Are You Ready For a Virtual Reality Take Off?

A Study on Swedish Companies' Perception of Virtual Reality Marketing

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Business Economics 15 credits

Halmstad 2018-05-21
“Are You Ready For a Virtual Reality Take Off?”

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Rebecka Risholm & Julia Toft Sandén
Preface

*Halmstad 2018-05-22*

This bachelor thesis was written during the spring semester of 2018, at Halmstad University, as a part of the International Marketing Programme. As young marketers, we are fascinated by the innovative dimensions of possibilities that comes with the increasing digitalization. Despite our limited knowledge on Extended Realities, our interest in creative and interactive marketing made Virtual Reality Marketing a natural choice for this paper.

We would like to send our appreciations to our supervisor Henrietta Nilson, for her valuable guidance and expertise through the process of this paper. Also, we would like to thank all marketers who contributed to our study by representing their company and participated in our survey, as well as the agencies who guided us to a current and relevant issue for the business of Virtual Reality. At last, we want to give a warm thank you to those who have supported us during the writing of this paper.

We hope that the future of Virtual Reality will show a positive impact on the interaction between companies and customers, through responsible and qualitative marketing communication.

Sincerely,

_________________________  _______________________
Rebecka Risholm           Julia Toft Sandén
Abstract

Title: Are You Ready For A Virtual Reality Take Off?
Date: 22-05-2018
Level: Bachelor Thesis in International Marketing
Author: Rebecka Risholm & Julia Toft Sandén
Supervisor: Henrietta Nilson

Problem formulation: Does companies’ Previous User Experiences of VR technology influence their Perceived Usefulness of using VR technology in marketing?

Purpose: The purpose of this research is to explain if Previous User Experiences of using Virtual Reality might affect Swedish companies’ Perceived Usefulness of Virtual Reality in marketing.

Theoretical framework: The theoretical framework of this paper consists of existing theories about Digital Marketing, Technology Acceptance, User Experience, Attitudes, Behaviours and Forces behind Information Technology.

Methodology: We have chosen a deductive, quantitative method for this thesis. The collection of primary data consists of 56 respondents from Swedish retail companies using e-commerce. The survey was sent out by email, after a brief contact by phone. Our secondary sources have mainly been collected from scientific articles and books. For our background, a few digital articles and direct information from digital agencies have been used due to limited existing research on the current market status for Virtual Reality.

Empirical findings: The empirical findings are presented in charts, tables, text and a linear regression. This show the results of the survey, and the relation between the measured variables collected from the quantitative study.

Conclusion: This research shows that Previous User Experience of Virtual Reality does affect the Perceived Usefulness of it, in the context of marketing. However, the positive relation between the two variables is rather weak, which shows that there are other factors that influences the Perceived Usefulness of the technology, which are not included in this thesis.

Keywords: Virtual Reality, Digital Marketing, Technology Acceptance, Perceived Usefulness, Previous User Experience.
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1.0 Introduction

1.1 Background

As a result of the past decade’s innovations in technology and digitalization, there is a modern theory of a future including not only a physical citizenship, but also a digital one (Gilan & Hammarberg, 2016). With the accelerating usage of information technology, the internet-based services are continuously increasing (Zhang, Jiang, Ordonez de Pablos, D. Lytras & Sun, 2017). A higher distribution of portable and affordable digital devices has resulted in more efficient marketing and competitive advantages, which enables companies to create personalized content for each customer (Gilan & Hammarberg, 2016). New dimensions of marketing possibilities is continuing to challenge marketers’ competence and performance (Nygren, 2015).

Today, well targeted and engaging content is essential to keep and appeal customers. Many suggests so called Extended Realities to be the perfect tools to do so, as they enable innovations of interactive customer experiences (Mangles, 2018). Extended Realities is the umbrella term for all kinds of realities with an extension of the physical reality and will hereafter be mentioned as XR. One of them are Augmented Reality, hereafter mentioned as AR, which enhances the user’s perception and interaction with the real world by combining it with the virtual world (Carmigniani, Furht, Anisetti, Ceravolo, Damiani & Ivkovic, 2011). Another kind of Extended Reality is the Virtual Reality, hereafter mentioned as VR, which disconnects the user from the real world and lets them experience a fully virtual world (Young, 2017).

“Tech evangelists predicted that 2016 would be the year of Virtual Reality. And in some ways they were right.” (Mason, 2017)

In the summer of 2016, Pokémon Go hit the market over a night and introduced the world to AR (Dagens Media, 2016). This became the year when different kinds of XR technology was made available for consumers in a far more extensive way than before, with millions of VR headsets sold (Mason, 2017). Today, the technology is more available for consumers and the quality of the experience has improved (Levski, 2017). In 2017, Gartner’s Tech Hype Curve, which presents future emerging technology in industries, showed that VR is starting to be more generally understood by the public (Gartner, 2017). However, VR marketing is still limited and marketers seem to struggle to find its potential use (Mangles, 2018). Volvo Cars and IKEA are two examples of Swedish companies which have found potential use of the technology. Volvo Cars uses VR to show customers what their cars would look like and do also offer a virtual test drive with a 360-degree camera in Google Cardboard (Dua, 2014). By February this year, they launched a VR campaign where drivers get the opportunity to experience the car’s behavior in difficult traffic situations to present their new security system (Ridman & Sahlsten, 2018). Also, IKEA has implemented the technology by letting customers design their custom-made
kitchens, where they can walk around and even prepare their virtual pancakes (Grönlund, 2017).

A report from YES Lifecycle Marketing showed that 57% out of 300 marketers did not believe that VR could be applied to their organization (Shtereva, 2017). Still, Virtual Reality marketers predict an annual growth rate of 54% from 2017 to 2022 (BusinessInsider, 2017). In an article from 2016, the founder of the Swedish VR agency Warpin’ Media mentions that marketing investments in VR is still scarce, despite existing content possibilities (Wilk, 2016). In another article, she explains that it is crucial to understand marketers perception of VR in order to meet their needs (Goldberg, 2016).

1.2 Problem discussion

In various of articles, VR has been predicted to hit the market with a big boom and has been compared to have a similar effect on society as the internet (Klie, 2016; St. Louis, 2017). Despite this, the majority of marketers have continued to focus on traditional forms of digital marketing, such as social media and email in their campaigns (SmartInsight, 2017).

Research about VR in marketing is still limited and existing research mainly focuses on the subject from a consumer’s perspective, rather than the companies’ and marketers’ perspective. In terms of technology acceptance, previous research presents the importance of ease of use and perceived usefulness (Venkatesh & Davis, 2000). Studies have shown positive attitudes toward VR marketing among Swedish consumers (Nordgren & Lindqvist, 2017) and that the perceived usefulness of VR is essential for continuous usage of the technology (Huang, Backman, Backman & Chang, 2016; Marasco, 2017). A research focusing on the mobile application Snapchat’s usage of AR, has shown that it can be a useful technology in terms of maintaining relationships (DeCook, Makki, Kadyak & JuYoung Lee, 2017).

Research on attitudes shows two sides; one argues that attitudes are stored in our memory from experiences (Fazio, 2007), and one that attitudes are formed by specific situations (Schwartz, 2007). According to Dahlén (2002), there is a risk that a user experience results in a negative attitude if it does not meet the user’s expectation or if the content is of another sort than the user wished to find. Especially if the user is making an active choice to approach the company by, for example, visiting their website (Dahlén, 2002). The user experience of a digital interaction can be the final factor behind the adoption of a product (Gilan & Hammarberg, 2016). Therefore, many fear that VR’s “bad childhood” may have caused damage to current attitudes and beliefs of the technology, as many users have experienced motion sickness along with rather poor image quality (Mason, 2017).

Swedish companies’ perceived usefulness of VR technology and its underlying factors is still unknown. As research shows that experiences may affect attitudes, there are reasons to believe that there is a relation between previous user experience of VR technology and perceived usefulness of VR marketing among Swedish companies. By tracing the actual factors behind companies’ beliefs in the technology, producers can focus on correcting what may cause an avoidance of usage in order to match their services and products to companies’ preferences.
1.3 Research question

Does companies’ Previous User Experiences of VR technology influence their Perceived Usefulness of using VR technology in marketing?

1.4 Purpose

The purpose of this thesis is to explain the relation between Swedish companies’ Previous User Experiences of VR technology and their Perceived Usefulness of using VR technology in marketing.

1.5 Limitation

This thesis is limited to the concepts of Previous User Experience and Perceived Usefulness of Virtual Reality marketing among Swedish retail companies using e-commerce. The sample is further limited to companies with a yearly revenue between 50,000,000 - 499,999,999 SEK.

1.6 Key Concepts

Virtual Reality, Digital Marketing, Technology Acceptance, Perceived Usefulness, Previous User Experience.
2.0 Frame of Reference

This chapter will present the theoretical framework used to conduct this research, and basic information about the technology behind Virtual Reality. The theories includes marketing, technology acceptance, attitude and behaviour and user experience.

