



**1ZM55**  
**Service Innovation Management**  
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**Assignment 1: Servitize this!**  
**Vanderlande Business Model Canvas**

**Group 6**

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## **1. Introduction**

### *1.1 Servitization*

Over the years, researchers have defined many definitions of servitization and discovered similarities between servitization and product-service systems (PSS) leading to the definition of servitization: “The innovation of organisations capabilities and processes to better create mutual value through a shift from selling product to selling PSS” (Baines et al., 2009). Furthermore, servitization can be realized by multiple different forms identified and is influenced by the firm size and local economic circumstances (Neely, 2009). “Larger firms, measured in both terms of numbers of employees and revenues, tend to servitize more than smaller firms” (Neely, 2009). Lastly, regarding the research of Baines et al (2009), literature has suggested that there are three sets of factors that drive companies to pursue a servitization strategy, namely financial, strategic (competitive advantage) and marketing.

### *1.2 Vanderlande*

Vanderlande is the global market leader for future-proof logistic process automation at airports (Vanderlande, 2021). Its systems are capable of moving approximately 4 billion luggage items around the world every year. Additionally, the company offers process automation solutions for warehouses and in the parcel market, and many of the world’s largest e-commerce companies use Vanderlande’s solutions. Since all these systems are both high on knowledge intensity and high on capital intensity, they are highly suitable for servitization. Instead of selling their systems, Vanderlande could start selling performance and thus could implement an pay-per-luggage-item business model.

### *1.3 Method*

This paper used company reports and academic literature in order to gather information about Vanderlande and servitization processes. After defining the current business model canvas of Vanderlande’s baggage handling systems at airports, the business model canvas for the servitized offering is designed, both BMCs are presented in Appendix A. Then, the business model canvas for the servitized offering is designed. Lastly, the most important differences between both business model canvases are determined and suggestions on how to address these differences are presented. The aspects of the business model can be found in Appendix B.

## **2. Current Business Model Canvas**

### *2.1 Value propositions*

One of the main value propositions of Vanderlande are reliable operations and brand quality, as it focuses on making high quality products to ensure significant performance. Vanderlande has made sustainability a key principle of its activities as social and technological developments are changing at an increasing speed (Vanderlande, 2021). Customer value is also one of the value propositions, as

providing customer-specific solutions is an important activity. Furthermore, Vanderlande promotes a proactive approach to health and safety, which provides the foundation on which its approach is developed (Sustainability report, 2018).

### *2.2 Customer segments, channels & customer relationships*

The main consumer segment of Vanderlande for baggage handling systems is airports as their systems are currently used by more than 600 airports such as Amsterdam Schiphol Airport (Laar, 2009). Airlines are another important consumer segment as baggage handling systems are critical for airlines to fulfill their service. Currently, airports are charging airlines based on the weight of the aircraft and the number of passengers on board (Finavia, 2017, April 13). Moreover, both current business model and proposed servitized model require the existing channels. First of all, meetings, conferences and events are used to increase the company's recognition level. Additionally, through the website, they make interested parties learn more about the company's core values and current projects. Advertisements are also used to illustrate how they differ from their competitors and achieve their strategic ambition of being a worldwide leader in the automated material handling systems (Vanderlande Industries Holding B.V., 2021). Through partnerships, the company strengthens its value propositions and also forms long-term relationships with the airports. The company formed many successful partnerships and still continues to do so by exceeding customer expectations (*Partnerships-Vanderlande Life-Cycle Service Solutions*, 2021).

### *2.3 Key resources, key activities & key partners*

The research made by Putten (2017) showed that the company has both second tier and first tier suppliers as the main key resources. In order to make use of the resources provided by the suppliers, the company requires manufacturing plants to manufacture the baggage handling systems (Putten, 2017). Furthermore, employees are key resources for ensuring that the supply chain runs smoothly. The company has a wide range of consumer network as well as supplier network to implement their baggage handling systems worldwide by forming partnerships and selling their system to the airports. Moreover, Vanderlande is highly vertically integrated as it does not only design products, but produces, integrates and installs them (Sustainability report, 2018). One of the main activities of Vanderlande is the supply of luggage bands used for transportation at airports (Vanderlande, 2021). Additionally, Vanderlande executes inspections and maintenance to maintain the reliability and performance of the system (Stein, 2014). As airports being a vital consumer, they are also a key partner in order for the company to implement the baggage handling systems. In the commercial report of 2021, the company stated that they would aim for airports to remain number one player (Vanderlande Industries Holding B.V., 2021). When they have contracts with airports, indirectly they are also having a contract with airlines as well since they are the users of the system.

