PRODUCTIZATION OF WEBSITES

Case Study: WordPress

ABSTRACT

Small businesses rarely use dedicated websites as they are usually seen as too expensive. The alternatives are usually website builders and social media. A new product that aims to answer this problem is developed using productization.

This thesis examined productization and, as a result, defined a productiation framework. The framework was defined by applying a method based on design science. Moreover, the thesis presents a literature review to provide an understanding of why taking particular steps should be considered as productization. These defined steps were then utilized in a case study to develop a product. This case study also shows how this framework can be used in productization.

The steps for productization were defined as follows: 1) gathering information, 2) defining, designing and developing the product, 3) marketing, commercializing, and concretizing the product, and finally 4) exploiting data from the product.

These were found to be the common steps used in productization and defined as a basic framework for productization. This framework should be considered as a core idea for productization.

Keywords: productization, website, mobile-friendly, WordPress, design science

CONTENTS

1   INTRODUCTION

Productization is starting to become a well-documented and accepted way of producing goods and services. Productization is defined as a means to standardize a product and aims to answer customer needs and problems with the product. Productization can be an effective way to provide new innovations to the market. (Suominen, Kantola & Tuominen 2009, 11.) This thesis aims to explain what productization is, define productization for use in product development, and finally use the defined product development to create a product as a case study. This product will act as a service framework for future product development and sales.

The product developed in the case study aims to answer a possible business need. Small businesses have been found not to be able to fully utilize dedicated websites (Peacock 2017; Rosenbaum 2017; Approved Index 2018a). Website builders and social media are usually used instead of dedicated websites because of how much resources a dedicated website takes. Websites can be very expensive which is a problem for businesses with small turnover.

This thesis aims to bring a new solution to answer the need of affordable websites in small businesses. This solution aims to design a product which contains everything needed for deploying a website at an affordable price. This is done through productizing a service to allow rapid deployment and development of websites.

2 RESEARCH TASK

As the goal of this thesis is to provide a service framework for fast website deployment, the study will focus on the use of productization. Productization is used in product development as it provides a solid foundation for this kind of work. This thesis provides an understanding of what productization is, what it can be used for, and to provide a general framework for using productization. The thesis aims to answer the following research question: what should a productization framework be like? The case study for this thesis is to develop a service that offers WordPress based websites to small companies. This is done through mapping the current market and designing a competitive product.

The idea for this thesis is based on a website developed for the commissioning party. The created website was a simple one-page website that had a simple general structure and layout. After talking about this website with the commissioning party, we started thinking about a market opportunity. We discussed about how we could offer simple, fast, easy to use and affordable websites to small companies as they usually do not have resources to pay for a custom designed website. We came to an idea of offering simple pre-developed websites at a competitive price. This product idea is used in the case study of this thesis to productize this idea in to a product and to see if it has a place in the market.

As the case study is done to examine a business problem, design science methods can be used to find answers to this exact need. Productization is also a great way to develop products, which will be covered in this thesis. This thesis studies productization to provide a functional framework to start productization. This framework is built based on a literature review about productization by applying design science methods. This framework will be used in the case study for producing a product for the found business need. Consequently, the thesis aims to answer the research question: what should a productization framework be like?

The structure of the thesis is as follows. Chapter 3 will explain and define the concept of productization. Next, the applied research methods will be discussed in chapter 4. Chapter 5 proceeds to examine the steps and process of productization. Chapter 6 introduces the case study of creating a website service by applying the earlier defined productization process. Finally, the thesis presents conclusions and discussion.

3   PRODUCTIZATION

Productization is defined by Suominen, Kantola and Tuominen (2009, 11-12) as a standardized process which aims to produce a commercial good or service from information gathered from productization. The end goal of productization is to create a viable product that has a chance to survive in the market. This product can be for example a service, a concept, a method or a good. The aim of productization is to make a product that is easily reproduced with high value.

Productizing goods and services aims to offer customers a clear understanding of the product and refine the used methods, ideas, and technologies to suit customer needs and provide them with clear and defined end products. Understanding the contents of a product in advance applies more to services than tangible products but is an important goal in productization. (Hänninen, Kinnunen & Muhos, 2012, 9.) Customer understanding gives the product more value as it becomes more approachable the more understandable and defined it is.

Kangas, Kropsu-Vehkaperä, Haapasalo and Kinnunen (2013, 112-113) have developed the idea of productization as a process which aims to solve a need or problem a customer has with a defined, standardized and repeatable product, which is easily sold and bought. This definition suggests a more customer-oriented way to develop products. Productization exploits present information about the needs and problems to fill those voids with viable and sellable products and services, that are easy to reproduce (Suominen et al. 2009, 13). This provides a fast supply of solutions to customers demands.