2.1 Virtual Reality

Virtual Reality (VR) technology allows the users to experience total immersion in a virtual reality, as will say, the sensory experience aims to fully disconnect them from the real world. The technology uses computer-generated environments which are experienced through a 360° 3D video. It allows the user to look around in the virtual world as well as touching and picking up virtual objects in 3D format (Young, 2017; Zhang, et al, 2017). The equipment needed is a head mounted device, referred as HMD, with a pair of built-in glasses to cover the eyes. The user does also need a pair of headphones. There are high quality HMDs that must be tethered to powerful PCs and games (Dredge, 2016), but there are also budget variants such as The Google Cardboard Advice which makes it possible to attach a smartphone to the head set. (Young, 2017) There are optional equipment such as treadmills and hand controllers, these items are all designed to enhance the experience (Dredge, 2016).

2.2 Marketing Theory

Globalization and digitalization entails marketing innovation (Kotler 2017). According to Magnusson and Nilsson (2014), everything that can be digitized will be digitalized, as today’s society demands digital solutions for everything. They add that technology should focus on quantitative efficiency and that it is the most useful when everyone has the possibility to use it. (Magnusson & Nilsson, 2014).

“Today’s marketers want to become a part of your life and enrich your experiences with their brands - to help you live their brands” (Kotler, 2017, p. 5).

By managing and delivering customer value and satisfaction, marketers’ objective is to build strong and long-term relationships with the customers (Kotler 2017). According to Miller and Washington (2009), personalized marketing reinforces customer value and customer relationship. Shuk Ying and Bodoff (2014) describes personalized marketing as a process to identify consumers by collecting data on their previous purchases history and history of preferences. Dantes and Carrillat (2013) claims that personalized marketing is the “ultimate form” of targeted marketing and that evaluations of consumer data is crucial in order to create content of relevance for customer. When doing so, technology plays a major role as it can control the environment where the message is received which can affect the attitude (Dantes & Carrillat, 2013). This enables companies to create personalized content to their targeted
segments and to interact with the market (Miller & Washington, 2009; Gilan & Hammarberg, 2016; El Sawy & Fiss, 2016).

2.3 Technology Acceptance Model 2

Davis (1986) first developed the Technology Acceptance Model (TAM) in order to understand the user acceptance of information systems and other job-related technologies. The two key concepts said to form the usage behaviour is Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Davis, 1989). It also presents the cause-and-effect relation between validated constructs (Davis, 1993). TAM is one of the leading models when measuring acceptance (Zhang et al., 2012), and it has been cited over 79,000 times on Google Scholar (Lim, 2018). In research, TAM is used to understand the adoption of XR technology (DeCook, Makki, Kadylak & JuYoung Lee, 2017; Domina, Lee & MacGillivray, 2012; Kim, Hwang, Zo & Lee, 2016), but also to examine the attitude towards VR marketing (Huang, Backman, Backman & Moore, 2012; Huang, Backman, Backman & Chang, 2016; Marasco, 2017).

As an extension of TAM, new constructs have been identified and added to a new model – TAM2. They are summarized to be cognitive instrumentals and social influences processes. They drive intentions of usage and influences changes over time with the increasing usage of technology (Venkatesh & Davis, 2000).

![Technology Acceptance Model](image)

**Figure 2.1. TAM2 (Venkatesh & Davis, 2000)**

Venkatesh and Davis (2000) argues that when individuals gain direct Experience of a system, they will eventually take less account of social information regarding PU. However, they continue to judge a system of benefits based on potential status benefits derived from the use. Also, it is important to understand the determinants of the PU, which is the degree to which a person believes that using a certain technology would enhance their job performance.
People have a tendency to use technology that will result in them performing better. Understanding the determinants would also lead to an understanding of improvements which need to be made (Davis, 1989).

TAM2 is reflecting three interrelated social forces and their impact on a person accepting or rejecting a new technology: Subjective Norm, Voluntariness and Image. In addition to these, the model considers cognitive instrumentals in forms of Perceived Usefulness: Job Relevance, Result Demonstrability, Output Quality and Perceived Ease of Use (Venkatesh & Davis, 2000).

<table>
<thead>
<tr>
<th>Interrelated social forces</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Norm</td>
<td>A person’s perception that the people who are of importance to him, think that he should or should not perform a certain behaviour (Fishbein and Ajzen, 1975).</td>
</tr>
<tr>
<td>Image</td>
<td>The degree to which usage of an innovation is perceived to enhance one’s image (Moore and Benbasat, 1991).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cognitive instrumentals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Relevance</td>
<td>An individual’s perception of the degree to which the target system is applicable to the person’s job. Job relevance is an important function, for which the system is capable of supporting one’s tasks (Venkatesh &amp; Davis, 2000).</td>
</tr>
<tr>
<td>Result Demonstrability</td>
<td>Tangible results using the innovation will influence the perceived usefulness (Moore &amp; Benbasat, 1991).</td>
</tr>
<tr>
<td>Output Quality</td>
<td>The degree to which a system performs tasks that match the relevance of the job (Davis, Bagozzi &amp; Warshaw, 1992).</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>The degree to which a person believes that the usage of a particular technology would be free of effort. The performance benefits must outweigh the effort of using the technology for it to be positively perceived (Davis, 1989).</td>
</tr>
</tbody>
</table>

*Table 2.1. Description of concepts in TAM2*

The contributions from the studies regarding AR have shown that PU is a strong predictor whether a person would continue using AR. For this reason, the developers should consider the PU as a significant factor as it has a direct influence on the satisfaction in prior to the factor of enjoyment. The Subjective Norm has been suggested to have an important influence on the PU (Huang, Backman, Backman & Moore, 2012). Another study on AR in the Snapchat application shows a strong correlation between relational maintenance and PU. As Snapchat is
an application for maintaining relationships, it is essential for the continuation of usage (DeCook, Makki, Kadylak & JuYoung Lee, 2017).

In previous studies regarding shopping in Virtual Reality, perceived control, enjoyment and PEOU has been significant factors (Domina, Lee & MacGillivray, 2012). PU continues to have a positive relationship with behavioral intentions when it comes to Virtual Reality marketing in tourism. The results demonstrated that PEOU in perception of easy navigation in combination with a *Perceived Usefulness* led to a positive emotion (Huang, Backman, Backman & Chang, 2016; Marasco, 2017).

### 2.4 Attitudes and behaviour

For much of the last century, a dominant way of considering the structure of an attitude has consisted of affect, cognition and behaviour. Until the 1930’s, attitudes were considered to have a clear connection to one’s actual behaviour. However, research made by LaPiere (1934), showed that behaviour did not necessarily reflect a person’s attitude towards an object. One of the most academically rehearsed definitions of an attitude was made by Allport in 1935:

“A mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related” - (Allport, 1935. p. 810).

One of the first theories about the function of an attitude was made by Smith (1947), who described attitudes as a function of appraisal on whether to approach or avoid something. Further studies have strengthened a low correlation and relation between attitude and behaviour and presented the situation and measurements as important factors (Wicker, 1969; Ajzen & Fishbein, 1975).

One of the main discussions are related to whether an attitude is a result of an experience, stored in one’s memory as an summary of evaluations (Visser & Mirable, 2004; Fazio, 2007) or if it is a time-dependent construction, formed when needed out of the given situation (Schwartz, 2007; Conrey & Smith, 2007). Fazio (2007) argues that attitudes are products of experiences of a particular object. He claims that even though most attitudes are of flexible characters, human beings have a natural way of learning from their experiences by evaluating and storing in memory. According to Schwartz (2007) the summarized evaluations from experiences do not affect the actual result. Instead, he claims that an attitude is based on the information available at a certain situation (Schwartz, 2007).

Even though studies have showed a low relation between attitude and behaviour, other research has presented connections between attitude and adoption intention, with an extended connected line between adoption intention and actual behaviour (Taylor & Todd, 1995; Chau & Hu 2001).
2.5 User Experience

As the competition between companies grows stronger and competitive advantages become more critical, sometimes the human factors are forgotten or less prioritized. Traditionally, companies have focused on innovating technique and products instead of creating the ultimate User Experience (UX) defined as what the customer is experiencing by using or interacting with a product or service. UX has to fit the user’s need and be easy to apply, as well as being efficient and esthetic (Gilan & Hammarberg, 2016). According to Magnusson and Nilsson (2014), it is important to separate the UX between consumers’ and companies’ applications. The interaction differs as the purpose of the usage does too. The applications for consumers also tend to be more well-designed as it is of higher importance to them.

