational CSM subsumes preparatory tasks of the top-level management for the creation of the organizational prerequisites for a successful CSM. The operational CSM subsumes the daily tasks of a customer success manager or a business unit entrusted with implementing CSM activities. In the following, further basic and elementary tasks are assigned to the eight main tasks shown in the regulatory framework.

4.1 Define & Plan (CSM objectives)

CSM must be positioned and aligned organizationally in the company of the CSM provider. To this end, the internal objectives of CSM and the human and technological resources required to achieve them must be defined.

Table 3: Basic and elementary tasks assigned to the first main task “Define & Plan”

Main task	Basic task	Elementary tasks	
1 Define & Plan (CSM objectives)	1.1 CSM objective definition	1.1.1 Motivate CSM invest 1.1.2 Define CSM terms 1.1.3 Establish CSM strategy and CSM culture	1.1.4 Define CSM objectives 1.1.5 Define CSM KPIs 1.1.6 Define KPI threshold values
	1.2 Organization and resource planning	1.2.1 Define CSM tasks 1.2.2 Set up organizational structure 1.2.3 Choose and incentivize CSM employees	1.2.4 Choose and integrate IT-systems 1.2.5 Ensure financial funding of CSM activities

4.2 Qualify & Segment

The CSM must ensure that subscription relationships are entered into with potential customers for whom there is an opportunity to guarantee or increase customer success. In addition to qualifying customers, they should be divided into individual CSM-specific customer segments, such as low touch or high touch customer segments with varying levels of personal interaction efforts [24].

Table 4: Basic and elementary tasks assigned to the first main task “Qualify & Segment”

Main task	Basic task	Elementary tasks	
2 Qualify & Segment	2.1 Customer qualification	2.1.1 Define criteria for potential subscription customers 2.1.2 Analyze customer production performance 2.1.3 Analyze customer business model	2.1.4 Perform risk analysis of submitting contract offer 2.1.5 Manage expectations towards the subscription services
	2.2 Customer segmentation	2.2.1 Define criteria for customer segments (e.g. low touch or high touch customer segments) 2.2.2 Segment the customers according to the set-up criteria	2.2.3 Designate & prepare CSM responsible entities 2.2.4 Define vendor’s subscription team (e.g. CSM as the subscription project lead)

4.3 Get to Know & Train

Parallel to the set up of the subscription services in the customer process, usually carried out by the technical service team, the CSM must establish contact with the customer's usage center and introduce and explain central, digital service components and functions [24]. The CSM must ensure that the customer derives measurable benefits from the subscription service as quickly as possible. This main task represents the transition from organizational to operational Customer Success Management.

Table 5: Basic and elementary tasks assigned to the first main task “Define & Plan”

Main task	Basic task	Elementary tasks	
3 Get to Know & Train	3.1 Stakeholder-management	3.1.1 Establish customer contact 3.1.2 Conduct target workshop with customer	3.1.3 Define customer’s subscription team 3.1.4 Analyze customer’s subscription team
	3.2. Installation support and training management	3.2.1 Plan installation phase of subscription services 3.2.2 Explain and configure the individual subscription performance system 3.2.3 Develop training plans	3.2.4 Conduct training courses 3.2.5 Automate the onboarding process 3.2.6 Monitor the installation & training sessions

4.4 Define & Plan (Customer objectives)

Together with the customer, the CSM determines the individual customer success criteria and plans the achievement of specific customer objectives, such as the systematic increase in customer productivity over a defined period. Furthermore, the CSM plans the specific measures to achieve the goals together with the customer and sets up an individual customer success roadmap.

Table 6: Basic and elementary tasks assigned to the first main task “Define & Plan”

Main task	Basic task	Elementary tasks	
4 Define & Plan (Customer objectives)	4.1 Customer objective definition	4.1.1 Define customer objectives 4.1.2 Define customer KPIs 4.1.3 Define KPI threshold values	4.1.4 Manage expectations towards the CSM services
	4.2. Customer objective planning	4.2.1 Develop customer success roadmap 4.2.2 Prepare performance consulting 4.2.3 Establish process evidence	4.2.4 Perform risk analysis of customer objective achievement

4.5 Measure & Analyze

The CSM must measure and analyze the available data from the utilization phase in order to be able to intervene in the customer process in the event of critical deviations or to improve the process proactively. The core concept within this dimension is setting up a Customer Health Score (CHS) measurement. The CHS consists primarily of leading KPIs related to product and service usage in customer operations. Metrics that can be tracked by the CSM are, e.g., the active time in applications, the realization of customer success criteria, customer satisfaction scores, or open service tickets. Continuous monitoring of the CHS allows a proactive response to changes or problems in customer operations.