## *2.4 Cost structure & revenue stream*

The cost of ownership is a vital cost component as Vanderlande offers customer-specific systems, which requires customer-specific cost parameters (Stein, 2014). The total cost of ownership consists of equipment cost, maintenance costs, and spare parts costs (Stein, 2014). The cost structure of the baggage handling system also includes acquisition cost (e.g. installation, transportation), operating cost (e.g. direct labor, spare parts maintenance), maintenance cost (cost of repair, life of equipment), and Research & Development costs (Franssen, 2007). The main revenue stream is generated by the product sales of the baggage handling system which is different for each implementation. Costs associated with this product will be very high because a lot of materials and resources are needed to implement this system. The second revenue stream is maintenance. Vanderlande has sold the product to its end user which is in this case the airport. This means that the ownership of the baggage handling system is at the airport. So when there is a failure, the airport should outsource the maintenance to Vanderlande in order to repair the system, because Vanderlande has the expertise of this complex product. Third, Vanderlande offers three different services which can be purchased by the customer, known as asset services, logistic services and business services (Vanderlande, 2021).

## **3. Business Model Canvas for the servitized offering**

### *3.1 Value propositions*

One of the missions that guide sustainable activities is circular economy (Vanderlande, 2021). By designing products and services in a circular way, risks will be reduced, opportunities to learn will be created, and the company will become better able to adapt and perform optimally every day (Sustainability report, 2018). Moreover, Vanderlande's customers may have a financial advantage as Vanderlande provides a finance team that aims to support the business in achieving their business goals.

### *3.2 Customer Segments, Channels & Customer relationships*

Airports will continue to be a vital consumer segment as they will need to sign an agreement with Vanderlande. However, they are no longer obligated to pay the initial investment, instead the company will receive the revenue through airlines. Consequently, airlines also will remain to be an important consumer segment. However, as a change, for every flight that is handled smoothly, the company will charge the airline. Moreover, passengers arise to be an important consumer segment as the money that they were paying for every baggage will be transferred for the usage fee of the system per flight.

In the fully servitized model, customer relationships are more intense and Vanderlande acts as partner with the company with the provided services. Vanderlande may fully partner with the business and thus enter the company, taking full responsibility for logistics and material handling systems, and sharing the financial challenges of new investments (Vanderlande, 2021).

### *3.3 Key Resources, key activities & key partners*

On top of the key resources in the current model, companies will need to have an IT department to monitor the data about the flights of different airlines. The IT department is needed to install the computer network systems within the company and to ensure that the network of airlines and supply chain runs smoothly. Vanderlande's baggage handling systems are capable of moving over 4 billion pieces of baggage in over 600 airports (Vanderlande, 2021). In order to manage the data of the use of the product, data management is added as a key activity in the new servitized model. Moreover, inspections of the product take place more often to prevent failure of the product. In addition to the current partners of Vanderlande, the company signed the Climate Pledge, to reduce its carbon footprint by 2040 and they are also a member of PACE's Capital equipment Coalition (Vanderlande Industries Holding B.V., 2021). These partnerships will be beneficial as the airports would prefer environmental friendly and energy efficient options to form a collaboration.

### *3.4 Cost structure & revenue stream*

An additional cost in the servitized model, is the downtime costs. For capital-intensive machines, the downtime costs can account for a majority of the total cost of ownership (Stein, 2014). Moreover, as mentioned in earlier, in the servitized model, inspections of the product will take place more often to ensure the quality and reliability of the product. These inspections refer to the quality check in the servitized business model. In the servitized model, maintenance costs are rather preventive than corrective. The servitized model generated a new revenue stream which is the cost per luggage transported, this is related to the principle of pay-per-use (PPU) where the consumer only pays for the use of a product instead of buying the product itself (Gebauer et al., 2017). Related to the baggage handling system, the system processes the luggage of the customers so the luggage is the main usage of the system. Therefore, Vanderlande will introduce the pay-per-luggage system. The failure of the system is still a risk for Vanderlande. Thus, Vanderlande introduces a fixed fee and the maintenance costs are completely on behalf of Vanderlande. Vanderlande will use a combination of a fixed-fee and an usage based pricing strategy. This mix is investigated by research of Ladas et al. (2021) which supports that for a monopolist the mixed pricing model (fixed fee and usage-based fee) is the optimal pricing strategy.

## **4. Three most important differences**

Although most components of the business model canvas show changes when comparing the current business model to the servitized business model, there are three components that are greatly impacted by servitizing Vanderlande's baggage handling.