Focusing on UX is becoming more common in digital marketing and a good experience can be the final factor on a customer's choice of purchase. By creating emotional and motivating experiences and solutions in a digital context, companies can gain more engaged customers (Gilan & Hammarberg, 2016). However, it is important not to set the level of expectations too high as it might result in disappointed consumers (Kotler, 2017). For example, a blurry VR environment might make consumers dizzy (Peng & Ke, 2015) and motion sick, sometimes leaving them with a negative experience (Chardonnet, Mirzaei & Mérienne, 2017). The definition has been criticized for being vaguely and difficult to grasp (Hassenzahl & Tractinsky, 2006). In order to understand UX, it is important to define what an experience includes (Forlizzi & Ford, 2000).

2.5.1 The User Experience Questionnaire

The User Experience Questionnaire, hereafter mentioned as UEQ, is originally German and was created in 2005. It is a data analytics tool allowing to measure and evaluate the user experience of interactive products (Schrepp, Hinderks & Thomaschewski, 2018). In the context of UEQ, UX is a person’s general perception of an interaction with a product. As a matter of fact, it is not only the impression of the actual usage, but also the judgement of a product before it is used or touched (Cota, Schrepp, Rauschenberger & Thomaschewski, 2018). UEQ measures the usability aspects of a product, i.e. efficiency and effectiveness, but also the aspects of the user experience like aesthetics, joy-of-use and attractiveness. The first group of criteria is normally referred to as Pragmatic Quality aspects and the second group as Hedonic Quality aspects (Cota, Schrepp, Rauschenberger & Thomaschewski, 2018). The Pragmatic item-groups are goal-directed with items as Perspicuity, Efficiency and Dependability. The Hedonic Quality item-groups are not goal-directed and includes items as Stimulation and Novelty. Attractiveness is also an item to be used in the questionnaire but is a pure valence dimension. Each aspect presents a distinct quality of UX (Schrepp, Hinderks & Thomaschewski, 2018).
The structure of the standardized questionnaire enables the respondent to express its current feelings, attitudes and impressions towards the usage of a product. Standardized, meaning that this questionnaire is not randomly constructed. It is rather a result from a process where a data analytics approach has been used in order to ascertain the practical relevance of the scales that has been constructed. The idea is that it will give a fast evaluation and being effortless for the respondent to complete. It is of importance that the respondent will perform the questionnaire in their native language. It is as possible to operate the questionnaire online as it is in the physical world (Cota, Schrepp, Rauschenberger & Thomaschewski, 2018).

The questionnaire itself has a semantic differential, where each item is represented by two opposite terms. It has a seven-stage scale, from -3 to +3. The most negative answer is represented by -3 and the most positive answer by +3 with a neutral answer of 0. Although, the terms are randomized per item. In some of the items, the scale starts with the positive term while the other scales start with the negative term. In order to find the six different scales with the total of 26 items, the process started with a session of usability experts brainstorming a set of 229 potential items. After an expert evaluation, this set of items was reduced to 80 items raw version. These 80 items were used in different studies. These studies were focusing on the quality of interactive products. With a total of 153 respondents, the collected data was used to do a factor analysis. Out of this analysis, the scales and items were extracted (ibid.).

The user’s overall perception is captured in the scale of Attractiveness, which in turn should be influenced by the values of the other five scales (Schrepp, Hinderks & Thomaschewski, 2018). The scale of Attractiveness contains six items, while the other scales have 4 items. The scales are presented and explained below, all proposed by Cota, Schrepp, Rauschenberger and Thomaschewski (2018).
<table>
<thead>
<tr>
<th>Item-groups</th>
<th>Description</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attractiveness</td>
<td>Is the overall impression of the product. Do the users like or dislike the interactive product?</td>
<td>Annoying / Enjoyable, Good / Bad, Attractive / Unattractive, Unlikable, Pleasing, Unpleasant. / Pleasant, Friendly / Unfriendly</td>
</tr>
<tr>
<td>Pragmatic Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>Is there any possibility to use the interactive product efficient and fast? The User Interface, does it look organized?</td>
<td>Organized / Cluttered, Inefficient / Efficient, Impractical / Practical, Fast / Slow</td>
</tr>
<tr>
<td>Perspicuity</td>
<td>Is it easy to understand the usage of the interactive product? Is it easy to get familiar with it?</td>
<td>Clear / Confusing, Understandable / Not Understandable, Easy to learn / Difficult to learn, Easy / Complicated</td>
</tr>
<tr>
<td>Dependability</td>
<td>Does the user feel in control of the interaction with the product? Is it secure and predictable?</td>
<td>Meets expectations / Does not meet expectation, Predictable Unpredictable, Supportive / Obstructive, Secure / Not secure</td>
</tr>
<tr>
<td>Hedonic Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stimulation</td>
<td>Is it exciting and interesting to use the interactive product? Does the user feel motivated to a further usage of it?</td>
<td>Motivating / Demotivating, Interesting / Not interesting, Valuable / Inferior, Exciting / Boring</td>
</tr>
<tr>
<td>Novelty</td>
<td>Is the design of the interactive product creative and innovative? Does it capture the users’ attention?</td>
<td>Creative / Dull, Innovative / Conservative, Inventive / Conventional, Leading edge / Conventional</td>
</tr>
</tbody>
</table>

*Table 2.2. Description of item-groups*
3.0 Method

This chapter describes the method and structure of this thesis. The scientific methods are presented, selected and justified. Also, the criticism of the choice of method and data collection is observed.

3.1 Research purpose

All studies have a fundamental purpose of creating and developing knowledge, regardless of the field or subject. However, the actual purpose behind a study can differ depending on exactly what a researcher wish to examine. According to Jacobsen (2002), a thesis either has a descriptive or explanatory purpose. A descriptive research focuses on describing and understanding a phenomenon in the extent of already known or determined variables (Jacobsen, 2002).

An explanatory study, on the other hand, focuses on testing theories or identifying causal mechanisms. A quantitative research, with the goal to explain cause-and-effect, usually begins as an observation of an occurrence. The researcher will seek a limited number of cases, compare them and examine whether there are causal connections and possible explanations. When the research questions are explanatory or involves testing a theory, the respondents will already be known and tend to be more limited (Jacobsen 2002).

The aim of our thesis is to explain the relation between two variables; the concept of Previous User Experiences (PUX) of using VR and Perceived Usefulness (PU) of using VR technology in marketing. As we want to identify whether there is a relation of cause-and-effect between the variables, the explanatory research design is the most suitable for us.

3.2 Scientific Method

According to Jacobsen (2002), there are two scientific methods of collecting the data needed to conduct a research; qualitative and quantitative. Depending on the purpose of the research, the methods can be used separate or combined.

A qualitative research is used in order to find a deeper understanding or detailed insights about a problem by studying a person’s perceptions of something at a given situation. The method is associated with a more intensive research, focusing on small scale observations or interviews with open questions in smaller sample sizes to understand perceptions, underlying opinions and behaviours of a group or an individual (Jacobsen, 2002).

A quantitative research collects data from a larger sample size, using surveys or forms with given response options. The method is used to measure the social reality by figures and numbers rather than analysing words and individual descriptions to understand the masses.
This gives a general idea of the extent of frequency of a phenomenon across different variables (Jacobsen, 2002). Also, it increases the credibility when generalizing the results from a sample to a population and is especially useful when one wish to find differences or similarities in the relationship between different variables (Wärneryd, 1993).

As we want to explain the general relation between two variables in a chosen population, a quantitative method is the most appropriate for us to use (Jacobsen, 2002).

### 3.3 Scientific approach

There are two approaches to collect data: inductive and deductive methods. The inductive approach goes from empiricism to theory meaning that the researcher collects data from the reality without having any expectations. The inductive approach is associated with qualitative methods, considered to be open to new information. (Jacobsen, 2002).

A deductive approach, on the other hand, goes from theory to empiricism. The researcher has expectations about the reality before collecting data in order to observe whether the reality corresponds to the chosen theories or not. A deductive research is closely related to the quantitative method, generally directed to a bigger scale of respondents with predetermined questions and fixed options of responses (Jacobsen, 2002).

This thesis has a deductive approach, as it is based on theories from previous research on technology acceptance and user experiences.

### 3.4 Data collection

Depending on choice of method and research purpose, there are different approaches when collecting data. It is ideal to use both primary and secondary data to contribute with a relevant analysis (Jacobsen, 2002). Both methods will be used to support the purpose of this thesis.

#### 3.4.1 Primary data

According to Jacobsen (2002), primary data is collected by a researcher for the first time, through quantitative or qualitative methods. It is adjusted to the characteristics and shape of the data a researcher wish to find. In a qualitative research, the primary data is collected through interviews and closer observations. A quantitative research collects primary data through surveys or forms with given answers (Jacobsen, 2002).