Productization aims to provide a clear path, purpose, and definition for goods and services. This is achieved by gathering information that can be used in developing new innovations and enhancing existing goods and services. This can give added value to the productized good or service while making reproduction clearer and more streamlined. (Hänninen et al. 2012, 9.)

Productization can also utilize platforms and modules. Platforms define the product as having common components that can be developed into multiple new products. These platforms allow rapid production of new goods with the same core components. Modules are parts of the product which can be switched to best fit the customer needs. Product modularity provides a good or service with multiple possible end-products. (Hänninen et al. 2012, 9-11.) Platforms and modularity fit web development very well. The platform could be a core website style, for example a one-page website, and modules the content on the website. The simplest package this could provide would be a one-page site with plain text areas, while different modules could provide for example contact forms, image galleries, and animated background images.

Productization used in producing services is very similar. The main difference between producing actual products and services as products is that the outcome will have a unique process. Customers can be considered an active part in services which brings unique situations and functions in to every service event. Productization of services aims to develop a standardized and reproductible framework for services. These services can then be seen as product like as the contents of the service are defined and can be systematically developed. Valminen and Toivonen (2015, 5) found that service productization aims to bring a concept or prototype that is flexible and aims to satisfy multiple different customer needs. This type of service differs from conventional services as the main content of the service is already defined and recorded. This allows for rapid reproduction of the service to suit unique customer needs as the main bulk of the service is already refined and developed. The service is also easier to re-develop to fit different customer needs.

4 RESEARCH METHODS

This thesis applies design science methods to provide research data. The methodology of design science revolves around design artifacts. Hevner, March, Park and Ram (2004) note that these artifacts are used to provide answers to unsolved problems and then evaluated by the utility provided by the solution. These artifacts are then used as a solution that provides guidance and understanding of the problem. The artifacts should demonstrate and discuss suitability to its provided solution.

In this thesis, this methodology is used to find and define common steps for productization. These steps are found and defined from different literature that discuss productization. These are then used to define the used steps for productization to provide a framework that can be used to initiate and design productization. Design science will be used to design an artifact for these steps. This artifact will be evaluated and described to bring out why the steps were chosen for the framework. This artifact provides a solution for the designed framework for productization. This framework can then be used as a knowledge base for defining and designing productization.

This artifact is used to provide research information for finding solutions and designing a productization framework. This framework is then used in a case study to provide an example of a productized product. The case study aims to convey the use of this framework to be functional and accurate. The framework is designed to be used as a utility for starting productization and to help in further defining productization. This productization framework will be defined next.

5   STEPS OF PRODUCTIZATION

This thesis aims to create a new bundle of goods and services that are combined to a product. The product is a WordPress based website with webhosting, installation and content management. These will be combined into a single package or product. The steps of productization will be further defined next using gathered information.

Productization aims to provide clear, standardized and defined goods and services that are easily reproduced. Productization is customer-oriented product development which means that the customers views and needs are highly valued in developing the goods. The productized goods or services should aim to meet customer needs and problems as well as possible. The end-product of productization should be an easily reproductible and well-defined product that aims to answer customer problems and needs.

The productization process varies from company to company. Productization can focus on minor changes or it can produce complete new products. The process used is defined by the company's aims and strategy. (Valminen & Toivonen, 2016, 3-4.) This means that each process of productization should depend on the company's own aims and be designed around the aim of the product. While being designed to fit specific needs, the process of productization usually has similar steps. These steps are defined next to provide a framework for productization.

Jaakkola, Orava and Varjonen (2009) discussed how to gain a competitive advantage from productization to services while Suominen et al. (2009, 2) discuss the productization of goods. Comparing services and goods can be hard as they are both very different from each other. Services are intangible and unique while goods are tangible and similar. Examples of productization in services and goods could be for example a service that is defined and standardized to provide a fast and reproducible service event and service path, and a good that is defined and designed for fast response to customer needs and problems with rapid production. The

usage of productization is very similar in both situations which is discussed next and compared using findings of Jaakkola et al. (2009) and Suominen et al. (2009).

Jaakkola et al. (2009) define the process of productization for services as follows:

- Assessing customer needs and problems, and how they are currently answered
- Defining the contents, how to produce, and what features should the service have
- Specifying the degree of standardization for reproduction of the service
- Further defining, marketing and concretizing the service
- Pricing the services
- Measuring and following the success of the service
- Continuous development according to customer needs and company's strategy

Suominen et al. (2009, 11-13,) define the path of productization and developing new products as follows:

- Basic information gathering of the existing market to provide an idea for a commercial good
- Screening the material for a viable product and developing the good
- Commercializing, marketing, and selling the new good
- Collecting additional information from the sold product that is then exploited to bring innovative ideas for further productization of the product

If both processes are looked at and compared, some similarities can be found. The act of productization starts with information gathering. This can be for example mapping the market to find new opportunities for innovations (Suominen et al. 2009, 11-12). Information gathering can also be strictly about finding the customer needs and problems (Jaakkola et al.