#### *4.1 Revenue stream*

The main difference between the old and the new business model is the pricing strategy of Vanderlande. At first instance, high investment costs were associated with the purchase of the product. Now, in the servitized business model Vanderlande uses a fixed-fee in order to compensate maintenance costs and will provide a pay-per-use strategy for the costs of the entire baggage handling system. This means that Vanderlande is now selling performance rather than a product, where the performance is defined as the amount of luggage the airport processed. Benefits of providing a PPU system are discovered by the article of Gebauer et al (2017) which states that a PPU system can lead to new competitive advantages, maximize resource efficiency in product usage and will provide better opportunities for product remanufacturing since it is easier to control the usage of the product. This will also ensure that the delivered product quality will be higher because Vanderlande is responsible for the ongoing service. Another benefit is that a PPU business model is more profitable instead of selling the whole product, and the psychological costs associated with pay-per-use is low (Balasubramanian et al., 2015). So, instead of a one time investment associated with additional maintenance costs, the revenue stream for Vanderlande will be more consistent. This is more profitable and ensures a higher product quality.

#### *4.2 Key activities*

Vanderlande's main activity within the baggage handling area is supplying luggage bands used for transportation at airports (Vanderlande, 2021). This is the case for both the current and the servitized business model. However, the way this is realized and through which activities vary. Whereas in the current business model, their core activities are maintenance, routine inspections and repairs, the servitized model focuses on life cycle optimization, reliability and sustainability of their product (Stein, 2014). By monitoring the status of their product more closely, maintenance happens when needed before it needs repairing. By optimizing these processes, downtime and cost of operation are minimized, resulting in more revenue for Vanderlande. In order to realize this, new activities such as data management and life cycle innovation are added. Next to this, the existing services are expanded to include end-of-life upgrades and the dismantling of systems (Sustainability report, 2018).

#### *4.3 Customer relationships*

Whereas in both business models, Vanderlande focuses on and values the relationship they have with their customer, the way this relationship is built up is vastly different.

In the current business model, Vanderlande takes on the role of a provider; providing repairs, maintenance and the baggage system itself upon request or when needed. In the fully servitized model, customer relationships are more intense and Vanderlande acts as partner within the company with the provided services. Vanderlande takes full responsibility for their actions and smooth operation of their product and service (Sustainability report, 2018). To guarantee this, they closely and

continuously monitor the operation and keep in contact with their customers. By offering their product as a service, Vanderlande develops a close relationship with its customers on a business level as well. They constantly monitor whether their service still fits their customers needs and demands and offer consulting as part of their service based on the customer's business operational process.

#### *4.4 Suggestions on how to address these differences*

In order to allow for servitization of the business model, several capabilities are needed within the organisation. For the three most important differences to the business model, actions are suggested to support the transformation of these three components.

Customers are only willing to pay for what they actually need. Therefore in order to finance a pay-per-use service, organisations need to learn about and understand their customers (latent) needs. Within this, risk management is needed to assess, estimate and reduce risk for each service offering and estimate the financial impact of different offerings (Gebauer, Saul, Haldimann & Gustafsson, 2017). Secondly, as key activities shift towards preventative maintenance and lifecycle enhancement, costs of these activities need to be linked to the actual usage instead of the materials and service costs (Gebauer, Saul, Haldimann & Gustafsson, 2017) . This can be done by analysing the component cost and lifecycle, closely monitoring the usage to costs and focusing on lifecycle innovation to keep the usage costs as low as possible. Lastly, by transforming towards the servitized business model, customer relations become more intense. In order to support this, efficient communications with the customers (both direct and end users) have to be set up (Gebauer, Saul, Haldimann & Gustafsson, 2017). This allows for a stronger partnership, customer & usage monitoring and direct lines with the stakeholders involved. Lastly, as part of this partnership, maintenance of the product would become integrated into regular operations of the organisation instead of upon the customer's request

## **5. Reflection**

The investigation of the servitized business model of Vanderlande has led to three learning points. First, it is important to consider that in the process of implementing servitization many stakeholders inside and outside the company are involved. Their interests should be considered when deciding on the servitization process. Second, when a company implements servitization, it impacts all other aspects in the business model. There is not only a change in the selling process and sources of revenue, but also many background activities within a company change. Third, it is important to consider that not all aspects of the business model canvas have to change when implementing servitization. Many of them are also part of the servitized business model canvas. Airlines, for example, are critical consumer segments in both the current and the servitized business model, however there is a change in the revenue stream coming from airlines.