For this thesis, we have chosen to implement a quantitative method. Our primary data is collected via a digital survey, sent out by email. Before sending them out, we contacted the companies over the phone. The survey is adjusted to already known variables, supported by previous research in relevant fields, focusing on experiences and technology acceptance. Also, questions has been distinctly defined for the respondent to grasp, in order to share a correct perception of their *Previous User Experience* and *Perceived Usefulness*.
3.4.2 Secondary Data

Secondary data is collected by others and could be both qualitative or quantitative. Data collected and written by other researchers with a purpose to answer or describe another questions or problem than we intend to describe, counts as qualitative secondary data. Quantitative secondary data refers to analyses of economy or existing statistics, presented by journals, magazines or companies websites. It is important to be critical and to question the reliability when using secondary data, as it may have been manipulated or twisted (Jacobsen, 2002).

To collect relevant theories supporting our thesis, we have used academical articles from the databases available to us via the University of Halmstad. The databases used are DiVA, ABI Inform and Emerald. In addition, we have used relevant information from blogs, popular articles and websites as we have struggled to find existing research that captures the modern beliefs, perception and discussions regarding the potential market of Virtual Reality, especially in marketing. We have used sources written by professionals in digitalization, marketing, UX-design and Virtual Reality, as well as information shared by professionals in interviews captured in journals.

3.5 Choice of perspective

Our selection of respondents has been limited to Swedish retail companies, using e-commerce. As the implementations of Virtual Reality can be rather expensive, we have made further limitations by selecting companies with a yearly revenue of 50.000.000 - 499.999.999 SEK. In this way, we avoid the risk of the answers being influenced by the companies’ financial constraints. A list of our selected population has been collected from AllaBolag where they have divided companies in different sectors. We have chosen “Postorder- & Internethandel”, which refers to mail-order and digital trading” (AllaBolag, 2018).

The companies are thought of as customers to the VR producers. Thus, this is a research in the matter of Business to Business, between VR-producers and retail companies using e-commerce for business purpose, not as the final consumer in Business to Consumer.

3.6 Research strategy

A survey is adequate when conducting a quantitative research and when one want to explain the relation between variables (Jacobsen, 2002). Therefore, we have chosen to create a survey which was sent out to our choice of respondents. We have granted anonymity, as it increases the level of truth in the answers (Wärneryd, 1990). We have chosen to conduct an anonymous survey using Google Forms, which is a tool for creating forms, from the Google Docs suite (Google, n.d).

As we are sending out a survey with given answers, the matter of correctly defined questions has been important. Also, the given answers have been created with care, to avoid unreliable
and incorrect results (Jacobsen, 2002). An abstract concept, such as Perceived Usefulness and Previous User Experience, cannot be measured directly. Therefore, we have operationalized these concept by using the sub-items of the Technology Acceptance Model 2 together with the User Experience Questionnaire (Cota, Schrepp, Rauschenberger & Thomaschewski, 2018; Schrepp, Hinderks & Thomaschewski, 2018).

When conducting a survey on an abstract concept, the constructs or questions should focus on preferences and intentions. In addition, generic questions should be used in order to obtain different nuances of the answers (Wärneryd, 1990). Therefore, the first part of our survey consists of two generic questions; age and gender and whether they have experience from using Virtual Reality or not. Those who have experienced VR, hereafter mentioned as \( n_{\text{pux}} \) (n with Previous User Experience) will proceed to part two, and those who have not, hereafter mentioned as \( n_{\text{npux}} \) (n with No Previous User Experience) will proceed to part three.

The answers in the second and third part of the survey are exhaustive, meaning that all possible answers are included in the options, as this is essential to do in a survey. The options of answers are mutually exclusive (Wärneryd, 1990).

According to Djurfeldt and Barmark (2009) there is no model that could possibly capture all effects in one phenomenon. Therefore, we have chosen to leave an open question for the respondents to answer, as a final part of our survey. This enables the respondents to share their thoughts of using VR technology in marketing.

### 3.7 Operationalization

As theories can be diffuse, it is necessary to operationalize relevant concepts and make them concretized (Eliasson, 2013). This thesis is mainly based on TAM2 and the Previous User Experience is our explanatory variable and the Perceived Usefulness our dependent variable throughout the research. As TAM2 does not specifically describe what an Experience includes or how it should be measured, we have complemented TAM2 to measure the respondents’ Previous User Experiences of using VR technology, by using an academically tested User Experience Questionnaire (Rauschenberger, Schrepp, Cota, Olschner, Thomaschewski, 2013).

#### 3.7.1 User Experience

In this thesis, the respondents’ Previous User Experiences of VR technology are completely based on the scale-structure of the UEQ, which captures six key item-groups connected to an experience. The item-groups are either of Pragmatic Quality or Hedonic Quality, except for Attractiveness, which is neither of Hedonic or Pragmatic Quality. The Hedonic item-groups are Novelty, Stimulation, and the Pragmatic item-groups are Perspicuity, Dependability and Efficiency. In total, the questionnaire includes 26 sub-items presented in pairs with its contrast definition, in a seven-degree scale. For example: Bad (1) / Good (7). The scale gives the respondent a possibility to leave a neutral answer (Wärneryd, 1990). We have translated the survey into the swedish language, as the UEQ is prefered to be designed in the native language of the chosen population (Cota, Schrepp, Rauschenberger & Thomaschewski, 2018).
<table>
<thead>
<tr>
<th>Experience</th>
<th>Enjoyable / Annoying</th>
<th>Underhållande / Irriterande</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good / Bad</td>
<td>Bra / Dålig</td>
<td></td>
</tr>
<tr>
<td>Pleasing / Unlikable</td>
<td>Behagligt / Obehagligt</td>
<td></td>
</tr>
<tr>
<td>Pleasant / Unpleasant</td>
<td>Trevligt / Otrevligt</td>
<td></td>
</tr>
<tr>
<td>Attractive / Unattractive</td>
<td>Attraktivt / Oattraktivt</td>
<td></td>
</tr>
<tr>
<td>Friendly / Unfriendly</td>
<td>Användarvänligt / Ej användarvänligt</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Efficiency</th>
<th>Fast / Slow</th>
<th>Snabbt / Långsamt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient / Inefficient</td>
<td>Effektivt / Oeffektivt</td>
<td></td>
</tr>
<tr>
<td>Practical / Impractical</td>
<td>Praktiskt / Opraktiskt</td>
<td></td>
</tr>
<tr>
<td>Organized / Cluttered</td>
<td>Strukturerat / Rörigt</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perspicuity</th>
<th>Understandable / Not understandable</th>
<th>Förståeligt / Oförståeligt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to learn / Difficult to learn</td>
<td>Lätt att lära / Svårt att lära</td>
<td></td>
</tr>
<tr>
<td>Easy / Complicated</td>
<td>Enkelt / Komplicerat</td>
<td></td>
</tr>
<tr>
<td>Clear / Confusing</td>
<td>Tydligt / Förvirrande</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependability</th>
<th>Predictable / Unpredictable</th>
<th>Förutsägbart / Oförutsägbart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive / Obstructive</td>
<td>Stödjande / Hindrande</td>
<td></td>
</tr>
<tr>
<td>Secure / Not secure</td>
<td>Säkert / Osäkert</td>
<td></td>
</tr>
<tr>
<td>Meets expectations / Does not meet expectations</td>
<td>Möter förväntningarna / Möter inte förväntningarna</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stimulation</th>
<th>Valuable / Inferior</th>
<th>Värdefullt / Värdelöst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exciting / Boring</td>
<td>Spännande / Träkigt</td>
<td></td>
</tr>
<tr>
<td>Interesting / Not interesting</td>
<td>Intressant / Ointressant</td>
<td></td>
</tr>
<tr>
<td>Motivating / Demotivating</td>
<td>Motiverande / Omotiverande</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Novelty</th>
<th>Creative / Dull</th>
<th>Kreativt / Okreativt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventive / Conventional</td>
<td>Uppfinningsrikt / Fantasilöst</td>
<td></td>
</tr>
<tr>
<td>Leading edge / Usual</td>
<td>I framkant / Vanligt</td>
<td></td>
</tr>
<tr>
<td>Innovative / Conservative</td>
<td>Innovativt / Konservativt</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 3.1. The User Experience presented and disintegrated into 26 items*
3.7.2 Perceived Usefulness

Our dependent variable, Perceived Usefulness, is operationalized by using the five items described in TAM2; Subjective Norm, Image, Job Relevance, Output Quality and Result Demonstrability. These five items are measured separately, through one question per item. Also, they are measured together in a general question. All responses regarding PU are ranged from Strongly disagree (1) to Strongly agree (7).

The model describes Perceived Ease of Use as an additional item affecting the PU which will be taken into account in the survey. To make the concept PEOU more concrete, we have chosen to create two questions for this matter: PEOU for the company to and for its consumers. From the company’s perspective, the question will focus on whether it is easy for them to implement it in their marketing communication or not. From the consumers’ perspective, the question will focus on whether it is easy to reach and communicate with consumers through VR technology.