2009, 8). Next comes defining, designing and producing the goods and services. Then commercializing marketing and concretizing the product. Lastly collecting additional information to be used for exploitation which aims to further develop the product, or develop new products. These steps can be summarized as follows:

- Gathering information
- Defining, designing and developing
- Marketing, commercializing and concretizing
- Exploiting

The main difference in productizing services compared to goods can be seen in the definitions of Jaakkola et al. (2009). Services being unique customer events, the degree of standardation needs to be defined. This is a step that is not truly needed in production of goods as they are mostly not unique.

The defined steps contain a very simplified path and process which can be used as a basis for productization. These steps can be further defined and designed to complement the company's strategy and aim for the goods or services that are productized. These steps will be used in this thesis to define a path for productization to be used when creating a new product. The steps of productization used in this thesis will be covered and defined next.

5.1 Gathering information

Information gathering is done to gather data to act as the base for a product idea. This gathered data should be used to provide a foundation for innovation or enhancement of a product for the best result. Suominen et al. (2009, 11) state that mediocre innovativeness leads to less successful products. The information gathered should provide enough value to offer a product which can survive in the market or make new innovative goods or services. (Suominen et al. 2009, 11-12.)

Information gathering is also used for initial market research. Market research is important in developing competitive products in the market. The gathered information should find data about supply, demand, and competition for the idea. The value in market research is huge as it can reveal market areas with large demand but low supply. Competition can provide new insight into markets that are developing fast, thus have demand for new products. The produced information can reveal market value for a new product which can be used to initialize productization to provide new products to the field. Market research can also be used to find new rising technologies that should be utilized to maximize customer interest and value. (Suominen et al. 2009, 11-12, 13-15.)

The initial information gathering should provide the product idea a scope that can be used to develop the idea in to a product. Defining a scope for the product will make further development easier and faster as the product has a clear path of what is to be developed. The current technologies and market can be used to provide information that should be used. This information should help in making a competitive product which has the best possible chance at surviving in the market. For example, in the case of web development, the information could contain what design elements, web frameworks and content management systems the website should utilize. The clearer the idea is at the beginning; the easier and faster further development will be.

5.2   Defining, designing and developing the product

The end-goal of defining the product is to have a solid foundation and scope for the product. This means that all the information that was gathered in the last step is screened to find the best solutions to use for the product. The definition should be able to provide a clear idea and well-defined contents of the product. (Suominen et al. 2009, 12, 16-17.)

The designing of the product is done using the found ideas and information to provide an initial look at what the product will be. The design shows the concept of the goods and services. Designing products should

focus on the gathered information and try to implement it to the goods and services. This works to enhance the perceived value of the product as its design is to help in customer-oriented problems. (Suominen et al. 2009, 17-18.)

Designing will also cover defining the modularity of the product. While designing the product modular parts can be found and defined. These parts can then be designed to have multiple choices for the customer to pick a solution that fits their needs. The modularity and the customizability it provides gives customers a sense of unique products. These products do not require additional development, unless custom solutions are offered. Modular productization can help in providing multiple variations of the same product rapidly to the market. This allows the same product to fulfill multiple different customer needs and problems. (Hänninen et al. 2012, 9-11.)

Using gathered ideas, definitions and designs developing can be fast and straight forward. The scope and definitions of the product need to be done well so that development can be done fast. The more defined and clear the contents are and the more in-depth the design is the easier it will be to develop the product

5.3   Marketing, commercializing and concretizing the product

Marketing is an important part of productization. It transforms the gathered ideas and molds them to a product that fits the found customer needs. The purpose of marketing is to provide the necessary information for the customer to understand the product. It should aim to fill the initially found customer needs and problems with the product. (Hänninen et al. 2012, 9, 11.) Marketing can be a powerful asset to utilize while making the product competitive in the market.

A test marketing can be used to research the demand for the newly developed product. Test marketing can find the possible customers and interest for the product. This can also be used to find the faults in the

product and what results in uninterest in the product. Gathering additional information from this type of a test market can provide data to start productization again if the test brings negative results. This data can be used to re-define and fix the areas that were resulting in loss of customer interest.

Commercializing the product brings the product to the customers. The product needs to be reproduceable, approachable and accessible for the best experience for customers. Reproduction needs a clear definition of the products contents and a well-defined path of production. This ensures the best results especially when productizing services. As services are rarely identical, defining the contents of the services helps with reproducing them as well as possible. Accessibility and approachability are also important as customers need to have easy access to the product to be able to use the product. Approachability can be achieved by developing a product that is well defined and clear to customers. This makes sure customers know exactly what they are buying. (Suominen et al. 2009, 3-4; Hänninen et al. 2012, 9-11.)