Table 7: Basic and elementary tasks assigned to the first main task “Define & Plan”

Main task	Basic task	Elementary tasks	
5 Measure & Analyze	5.1 Customer Health Scoring (CHS)	5.1.1 Motivate and define CHS	5.1.4 Determine threshold values for the CHS
		5.1.2 Determine metrics for CHS	5.1.5 Integrate & visualize CHS
		5.1.3 Develop CHS evaluation system	
	5.2 Customer objective controlling	5.2.1 Record & analyze CHS	5.2.4 Perform root cause analysis in case of deviations
		5.2.2 Capture & analyze customer KPIs	5.2.5 Derive action items & initiate internal improvements
		5.2.3 Compare CHS & KPIs with benchmark	
	5.3 Feedback management	5.3.1 Stimulate customer feedback	5.3.3 Perform root cause analysis in case of deviations
			5.3.2 Accept & analyze customer feedback

4.6 Support & Improve

Through proactive performance consulting and reactive first-level support, the CSM must ensure the realization of individual customer success so that the subscription provider can generate long-term revenue with the customer or grow together with the customer.

Table 8: Basic and elementary tasks assigned to the first main task “Define & Plan”

Main task	Basic task	Elementary tasks	
6 Support & Improve	6.1 First Level Support	6.1.1 Record problem	6.1.4 Forward problem to 2 nd or 3 rd level support
		6.1.2 Identify & classify cause of problem	6.1.5 Track problem resolution
		6.1.3 Solve problem immediately	6.1.6 Document resolution
	6.2 Performance consulting	6.2.1 Prepare individual performance consulting meeting	6.2.4 Celebrate realized customer success
		6.2.2 Present customer KPIs	6.2.5 Present new releases
		6.2.3 Present action plan	6.2.6 Document & share results

4.7 Preserve & Expand

The CSM is responsible for preserving and expanding the customer relationship. To this end, it identifies potential for expansion of the customer account that will generate mutual benefits. Thus, the CSM increases the customer lifetime value in the best interest of both customer and vendor [25]. This main function represents the transition from operational to organizational Customer Success Management.

Table 9: Basic and elementary tasks assigned to the first main task “Define & Plan”

Main task	Basic task	Elementary tasks	
7 Preserve & Expand	7.1 Churn Management	7.1.1 Determine factors influencing customer churn behaviour	7.1.3 Initiate & monitor stabilization measures
		7.1.2 Identify unstable subscribers	
	7.2 Contract & expansion management	7.2.1 Monitor & adjust contract status of subscribers	7.2.3 Accompany contract renewals & terminations
		7.2.2 Proactively increase the customer lifetime value	

4.8 Report & Evaluate

The CSM should systematically share the gained knowledge about the individual customers within the own organization and evaluate the CSM efforts and the fulfillment of CSM KPIs [26]. This task completes the CSM loop, presented in the regulatory framework.

Table 10: Basic and elementary tasks assigned to the first main task “Define & Plan”

Main task	Basic task	Elementary tasks	
8 Report & Evaluate	8.1 Knowledge management	8.1.1 Formalize knowledge about subscribers	8.1.3 Proactively share knowledge about subscribers (e.g. via articles in the intranet or knowledge sharing events)
		8.1.2 Expand knowledge about subscribers from further channels	
	8.2 CSM objective controlling	8.2.1 Analyze CSM KPIs	8.2.3 Ensure cost-effectiveness of CSM activities
		8.2.2 Identify causes for derivations and derive measures	

4.9 Application of the CSM reference model in practice

The essential feature of a reference model is the reuse for the derivation of company-specific models [27]. For this reason, the CSM reference model was tested in three selected use cases with companies from the tool, kitchen, and plant engineering sector. In all three use cases, the reference model with its recommendations was applied by a company representative from a subscription- or CSM-related business department to derive and configure a company-specific CSM model. Thus, in the sense of critical rationalism, the hypothesis of reusability is upheld and the model is considered valid for practical reuse and for further adjustments in the course of future developments in CSM research.

5. Conclusion

In this paper, a research process was described for deriving a CSM reference model for manufacturing companies that enter or expand subscription business activities, thus aligning with the realized success of their customers. Considering the identified research gap of a holistic task-oriented CSM reference model, a framework with 8 main tasks of the CSM in manufacturing contexts was derived on the basis of an applied research approach. The 8 main tasks were further detailed by describing 17 basic tasks and 76 elementary tasks. The CSM reference model was finally tested in practical use cases and was found to be reusable by the test users. By its very nature, the CSM reference model in this paper only represents an excerpt in the temporal course of developments regarding the subscription business and the CSM. Thus, there is a need for further development and research regarding process and data modelling, continuous quality assurance, and further adaptation of the reference model. Additionally, there is a need for further research regarding the measurement of quantitative effects of the CSM in order to capture and prove the long-term benefits of the CSM.

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