<table>
<thead>
<tr>
<th>Subjective Norm</th>
<th>De ledande företagen i vår bransch har en positiv uppfattning av andra företags användande av VR i marknadsföringsaktiviteter.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The leading companies in our industry have a positive view of other companies using VR in their marketing activities.</td>
<td></td>
</tr>
<tr>
<td>Image</td>
<td>Implementering av VR-teknologi i ett företags marknadsföringsaktiviteter medför högre status.</td>
</tr>
<tr>
<td>Implementing VR technology in a company's marketing activities gives a higher status.</td>
<td></td>
</tr>
<tr>
<td>Job Relevance</td>
<td>VR-teknologi är ett relevant marknadsföringsverktyg att använda för vårt företag.</td>
</tr>
<tr>
<td>VR technology is a relevant marketing tool for our company to use.</td>
<td></td>
</tr>
<tr>
<td>Output Quality</td>
<td>VR-teknologi kan ge positiva resultat för vårt företag.</td>
</tr>
<tr>
<td>VR technology can provide positive results for our company.</td>
<td></td>
</tr>
<tr>
<td>Result Demonstrability</td>
<td>Det är möjligt att visa mätbara resultat genom att använda VR-teknologi som ett marknadsföringsverktyg.</td>
</tr>
<tr>
<td>It is possible to show tangible results by using VR technology as a marketing tool.</td>
<td></td>
</tr>
<tr>
<td>EOU Company</td>
<td>Det är enkelt att implementera VR-teknologi i vår marknadsföringsstrategi.</td>
</tr>
</tbody>
</table>

Rebecka Risholm & Julia Toft Sandén
Implementing the VR technology in our marketing strategy is easy.

<table>
<thead>
<tr>
<th>EOU Consumer</th>
<th>Det är enkelt att kommunicera med våra kunder genom VR-teknologi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is easy to communicate with our customers through VR technology.</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>VR-teknologi kan vara användbart för vårt företags marknadsaktiviteter, men för andra orsaker än de nämnda ovan.</td>
</tr>
<tr>
<td></td>
<td>VR technology may be useful for our company's marketing activities, but for reasons other than those mentioned above.</td>
</tr>
</tbody>
</table>

Table 3.1. Statements from the second part in the survey

3.8 Sample size

We have chosen to make a “simple random sample” among the companies in our selected population, consisting of 91 companies. This means that the respondents has been randomly selected to represent the entire population (Jacobsen, 2012).

For us to present a representative sample size with a confidence level of 95% and a confidence interval of 5% our sample size should be 74 respondents calculated on the total population of 91 companies (Surveysystem.com, n.d).

However, our contact with the companies resulted in a decreased population, as nine of them were no longer active. The new population gave us a new sample size consisting of 68 respondents. Out of the desired sample size of 68 respondents, we received 56 responses. This gives us a new level of significance, which have been taken into account throughout the thesis as it affects the validity of our research by using a 90% confidence level instead of 95%.
Our empirical findings showed that many of the respondents do not have PUX of using VR technology. Therefore, we have presented the mean values of PU in three separate numbers: one mean value for all respondents \( (n) \), one for those with Previous User Experience \( (n_{pu}) \) and one for those without Previous User Experience \( (n_{nu}) \). In this way, we have been able to see how the calculated mean values may differ.

The regression analysis is entirely limited to those who have experienced VR, as only this group was capable of answering the part of Previous User Experience in the survey. As all of the respondents did not have experience from using VR technology, there might be a risk that the situation is the same within the population. For this reason, we have calculated a new “User Experience population”. 35 respondents out of 56 had experience of VR, which would be 62.5% out of the total \( (35/56 = 0.625) \). To calculate a new population, we counted on the percentage and the population \( (N) \), where all of them are supposed to have tested VR technology. Out of this calculation, the estimated population with PUX is calculated to 51.

\[ \text{Calculation: } 0.625 \times N = 51. \]

As we received 12 answers less than desired, two of the non-respondent companies answered the same questions as in the survey, through interviews by phone (Table 4.12).

### 3.9 Analysis of data

The two generic questions of our survey have given us nominal data regarding the respondents gender and age. The ordinal data collected from the questions regarding Previous User Experience and Perceived Usefulness provides us with answers from a seven-degree scale. To present a clear view of the data collected, we will use circular and linear diagrams.

For each respondent, we have calculated their individual mean value on PUX, based on their answers from the seven-degree scale, where (1) equals “Strongly disagree” and (7) equals “Strongly agree”. A high mean value indicates on a positive PU or PUX, as this is a natural measurement of answers from a scale (Jacobsen, 2002).

The equation for a linear regression is \( y = f(x) + e \). The measurements presented from the linear regression, shows how the dependent variable \( y \) is affected by the measured value from
the explanatory variable \(x\) and the residual \(e\). The modern causal concepts in social science assume that a phenomenon has multiple causes, but all will not necessarily be observable. A researcher can never capture and measure all causes in a model. The residual represent the remaining factors that may affect \(y\) but are not included in the calculation (Djurfeldt & Barkman, 2009).

By calculating the mean values on PUX and PU of each individual responses from our survey, our linear regression shows whether the dependent variable Perceived Usefulness \((y)\) is affected by the explanatory variable Previous User Experience \((Djurfeldt & Barkman, 2009)\).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(y = f(x) + e)</td>
<td>Linear Regression</td>
</tr>
<tr>
<td>(x)</td>
<td>Previous User Experience</td>
</tr>
<tr>
<td>(y)</td>
<td>Perceived Usefulness</td>
</tr>
<tr>
<td>(e)</td>
<td>Residual</td>
</tr>
</tbody>
</table>

*Table 3.2. Variables for the Regression Analysis*

The two essential requirements for a linear regression are that the residual \(e\) has a normal distribution and is independent from \(x\). The residual has a normal distribution if its expected value is zero, \(e = 0\). The coefficient of correlation \((R)\) measures the relationship and strength between the chosen variables, ranging from \(-1\) to \(+1\). If \((R)\) equals zero, there is no relation between the variables. A negative number (-0.8) shows a negative relation and a positive number (0.8) shows a positive relation. The closer to \(-1\) or \(+1\), the stronger the relation (Djurfeldt & Barkman, 2009; Körner & Wahlgren, 2016).

The coefficient of determination \((R^2)\) measures the proportion of variance in the dependent variable supported by the explanatory variable, within the range of 0-1. The higher number for \((R^2)\), the higher variance between the measured variables. If \((R^2)\) is close to zero, the variance is low. If \((R^2)\) is close to one, there is a high variance. \((R^2 = 0)\) equals no variance. The significance, on the other hand, measures to which level of degree the calculated coefficient is correct (Djurfeldt & Barkman, 2009; Körner & Wahlgren, 2016).

3.10 Criticism

3.10.1 Data

We have been critical to the selection of both qualitative and quantitative sources. Due to the limited research on VR marketing, we have used theories and models which have previously been used for other technology than VR (Jacobsen, 2002). For the same reason, we have used a couple of quantitative secondary sources, and we are aware that this collected information is
not academically proved. As the authors of these articles are experts within the digitalized business of marketing, we have chosen to believe that the information reflects the current market environment of VR.

3.10.2 Method

The deductive approach is sometimes criticized, given the fact that the researcher’s perspective on the subject is limited and determined in advance. Also, qualitative researchers has criticised the standardization of surveys with given answers, which is a commonly used method to collect quantitative data. By using surveys, there may be a risk that the result from respondents will be based on how they perceive the researcher interpretation of the world, when the researcher exclude openness and flexibility (Jacobsen, 2002). The negative aspect of giving the respondents a neutral answer, is that they might not stand for their opinion (Wärneryd, 1990).

Since the PUX of VR was not as obvious as thought, we can see that a qualitative method would be useful in order to answer the research question. In that case, we would try find a deeper understanding of the respondents underlying opinions and behaviours, instead of measuring numbers and figures to explain the general perception of the masses (Jacobsen, 2002).

3.11 Credibility

According to Lisper and Lisper (2005), all surveys are characterized by a varied degree of uncertainty regarding reliability and validity. The reliability describes the precision of the measurements which has been made and shows the stability of the results, meaning that repeated surveys would show the same results. The validity refers to how well we have managed to measure what we actually wanted to measure and whether the reality can be described by using our selected models for this research (Lisper & Lisper, 2005).

To secure the validity of this research, we have measured our variables by using an academically tested questionnaire on user experience, in combination with items which are relevant to Perceived Usefulness, according to TAM2. The development of the User Experience Questionnaire has been constructed in a careful process to guarantee accurate measurements of user experience. The reliability and validity of its scales has been investigated in several tests which has showed a high reliability and validity. (Schrepp, Hinderks & Thomaschewski, 2018).