5.4   Exploiting data from the product

Gathering product data is important to any product. This data can be used to measure success of the product as in for example sales or customer satisfaction. This can then be used to further develop the product and enhance its value. Data gathering should be aimed at gathering relevant data that is then used to further enhance the product. This product data should also be gathered from the company's perspective of what they want to develop. (Jaakkola et al. 2009, 33-37)

The gathered data should be aimed at enhancing the product. This can be for example finding customer satisfaction and dissatisfaction and finding demand for improvements. This demand can then be exploited to bring out more value from the product. Essentially the product data can be used to find market demand (Suominen et al. 2009, 13-14). This found market

demand could then be exploited to start productization, to develop the answer for the found problems and needs.

5.5   Productization framework

The artifact is formed from the found steps in literature. This artifact can be seen to provide a framework that can be used as a base of productization. This framework defines basic steps that should be considered important when designing and initializing productization. These steps will be discussed further next.

As productization is meant to provide new and additional value to the market, information gathering should always be the starting point. This is done to find either customer needs and problems, or market opportunities that can be used to develop new innovations. In productization information gathering provides the whole base for the product. It is used to find the core idea and definition for the product. This allows for a very customer-oriented product development style, which aims to answer the found customer problems.

Defining, designing and development are also necessary in any product development. They are in productization the point where the product is made into a good or service. These steps can also be seen as the steps for generic product development, but in productization they are used to make the customer problems into answers. This step further explores the customers problems and needs to define and design the best answer. In Productization this is also used to find and define standardization to allow for fast reproduction.

Marketing, commercialization and concretization is the point that makes the product from the idea and definition. This is used to define the product into a form that aims to answer the customers' needs and problems by offering an answer that is clear, well defined, and innovative. Marketing, commercialization and concretization make the product in to a sellable good, that is clear to the customer and to the developer. This should also

be aimed to answer the customers problems and needs from the customers point of view. Valminen and Toivonen (2015, 7) note: "The producer knows what he is selling and the customer knows what he is purchasing." This is what this step is trying to achieve. A clear answer for the customer that is also clear to the producer.

Exploitation is essentially the continuation of finished development. This is used to collect further data from the finished product to possibly continue the development. This aims to, for example, find points that are leading to customer unsatisfaction. These points should then be fixed to enhance the perceived value of the product. Exploitation uses the product to research data that should for example find things the customer might still want from the product or the goods and the bads of the product. This allows for further development of new products, or enhanced products to bring new value to the market. This also supports the more customer-oriented way of development that productization is.

In the following chapter, the thesis moves on to introduce a case study applying the defined productization framework. This case study will also be used to provide an answer for the needed product. The WordPress website service that will be described next was created based on the steps found for the productization framework. This case study will provide a good understanding of whether framework provided the needed material from which a functional product can be developed.

6 CASE STUDY: WORDPRESS

The goal of this thesis is to provide a framework for a new website product. This product aims to answer demand for affordable websites in small businesses. This is accomplished by developing a system which is easily reproduced to provide full websites for customers. Productization is used to provide an understanding of the current market and customer needs. This will be used to develop a product which aims to answer the customer needs. The end-product in this thesis will be a functional framework for the product which can then be used to further develop the product in to a sellable good. The product will not be completed in this thesis as more information is needed.

The framework will be used to define a product that aims to provide a full website, webhost, installation to webhost and content management. The framework will hold definitions of the path of production and can be used to develop multiple website offers. These websites will be developed to accommodate modularity to allow moderate customizability, while still offering affordable packages.

6.1 Gathering information

Peacock (2017), Rosenbaum (2017) and Approved Index (2018a) all found that around 30–40% of small businesses did not have a website. Peacock (2017) also stated that 92% of their 350 participants were planning on launching a website by the end of 2018. Clearly, creating and selling affordable websites for smaller business has potential.

Small businesses use social media and website builders as substitutes for dedicated website. These are very popular solutions due to ease-of-use and cost. Social media is a free option while website builders can cost 4–30 € per month (Wong 2018). The product should try to offer a competitive solution for companies who substitute websites for these solutions. To compete with these the product needs to be able to offer similar functions, while still fulfilling the task of being affordable.

The benefits of a website builder should also be covered. These benefits should be answered with the dedicated website product or at least addressed. Because these are the main competitor, their main offerings should be covered in the product. If these benefits can be answered, then the product will have a better chance of gaining customer interest.

Website builders:

A website builder can be used by nearly anyone who wants to build a website. The main benefit for this is that anyone can use the drag and drop style website builders with little to no technological knowledge. You can easily add and modify your pages with these builders. They are designed to look good with the supplied blocks so that you can rarely break the website with adding these blocks. This also inhibits the user from doing whatever they want to some degree. Visual changes for example can be impossible to implement on website builders. (Heckstall 2016.)