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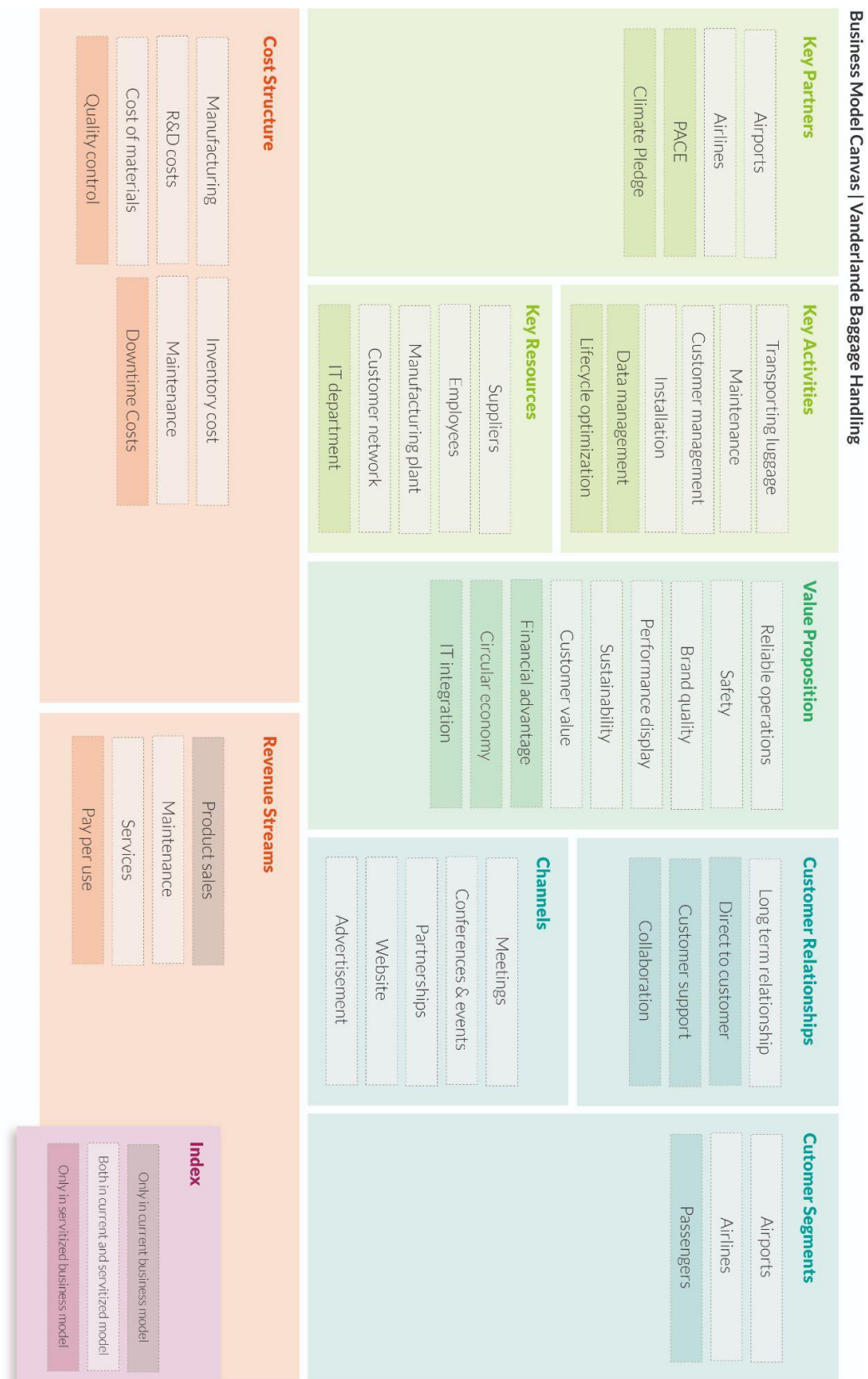
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# Appendices

## Appendix A - Business Model Canvas



## Appendix B - Aspects of the Business Model Canvas

<b>Pillar</b>	<b>Building block</b>	<b>Definition</b>
<b>Products &amp; services</b>	<b>Value propositions</b>	Bundle of products and services that creates value for a specific customer segment. The value proposition should be the reason why a customer chooses one company over another
<b>Relationship capital</b>	<b>Customer segments</b>	Different groups of people and/or organizations that a company wants to reach and serve. Customer segments are at the heart of the business model
	<b>Channels</b>	The way a company communicates with and reaches its customer segments to deliver a value proposition. Communication, distribution, and sales channels are the interface between a company and its customers and therefore play an important role in the customer experience
	<b>Customer relationships</b>	Types of relationships a company establishes with specific customer segments. Customer relationships can be driven by customer acquisition, customer retention or driving sales. This choice has a major influence on the overall customer experience (trust and loyalty)
<b>Infrastructure &amp; network of partners</b>	<b>Key resources</b>	Most important assets (such as know-how, technologies, a strong brand) needed to make a business model work. Key resources can be physical, financial, intellectual or human in nature
	<b>Core activities</b>	Most important things a company must do to make its business model work. Different categories of core activities are: production, problem solving and platform/network
	<b>Key partners</b>	Network of suppliers and partners who ensure that the business model works. They make it possible to optimise a business model, limit risks and/or recruit resources.
<b>Financial aspect</b>	<b>Cost structure</b>	All costs incurred to operate a business model. A business model can be cost or value driven.
	<b>Revenue streams</b>	The cash flow a company generates from each customer segment. For what value are customers willing to pay? This should enable the company to generate more revenue streams from each customer segment.