In comparison to UEQ, the items in TAM2 have not been tested. To prove their internal consistency, we have chosen to use Cronbach’s Alpha. This is a statistical measurement regarding the internal consistency of a test and its items. An internal consistency refers to how well different parts of the test are able to measure the same underlying concept and it is described as a number between 0 and 1 (Hair, Black & Babin, 2010). The test has shown good results, which are presented in Chapter 5.2.5. When operationalizing the items in TAM2 into questions for the survey, we have been very careful with our definitions, to make sure that they are valid and reflect the theoretical description of the items.
The external validity refers to how well the results from the sample size can be applied to the total population. Despite our efforts to collect more responses, only 56 out of a desired sample size of 68 actually responded to our survey. In addition, only 35 out of the 56 respondents had experience from VR technology. Firstly, the low number of respondents affects the significance of the research which makes the calculation of expected PUX among the total population unsafe. This also affects the significance of the measured mean values we have found on PU, regardless of PUX. Secondly, the low number of respondents with PUX affects the significance of the linear regression and the relation between the variables.

A good method of testing a hypothesis of a relation, is to calculate a confidence interval for our regression coefficient (b), to see if it covers zero or not. If it does, the relation cannot be applied to the population. Due to the lower response rate, we have changed our primary confidence interval on 95% to 90%, which has been used to test the statistic significance of the regression coefficient (Nyman, 2014).

To strengthen the significance of a regression coefficient (b) further, we have made a “one sample t-test”, which should be applied to ensure that (x) effects (y) in the population. To do so, the critical t-value is compared to the computer generated t-value (Nyman, 2014; Olsson & Sörensen, 2007).

Regarding internal validity, we have been careful when analysing and making our conclusions based on the empirical findings, as we are aware that the low numbers of respondents have affected the validity of the research.
4.0 Empirical findings

This chapter presents the quantitative data collected from the digital survey. The generic questions in the first part were answered by all of the 56 respondents. The questions in the second part, regarding Previous User Experience was answered by 35 of the respondents through a seven degrees likert scale, as well as the third part regarding Perceived Usefulness which was answered by all 56 respondents.

4.1 Generic questions

For the survey, marketing managers were asked to represent the company’s overall view of VR marketing. The desired sample size of 68 companies were difficult to reach, despite repeated contact. The final response rate consists of 56 companies, which has affected the significance of the research.

Of the 56 respondents, 50% were aged between 30-39 years, 28% between 40-49, 11% between 50-59% and 11% between the age of 20-29. Out of these, 33 of them are males (59%) and the remaining 23 (41%) are females.

The respondents who have Previous User Experience of Virtual Reality are estimated to be 35 (62.5%). The remaining 21 participants (37.5%) had not experienced this type of technology. The answers have therefore been partially divided into two groups, those who have experience of VR and those who have not.
4.2 Previous User Experience

4.2.1 Distribution of the responses regarding Previous User Experience

Out of the 56 respondents, 35 had experienced VR. Only those with experience were asked to fill the UEQ in the second part of the survey. The results are presented in the Charts 4.2 and 4.3, showing the distribution of each measured item in percent.

![User Experience of Virtual Reality Chart]

**Chart 4.2. User Experience Questionnaire 1**

The first item shows that the majority of the respondents felt that the experience met their *Expectations*. 17,1% answered degree (5), 37,1% degree (6) and 8,6% on degree (7). 17,1% left an neutral answer (4). A smaller share indicated on a negative experience. 11,4% answered degree (3), 2,9% degree (2) and 5,7% answered degree (1), meaning that the experience did not meet their expectations at all.

For the second item, non of the respondents indicated that their experience of VR was *Not Secure*, as they left the levels 1-3 blanc. 5,7% left a neutral answer (4), 37,1% answered degree (5), 37,1% degree (6) and 20% degree (7) meaning that they felt totally secure.
As for the second item, the third item also showed 0% on the lower degrees (1-3). 20% left a neutral answer (4), a big share of 45,7% answered level (5), 31,4% level (6) and a small share of 2,9% felt that the experience was fully Supportive (7).

For the fourth item, 0% answered (1) or (2). 22,9% answered (3), 31,4% left a neutral answer (4), 31,4% answered (6) and 2,9% (7). A clear majority of respondents found their experiences inventive. Only 2,9% answered (1), 0% answered (2) and 2,9% each for (3) and (4). 14,3% answered (5), 42,9% for (6) and 34,3% answered the highest degree of Inventiveness (7).

In the sixth item regarding Creativity, most of the respondents felt that their experience was positive. None of the respondents answered (1), only 2,9% on degree (2) and 11,4% on (3). 0% of the respondents gave a neutral answer (4). 25,7% answered (5), 31,4% on degree (6) and 28,6% answered degree (7), indicated on a fully creative experience.

Regarding the item Easy, 2,9% answered (1), a share of 20% answered (2) and 14,3% chose degree (3). 14,3% left a neutral answer (4). Almost 50% indicated that it was easy to learn the technique: 11,4% answered (5), 22,9% (6) and 14,3% (7).

The respondents had a more unified experience of whether the technique was Easy to Learn. Only a small share of the respondent answered below the neutral answer and 0% answered (1). Degree (2), (3) and (4) had 5,7% each. A share of 22,9% answered (5) and 28,6% on (6). Almost a third of the respondent, 31,4%, answered (7), meaning that it was very easy for them to learn.

The majority of the respondents agreed that they found Virtual Reality Understandable. Degree (1) and (2) both had 0% responses and degree (3) and (4) had 5,7% responses each. Degree (5) had 22,9%, degree (6) had 28,6% and the remaining 31,4% answered (7).

For the tenth item, whether the experience was Pleasant or not, degree (1) had 0% of the answers, (2) had 2,9% and (3) had 14,3%. 11,4% left a neutral answer. Degree (5) and (6) had 34,3% of the responses each, and (7) had a low 2,9%.

A small share of the respondents did not find their experiences Pleading. None of the respondents answered (1) or (7). The degrees of (2) and (3) had 8,6% each and 20% left a neutral answer. The majority, 54,3% answered (5) and 8,6% (6).

A significant share of the respondents indicates on good Experiences. The lowest degree (1) had 0% of the answers and degree (2) 8,6%. Degree (3) and (4) had 5,7% each. Degree (5) reached the highest share on 37,1%. (6) had 22,9% and the highest degree (7) 20%.

The final item in Chart 4.2, shows that more than 90% of the respondents found their experience Enjoyable. 8,6% answered (3). The remaining answers were distributed on the higher degrees, 28,6% on (5), 40% on (6) and 22,9% on (7).
The first item in Chart 4.3, shows to which degree the respondents found their experiences *Attractive*. The lowest degrees (1) and (2) both had 0% of the responses and degree (3) had 8,6%. A share of 25,7% left a neutral response (4). Degree (5) had 34,3% responses, (6) had 28,6% and (7) had 2,9%.

For the second item, most of the respondents indicated on a *Motivating* experience. As in the previous item, 0% answered (1) or (2). 14,3% answered (3), 37,1% answered (4) and 22,9% answered (5). For the higher degrees, (6) had 17,1% of the responses and (7) had the remaining 8,6%.

The item regarding whether the experience was *Clear or Confusing*, degree (5) had the biggest share of responses of 40%. The lowest degree (1) had 0%, (2) had 2,9% and (3) had 14,3%. 11,4% left a neutral answer (4). For the higher degrees, the responses were distributed 17,1% for (6) and 8,6% for (7).

None of respondents answered (1) or (2) regarding if the usage was *Friendly*. 20% answered degree (3) and 34,3% left a neutral answer (4). (5) had 14,3% of the answers, (6) had 25,7% and (7) had 5,7%.

The majority found their experience to be *Innovative*. However, the highest degree (7) had 0% of the responses, as well as the lowest (1). 2,9% answered (2), 11,4% answered (3) and 14,3%
left a neutral answer. Almost half of the respondents, 25.7%, answered (5) and 25.7% answered (6).

As in the previous item, (5) had the highest share of answers on 37.1% regarding if the experience felt Organized. 0% answered (1), 2.9% answered (2) and degree (3) and (4) had 20% each. Degree (6) had 17.1% and (7) had 2.9%.

The responses regarding if the experience was Practical, differs from most of the other items. 5.7% answered degree (1), 8.6% answered (2) and around a quarter of the responses on (3) which had 22.9%, as well as on (4) which had 25.7%. The higher degrees had 11.4% on (6) and (7) had 0%.

As well as the previous item, the ninth item in Chart 4.3 regarding Efficiency had 0% of the responses on (7), but also on degree (1). 5.7% answered (2), 11.4% on degree (3) and 17.1% on the neutral answer (4). The biggest share of 45.7% answered (5) and 20% on degree (6).