The user will be stuck with the system. If the customer needs new functionality or design, the website builder might not have the ability to add them. Website builders also might not have implemented full search engine optimization (SEO) integration. This hinders the success of customers finding the site from search engines. Mobile-friendliness might also be limited. The user is stuck with what the website builder offers, which might not exactly portray what is wanted. Some website builders do accommodate a mobile editor which should help with this problem (Wong 2018). A mobile editor will have the same problem as the normal website, the user will be at the mercy of the builder. The builder will not be able to do everything, so the website might not look as good as the user wants. (Seidel 2017.)

The benefits of website builders:

- Easy to use, even without technological knowledge
- Designs look good as the system is built to look good with provided elements

- Affordable prices at € 4–30 per month
- Mobile-friendly with some systems having mobile editors

The disadvantages of website builders:

- Designs are not easily changed
- Functionality cannot be easily added
- Custom designs and functions are rarely implementable
- SEO implementation might be lacking
- Mobile-friendliness might not work as the user wants
- The user will be at the mercy of the website builder

Dedicated websites:

These all are relatively easy to answer with a dedicated website. A dedicated website will have accessible source code, especially with an open source CMS like WordPress. Anything can be changed and modified.

The user is the owner and administrator of the source code, which means that anything can be added to the website. For example, the user could add and configure the cascading style sheet (CSS) to modify the colours, fonts and placing of elements with little technological knowledge. WordPress also has some website builder style plugins, like Elementor (2018), which could be implemented, but again the user would be at the mercy of the system. This would allow the user to add and modify the website with drag and drop elements. Custom code means that you can do anything with the website.

Dedicated websites are stuck with one style and design, which is not necessarily a bad thing. These styles and designs can be modified and added very easily, but they need to be developed by someone with the knowledge to do so. This is one thing that is hardly changeable and is a benefit of the website builders over dedicated websites. The user will be stuck with the design and style the dedicated website currently has, unless new ones are designed and developed by request.

Mobile-friendliness is easily implemented to the dedicated websites. It has become an industry standard, for example Forbes has it on their list for website design standards of 2018 (Pinsky 2018). Mobile-friendliness is an important factor as a lot of website visitors will be on mobile devices. The dedicated website designs will accommodate a functional and smartly designed mobile-friendly layout.

SEO will be accommodated to the websites. This will be done by adding WordPress plugins like Yoast SEO. The professional version will cost € 79 but the free will help in implementing simple but effective SEO functions. These functions will help customers to find the website on search engines more frequently.

Conventional website development can be expensive. Estimated example prices found for CMS websites (converted to euros and rounded to closest hundred):

- WebpageFX prices a simple CMS site at € 6,500–10,000 (WebpageFX, 2018)
- Approved Index prices a simple CMS website at € 800–3,000 (ApprovedIndex, 2018b)
- Elegant Themes prices a WordPress website at € 4,800–12,200 (Weller, 2015)
- WPbeginner prices a WordPress theme for business or personal use at € 1,200–4,000 and a custom theme at € 4,800–8,200 (WPBeginner, 2017)

Website pricing can change a lot. The findings show that a basic CMS site costs around € 1,000–5,000 €. Cost is a big reason why some companies do not want a dedicated website. For a small company these prices can be a big chunk of their resources, which might be better used on something else. The product needs to have an affordable price which can be seen to provide enough value for customers to see it as an option.

To be competitive with website builders and with social media the product should be able to offer a website that is:

- Affordable
- Easy-to-use
- Well designed
- Mobile friendly
- Moderately customizable

A key idea for this product is mass production of websites. This means that multiple different layouts and functionality modules can be developed to fit different website styles and functionalities. These websites will be developed before being offered to the customer, which allows the time invested in designing and developing to be kept at a minimum. Moderate customization can be developed in to the websites easily, while larger customization will require additional designing and development.

These websites will be developed in an open source CMS called WordPress. WordPress was chosen over other CMS because of personal preference, knowledge and ease-of-use. WordPress is one of the most used CMS available and it is said to be used by 29% of the internet (WordPress 2018a). It has a large support community which offers help in most problems with the system. WordPress has countless user guides and tutorials for its functionalities. It is also very easy to manage and inherently mobile friendly. WordPress is free to use and being open source has a lot of additional plugins to allow more functionalities to be easily found and added.

Rapid development of WordPress based websites offers a wide variety of different styles of websites while keeping cost to a minimum. Pre-development does not allow for fully custom websites, but still is able to offer a full WordPress based website with all the benefits. Moderate customization, like changing colours or fonts, can also be added fast which does not add a lot of costs for customers. These websites should be developed to be mobile-friendly, which is a standard of the industry. WordPress is a very straight forward system to use, with a lot of support material in multiple languages.

6.2   Defining, designing and developing the product

Defining

The product idea is to provide affordable solutions for customers who need professional websites. The websites should be well-designed and mobile friendly. They should come in a variety of unique designs and layouts and be easy to use. The functionality should be competitive with website builders. These websites will be developed using WordPress because of ease-of-use and personal skills.