The majority of the respondents found their experience Fast rather than Slow. Degree (1) and (2) each had 0% of the responses. 11.4% answered (3) and 8.6% left a neutral answer (4). 28.6% answered (5), 40% answered (6) and 11.4% answered (7).

A significant share of the respondents indicated on an Interesting experience. Degree (1) and (3) had 2.9% of the responses each, and (2) had 0%. Only 5.7% left a neutral answer. 45.7% answered (5), 31.4% on (6) and 11.4% on (7).

For the second last item, none of the respondents answered (1) or (2). 5.7% answered (3) and 2.9% left a neutral answer (4). Degree (5) had 31.4% of the answers, (6) had 34.3% and (7) had 25.7%, meaning a fully Exciting experience.

The last item measures to which degree the experience was Valuable. Degree (1) and (2) had 0% of the responses, (3) had 5.7% and 11.4% left a neutral answer. Almost half of the respondents 48.6% answered (5), 22.9% on (6) and 11.4% on (7).

4.2.2 Mean Value on Previous User Experience

The total mean value on Previous User Experience, based on the collected answers from the 35 respondents with Previous User Experience of VR was 5, on a scale from 1-7. The mean value for each item in the UEQ is presented in the Charts 4.4.

The items with the highest mean value is Understandable and Inventive, which both had 5.9, followed by Secure, Exciting and Enjoyable on 5.7. The item with the lowest mean value is Practical, which had 3.9, followed by Pleasing, Easy and Organized on a noticeable higher value of 4.5.
Chart 4.4. Mean Values of User Experience items

Items with higher mean values than the overall mean value for PUX of 5, are Creative and Easy to Learn, which both had 5,6; Fast had 5,4 and Interesting had 5,3. Next, Good, Supportive and Valuable all had a value of 5,2 followed by Pleasant on 5.

The items with mean values under the overall mean value for PUX are Clear, Attractive and Meets Expectations on 4,9, followed by Leading Edge and Innovative on 4,8. Next, Motivating had 4,7 and Friendly, Efficient and Predictable on 4,6.

<table>
<thead>
<tr>
<th>Previous User Experience</th>
<th>Mean Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>5</td>
</tr>
<tr>
<td>Females</td>
<td>5</td>
</tr>
<tr>
<td>All</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 4.1. Mean values of Previous User Experience between gender

There was no difference among the mean value of the PUX between males and females. The overall mean value of the total PUX is 5.
4.2.3 Standard Deviation on Previous User Experience item-groups

In Table 4.2, the mean value and standard deviation within each item group is presented. The item-group with the highest mean value is Novelty on 5,3, followed by Perspicuity and Stimulation on 5,2. Next, Dependability has 5,1 and Attractiveness has 5. The item-group Efficiency has the lowest mean value on 4,6.

The item-group with the highest standard deviation is the Perspicuity on 0,55, followed by Efficiency on 0,53. The item-group with the lowest standard deviation is Stimulation on 0,36, followed by Attractiveness and Dependability on 0,4. In the middle, Novelty has a standard deviation on 0,49. The standard deviation between the item-groups is 0,26.

<table>
<thead>
<tr>
<th>Item Group</th>
<th>Attractiveness</th>
<th>Perspicuity</th>
<th>Dependability</th>
<th>Stimulation</th>
<th>Novelty</th>
<th>Efficiency</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>5</td>
<td>5,2</td>
<td>5,1</td>
<td>5,2</td>
<td>5,3</td>
<td>4,6</td>
<td>0,26</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0,4</td>
<td>0,55</td>
<td>0,4</td>
<td>0,36</td>
<td>0,49</td>
<td>0,53</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.2. Mean Values and Standard Deviation of the User Experience item-groups

4.2.4. Answers from the open questions on Previous User Experience

The first open question gives the respondents the opportunity to share their general thought of their PUX of Virtual Reality. This is the last construct of the second part of the survey.

Vill du dela med dig av något annat angående dina erfarenheter av Virtual Reality?

PS4

Jag har upplevt både bra och dåliga varianter, så svaren blir lite sprengiga.

I have experienced both good and bad variants, so the answers are a bit sparse.

Man vill vänta några år och se om exempelvis kvaliteten och upplevelsen förbättras, bli mer verklighetstroget i vissa fall

You want to wait a few years to see if, for example, the quality and experience improve and become more realistic in some cases
Rolg spel-upplevelse!

A fun game-experience!

Begränsat till spel

Limited to games

Har endast testat i spel

Have only tried it in games

Jag tycker inte att upplevelsen på något vis var bättre än att spela på en vanlig skärm.

I do not think the experience was any better than playing on a regular screen.

Table 4.3. Collected answers of the first open question

4.3 Perceived Usefulness

4.3.1 Distribution of the responses on Perceived Usefulness

All 56 respondents participated in the third part of the survey, regarding Perceived Usefulness. Diagram 4.5 presents the Perceived Usefulness of all 56 respondents in the survey. The diagram shows the result from each measured item, in percent.

In the first item regarding the Subjective Norm of Virtual Reality, 0% answered degree (1), and 1,8% answered (2). 28,6% of the respondents answered (3) and 30,4% left a neutral answer. Degree (5) had 33,9% of the answers, (6) had 5,4% and the highest (7) had 0%.

On the second item, Image, (1) had 0%, and (2) 1,8%. Degree (3) had 8,9% and 17,9% left a neutral answer. Degree (5) had the biggest share of 33,9%, degree (6) had 21,4% and (7) 16,0%.

The majority did not believe that VR technology was Job Relevant, as 7,1% answered (1), 28,6% on (2) and 23,2% on (3). 10,7% left a neutral answer (4) and 21,4% on (5). A small share of 8,9% answered (6) and none of the respondents 0% on the highest degree of relevance (7).

Regarding the fourth item, Output Quality, degree (1) had 1,8% of the answers, (2) had 21,4% and (3) had 17,9%. 19,6% left a neutral answer and almost a quarter 23,2% answered (5). For the higher degrees, (6) only had 8,9% and (7) none, 0%.

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The majority indicated on a positive view on whether marketing through VR technology give any Result Demonstrability, even though the neutral degree (4) had 25% of the answers. Only 3,6% answered (1), 8,9% on (2) and 19,6% on (3). 21,4% answered (5) and degree (6) and (7) had 10,7% each.

The items regarding Ease of Use had a significant contrast to the other items. The sixth item, on Ease of Use for Company, had a share of 30,4% on degree (1), 26,8% on (2) and 17,9% on (3). 8,9% of the respondents left a neutral answer (4), degree (5) had 12,5% and (6) had 3,6%. The highest degree (7) had 0% of the responses.

The Ease of Use for Consumers had 33,9% on (1) and the biggest share of 44,6% on (2). 16,1% answered (3) and 3,6% left a neutral answer (4). Only 1,8% answered (5) and degree (6) and (7) had 0% each.

In the last item, Other, regarding whether they could think of any other way that VR technology could be useful than those mentioned above, the majority left low answers. 17,9% answered (1), 23,2% on (2) and 14,3% on (3). 26,8% left a neutral answer and 17,9% answered (5). Both (6) and (7) had 0% of the responses.
4.3.2 The mean values of Perceived Usefulness

The mean values of each item in the Perceived Usefulness is presented in Chart 4.6. As 21 of the 56 respondents did not have any Previous User Experience of Virtual Reality, the chart shows both separate and combined results between those with and without it.

Among all of the respondents, the item with the highest mean value is Image with a number of 5,2, followed by Result Demonstrability on 4,3 and Subjective Norm on 4,2. Furthermore the item Output Quality has a mean value on 4, Job Relevance on 3,4 followed by Other on 3. Lastly, EOU Company has 2,6 and EOU Consumer has 2 as a mean value.

Among the respondents with Previous User Experience, in this group of respondents Image got the highest mean value with 5,02, Result Demonstrability comes second with 4,49 and Subjective Norm with 4,29. Output Quality has a number of 4,11, Job Relevance has 3,46 followed by EOU Company on 2,83. The lowest mean values belong to the items Other on 2,6 and EOU Consumer on 1,83.

Among the respondents without PUX, Image is the item with a mean value of 5,48, which also is the highest. Secondly comes Subjective Norm on 3,95, thereafter comes Result Demonstrability on 3,9 and Output Quality on 3,7. The item Other has a mean value on 3,57, Job Relevance on 3,33, EOU Company on 2,43 and lastly EOU Consumer with the lowest mean value on 2,38.

![Chart 4.6. Mean Values of Perceived Usefulness](image-url)
The mean value on total Perceived Usefulness among all 56 respondents (n) is 3.6. The group with experience (n_pux) has a mean value on 3.56 and the group without experience (n_npx) has 3.66 and is presented in Table 4.8.