The product will offer the chosen website, installation to chosen or provided webhost and initial content management. This provides a thorough package for full website deployment. At the end of the process the customer will have a fully functional website.

The webhost will be chosen by the customer. The webhost can be:

- An already existing webhost provided by the customer
- A separately ordered host provided by the customer
- Webhost ordered for the product provided by the developer.

Any webhost can be used, as long as it supports WordPress. At the time of writing WordPress requires PHP version 7.2 or greater, MySQL 5.6 or greater and HTTPS support (WordPress 2018b).

One thing to consider on top of the requirements is how much bandwidth the website will need. These can be calculated on average after the websites are finished to get page sizes. An example found on LifeHack is that about 1 000 visitors per day with an average 100 KB page size and average 2 page-views per visitor needs about 8.5 GB / month of bandwidth (Brown 2018). For example, Zoner (2018) offers their cheapest webhost for € 5.90 with 15 GB / month, Webhotelli offers 10 GB / month for € 2.77, and Louhi offers 10GB / month for € 1.49. For a moderate website these prices are extremely competitive with the website builders. Upgrading to accommodate larger traffic is also very easy.

The website will come with a thorough guide on all non-WordPress functions developed for the website. Some WordPress functions such as adding pages, updating content, etcetera should still be in the guide as this allows customers to get started. The guide will exclude in-depth guide on WordPress as those are readily available online. The purpose of the guide is to explain all the mechanics needed to maintain the website.

Initial content management means that content will be put on the website to provide a fully working and deployed website. This content will be provided by the customer and then put on the website. All the pages of the website should be covered so that the website is fully finished. After initial content is put on the website, the customer will receive full control of the website and will be able to update and maintain it.

Designing

The product will consist of full website deployment of chosen WordPress based website to chosen webhost. A service blueprint is designed to convey the path of the product. This service blueprint will also show the interactions between the customer and the provider. The service blueprint helps to provide a clear understanding and idea about the service.

The service blueprint will be made to convey a solid idea about how the service will work. This will be used to identify places for optimization, innovation and to improve customer experience. This blueprint can also be used in marketing and commercialization to open the service to the customers. (Gibbons 2017.)
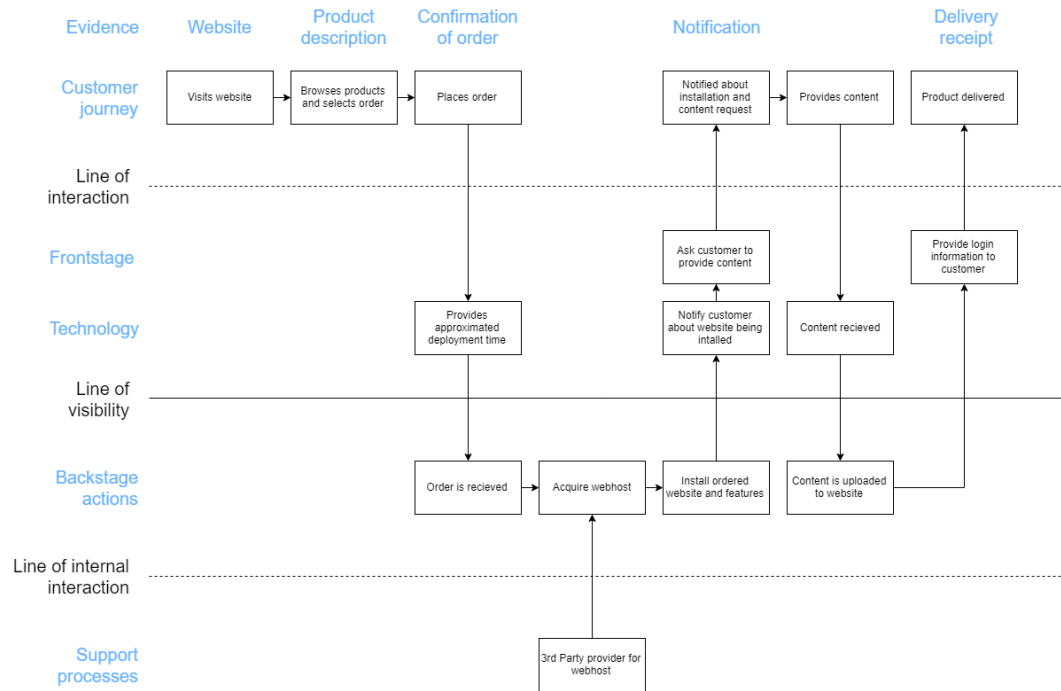
FIGURE 1. Service blueprint

The service blueprint in Figure 1 provides an initial view of the product. The figure shows that the path does not need a lot of interaction between the customer and the developer or provider. The figure also provides a clear path for the product, which helps in understanding how the product is to be delivered from start to finish. This service blueprint shows that the customer is required to do very little in the span of deployment. This again conveys the ease-of-use for the product and service as the customer does not need to do a lot compared to for example website builders.

Developing

The websites should be developed using best practices for WordPress. SEO should be a big focus as should the websites loading speed. The websites will also be developed to be mobile friendly. The development of the websites should use modern website development frameworks like Bootstrap for fast, functional, and responsive development. The frameworks help in providing functional mobile friendly websites with additional tools to allow for fast development.

The websites should also utilize modular design and modular elements when possible. These modular elements can be used to add functionality to the websites that can later be sold additionally, as they do not fit the core website or are otherwise not needed. Modularity can also be used to rapidly develop new websites with modular elements. These elements can be placed in the website to provide functionality that is desired. These modular elements can be for example text areas, animated elements, image galleries or image sliders, etcetera.

Modularity will allow for fast development and fast customization for the customers. These modular parts can then be added to the website without need for a lot of additional development. These elements can be used to provide additional value to the website that is not included in the initial package. Features, for example an image gallery, that are not required in the core functionality of the website should be designed to be sold additionally. Functionality that does not provide additional value to some customer might provide it to another. The customer that does not need this functionality would still have to pay for it. So, keeping up with the affordability theme, some functions should be separately sold and developed to provide the most affordable websites.

The modularity can also be used in core development. Developing functional modular sections of the website can be used in rapidly producing new layouts. These modular parts would allow for familiar code to be used in new sites which would then be easily customized for the certain website. For example, different navigation options could be produced as a core module to allow for multiple different choices for the customer. Core modularity could be used to provide unique selections to otherwise fixed websites.

6.3 Continuing production

The next step for the product is to finalize the core of the product. Some websites should be developed, and some webhosts selected. These would allow marketing and commercialization to begin to bring the product

to the market. After the product is released, information can start being gathered. This information can then be exploited to enhance the product and offer customers more valuable products.

7   CONCLUSIONS AND DISCUSSION

Productization is a powerful tool for product and service development. It can be used to find new innovations or enhance already existing ideas. Productization can bring more value to the market, in the way of new products or enhanced products. This aims to give customers more value for less resources. Standardizing processes and manufacturing can make faster, better and more valuable goods and services.

Productization is an important part of modern product development. Nowadays customer-orientation and customer experience are very important. Productization is a powerful development opportunity which aims to offer customers direct answers to problems and needs. Products made through productization should be able to offer value to customers. This helps in creating new value to markets where possibilities are found.

Companies can benefit from using productization by gathering information from their products or their market. Information from existing products can provide enough data to see parts that are creating customer unsatisfaction or steps that are redundant for the function of the product. This can be used to productize answers to these problems which directly enhances the perceived value of products.

The main goal of productization is to standardize goods and services to be able to efficiently answer customer needs and problems. In this thesis productization was presented as a way to find customer needs and make standardised and easily reproducible answers to these needs. This method can be used on any market where opportunity is found. These opportunities should be evaluated to find if they have room for innovation. This data can be used to produce new products in the field. These products should be able to answer the rising needs and problems of the customers.

This thesis found that productization can be defined to hold similar steps. These steps were found to be as follows:

- Gathering information
- Defining, designing and developing the product
- Marketing, commercializing, and concretizing the product
- Exploiting data from the product

The research questions for this thesis was defined as what should a productization framework be like. This can be answered by the found and defined steps for productization. The above-mentioned steps were found, by using design science research, to be a basis for productization. These steps can be used as a simple framework for productization tasks, so these steps can be seen to define a basic core of productization. This framework was used in the case study to show how they could be used in a productization task. This further defined that the framework is working in the use for product development which also further defines the answer for the research question.

Discussion

The findings for a productization framework can be used to develop and design productization for product development. The defined basic framework can be used as a core for productization. The findings should allow productization to be more easily defined and to help in finding more common steps for productization. To continue this research, these steps could be further defined, and more similarities could be found between productization tasks. This would allow for a clearer definition for a framework to be built. This framework could then work as a solid base for any productization task and allow the term to be more firmly defined and established.

LIST OF REFERENCES

Approved Index. 2018a. How Much Does a Website Cost? Approved Index. Article [accessed 20 January 2018]. Available at: http://www.approvedindex.co.uk/web-designers/how-much-does-a-website-cost

Approved Index. 2018b. Content Management Systems. Approved Index. Article [accessed 25 February 2018]. Available at: https://www.approvedindex.co.uk/web-designers/content-management-systems

Brown, S. 2018. Determining How Much Bandwidth Your Website Needs to Function Efficiently. LifeHack. Article [accessed 20 February 2018]. Available at: http://www.lifehack.org/373581/determining-how-much-bandwidth-your-website-needs-function-efficiently

Elementor. 2018. Elementor. Website [accessed: 25 February 2018]. Available at: https://elementor.com/

Gibbons, S. 2017. Service Blueprints: Definition. Nielsen Norman Group. Article [accessed: 15 February 2018]. Available at: https://www.nngroup.com/articles/service-blueprints-definition

Heckstall, V. 2016. Suck At Coding? Use Website Builder to Create a Website. Shout Me Loud. Blog [accessed 22 February 2018]. Available at: https://www.shoutmeloud.com/website-builder-advantages.html

Hevner, A., R., March, S., T., Park, J. & Ram, S., 2004. Design Science in Information Systems Research. MIS Quarterly [accessed 5 March 2018]. Available at: http://aisel.aisnet.org/misq/vol28/iss1/6/

Hänninen, K., Kinnunen, T. & Muhos, M. 2012. Rapid Productization – Empirical Study on Preconditions and Challenges. University of Oulu [accessed 23 February 2018]. Available at: http://jultika.oulu.fi/files/isbn9789514298134.pdf

Jaakkola, E., Orava, M. & Varjonen, V. 2009. Palvelujen tuotteistamisesta kilpailuetua. 2009. Helsinki: Libris Oy [accessed 2 February 2018]. Available at: http://hyrrat.metropolia.fi/wp-content/uploads/2014/10/palvelujen_tuotteistamisesta_kilpailuetua.pdf

Kangas, N., Kropsu-Vehkaperä, H., Haapasalo & H., Kinnunen, T. Empirical aspects on defining product data for rapid productisation. 2013. International Journal of Synergy and Research Vol 2 [accessed 28 February 2018]. Available at: https://www.journals.umcs.pl/ijsr/article/view/1363

Peacock, A. 2017. Small Business Website in 2017: Survey. Clutch. Article [accessed 20 January 2018]. Available at: https://clutch.co/web-designers/resources/small-business-2017-website-survey

Pinsky, D. 2018. 11 Website Design And Development Best Practices For 2018. Forbes. Article [accessed 23 February 2018]. Available at: https://www.forbes.com/sites/denispinsky/2018/02/12/website-design-standards/?nowelcome=#3872e31cf54f

Rosenbaum, E. 2017. You'll be shocked to learn how many small businesses still don't have a website. CNBC LLC. Article [accessed 20

January 2018]. Available at: https://www.cnbc.com/2017/06/14/tech-help-wanted-about-half-of-small-businesses-dont-have-a-website.html

Seidel, B. 2017. What are the Disadvantages and Limitations of Website Builders? Igniting Business. Blog [accessed 22 February 2018]. Available at: https://www.ignitingbusiness.com/blog/web-development/what-are-the-disadvantages-and-limitations-of-website-builders

Suominen, A., Kantola, J. & Tuominen, A. 2009. Reviewing and Defining Productization. ResearchGate [accessed 28 February 2018]. Available at: https://www.researchgate.net/profile/Arho_Suominen/publication/2363264 45_Reviewing_and_Defining_Productization/links/5656c32108aeafc2aac0 9552/Reviewing-and-Defining-Productization.pdf

Valminen, K. & Toivonen, M. 2015. Productisation of services: What, why and how? ResearchGate [accessed 15 January 2018]. Available at: https://www.researchgate.net/publication/266223799_Productisation_of_s ervices_What_why_and_how

Valminen, K. & Toivonen, M. 2016. Improving competitiveness and performance through service productization? ResearchGate [accessed 20 February 2018]. Available at: https://www.researchgate.net/publication/277172870_Improving_competiti veness_and_performace_through_service_production_A_case_study_of_ small_KIBS_companies_participating_in_a_productization_project

WebpageFX. 2018. Web Design Web Design Cost. WebpageFX. Website [accessed 22 January 2018]. Available at: https://www.webpagefx.com/websitedesign.htm

Weller, N. 2015. A General Pricing Guide for WordPress Websites. Elegant Themes. Blog [accessed 5 February 2018]. Available at: https://www.elegantthemes.com/blog/resources/a-general-pricing-guide-for-wordpress-websites

Wong, J. 2018. Website Builders Comparison Chart for 2018. Website Builder Expert. Article [accessed 22 February 2018]. Available at: https://www.websitebuilderexpert.com/website-builders-comparison-chart/

WordPress. 2018. WordPress. Website [accessed 20 January 2018]. Available at: https://wordpress.com/

WordPress. 2018. WordPress requirements. Website [accessed 20 February 2018]. Available at: https://wordpress.org/about/requirements/

WPBeginner. 2017. How Much Does a Custom WordPress Theme Cost? WPBeginner. Blog [accessed 5 February 2018]. Available at: http://www.wpbeginner.com/beginners-guide/how-much-does-a-custom-wordpress-theme-cost/

Zoner. 2018. Zoner Oy. Website [accessed 15 January 2018]. Available at: https://www.zoner.fi/webhotellit/