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>n_pux</th>
<th>n_npx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.6</td>
<td>3.56</td>
<td>3.66</td>
</tr>
<tr>
<td>N</td>
<td>56</td>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>1.008</td>
<td>1.79</td>
<td></td>
</tr>
</tbody>
</table>

*Table 4.4. Mean Values and Standard Deviation of Perceived Usefulness in n, n_pux and n_npx*

The standard deviation on the respondents mean values on Perceived Usefulness shows a small difference between those with n_pux and without experience (n_npx). In n_pux, the standard deviation is 1.008, based on the overall mean value of total Perceived Usefulness within the group, 3.6. The standard deviation within the group n_npx, based on their mean value on total Perceived Usefulness, 3.7 is 1.79, with a +0.782 difference from n_pux in Table 4.8. The standard deviation for the entire population has not been calculated as it does not explain any important difference between the groups.

<table>
<thead>
<tr>
<th>Mean Values of PU</th>
<th>n</th>
<th>n_pux</th>
<th>n_npx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>3.6</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Females</td>
<td>3.7</td>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td>All</td>
<td>3.6</td>
<td>3.6</td>
<td>3.7</td>
</tr>
</tbody>
</table>

*Table 4.5. Mean values of Perceived Usefulness*

When including both genders, the overall mean value of Perceived Usefulness was 3.6 for all respondents. For n_pux it was 3.6 as well and for n_npx it was 3.7.

The differences between the mean values on Perceived Usefulness for males and females was very low in all groups. Mean value for males was 3.6 in regardless experience. Among the women, the total mean value was 3.7 and the difference depending on experience, varied with a low number on 0.2 as n_pux had 3.6 and n_npx had 3.8.
4.3.3 Answers from the open questions on Perceived Usefulness

The second open question in the survey gives the respondents the opportunity to share their general thoughts of Virtual Reality in marketing. The answers are presented in Swedish and in English. This is the last construct of the third part of the survey.

<table>
<thead>
<tr>
<th>Vill du dela med dig av något annat angående användbarheten av Virtual Reality?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Det som vi är mest intresserade av är AR, det är ännu så länge ett steg längre bort med VR där man måste ha t.ex VR-glasögon. Ännu så länge är det bra om man kan använda platta eller mobil som alla har tillgängligt.</td>
</tr>
<tr>
<td>We are mostly interested in AR, as VR is still a step further away because you will need to have VR glasses. So far, it's good to use a tablet or smartphone that everyone has available.</td>
</tr>
<tr>
<td>Tror att det är långt kvar tills att vi kommer investera i VR</td>
</tr>
<tr>
<td>I believe that it will be a long time until we invest in VR</td>
</tr>
<tr>
<td>I think that AR or VR would be a great way to reduce returns from customers and to increase the understanding of a product that you buy online (instead of just seeing it on a flat image). As for us who sell bags, but no less for clothing companies. Kind of, the ability to “pin/touch, twist and turn, try a piece of clothing.”</td>
</tr>
<tr>
<td>Man skulle vilja vänta och se om tillgängligheten till VR skulle öka i hushållen. Augmented reality känns mer i tiden än vad virtual reality gör.</td>
</tr>
<tr>
<td>One would like to wait and see if the availability of VR would increase in the households. Augmented Reality feels right in time, more than virtual reality does.</td>
</tr>
<tr>
<td>Jag har hört att AR är enklare att använda.</td>
</tr>
<tr>
<td>I have heard that AR is easier to use.</td>
</tr>
<tr>
<td>Jag tror att vårt företag skulle kunna arbeta med produktplacering, i ex lägenhetsvisningar.</td>
</tr>
<tr>
<td>I think that our company would be able to work with product placements, in apartment viewings ie.</td>
</tr>
<tr>
<td>Jag tror att det kan vara intressant att marknadsföra via VR men ännu känns det för tidigt. I dagsläget tror jag att det är en svår kanal att nå kunder genom, men att det kan ge en generell bild</td>
</tr>
</tbody>
</table>

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av att man är med i utvecklingen, bra för att bygga varumärket, om man implementerar det även om aktiviteten/användandet i sig inte är lönsam.

I think it might be interesting to use VR for marketing but it still feels as it’s too early. At the moment, I think it's a difficult channel to reach customers, but it can provide a general picture of being involved in the development, good for building the brand, if it’s implemented even though the activity / use itself is not profitable.

Tror mer på AR då det är mer tillgängligt och på så vis enklare att kommunicera med kunder på.

I think more of AR as it is more accessible and thus easier to communicate with customers.

Vi har mer pratat om att AR skulle vara aktuellt just nu, men tror inte att det är långt tills det kommer bli enklare att nå kunder via VR med.

We have rather talked about AR being relevant for now, but we don’t think it's long until it's easier to reach customers via VR.

Jag tror att det hade varit framgångsrikt att möta våra kunder i en Virtual Reality i framtiden, men jag tror att det kommer dröja tills vi kan nå våra kunder via en sådan plattform.

I think it would have been successfully to meet our customers in a virtual reality in the future, but I think it will be some time before we can reach our customers via such platforms.

Vi vill gärna se hur det skulle fungera för andra företag i vår bransch innan vi själva ger oss in på det spåret. Men det är en kreativ idé!

We would like to see how it would work for other companies in our industry before we start doing it ourselves. But it’s one creative idea!

Kunderna finns inte där ännu, tyvärr. Det är inte lika tillgänglig som augmented reality.

Customers are not there yet, unfortunately. It is not as accessible as the augmented reality.

Våra produkter är svåra att sälja genom den VR-teknik och utformning av innehåll som kan skapas med VR som jag känner till.

Our products are difficult to sell through VR technology with the content that can be produced with VR as I know it.


In today's situation, it is not a natural thing for customers to use VR to the extent that it benefits us, neither to us nor to them. But there is absolute potential in the future. So we'll hang around for a while to see how other companies act.
4.4 The relation between PUX and PU

The linear regression, \( y = 0.6588x + 0.254 \) in Chart 4.7, is based on data from group \( n_{pux} \), with 35 respondents. It shows a positive relation between Previous User Experience and Perceived Usefulness. The regression coefficient, 0.6588, shows that the PUX affects the PU with 65.9%. The residual on 0.254 presents all other factors, that are not included in TAM2, that affects the Perceived Usefulness.

The value of the coefficient of correlation (R), which measures the strength of the relation, is 0.496. This is a relatively low strength in comparison to the desired value 1, as 0 equals no relationship. R shows that there is a 49.6% strength in the relation between Previous User Experience and Perceived Usefulness. The coefficient of determination (R\(^2\)), for which the value 1 indicates on an total correct result is 0. The current (R) and (R\(^2\)) do have a positive relation but a weak power of explanation.

![Chart 4.7. The Regression Analysis of Precious User Experience and Perceived Usefulness](image)

4.4.1 The significance of the regression coefficient

As the new significance level of 8 % and confidence level of 90 % is low, it is not certain that the result can be generalized in the population. It is of importance to know if the regression coefficient (b) is significant, meaning that it is not equal to zero in the population. If it is, there is no relationship between the variables.
As the confidence interval for regression coefficient (b) is 0.319 - 0.999 in Appendix 1, it does not cover 0 (Appendix 2). This means that H0 is rejected and that the regression coefficient (b) is statistically significant, meaning that the result from the sample is strong enough to assume that the relations exists in the population as well (Nyman, 2014).

The critical t-value in a two-tailed confidence interval of 90\% with 34 df (35-1) is 1.691 (Körner & Wahlgren, 2000). The t-value generated from SPSS is 3.282 (Appendix 2). As the t-value lies outside the interval of -1.691 and +1.691, H0 can be rejected and the relation in the population is confirmed.

4.5 Control of biases

The results from the communication by phone with two of the companies. They show similar results as the survey. Both of the female respondents had experienced VR technology and their mean values show a small difference from the total mean values on PUX and PU among females in \(n_{\text{pux}}\).
5.0 Analysis

The analysis of this thesis will present and discuss the empirical findings on Previous User Experience, Perceived Usefulness and the relationship between them. The variables are based on the construction of TAM2, which present factors behind technology acceptance.

5.1 Previous User Experience

The first part of this analysis discusses the results from chapter 4.2, regarding PUX. The measurements are based on UEQ (Schrepp, Hinderks & Thomaschewski, 2018), which captures a person’s perception and evaluation of an interaction with a product.

5.1.1 Mean Values on Previous User Experience

As Virtual Reality has been assumed to suffer from its bad childhood with many years of poor quality products on the market and cases on nausea (Chardonnet, Mirzaei & Mérienne, 2017), we expected a rather low mean value from the UEQ. However, the number of respondents with Previous User Experience of Virtual Reality was surprisingly low. Despite the development of products, a high number of 21 respondents still had not tried the technology and were therefore unauthorized to respond to the UEQ. The mean value among the 35 participants of the UEQ, who had tried Virtual Reality one or several times, was calculated to 5 which was higher than expected (Chart, 4.1).

The items with the highest scores on the questionnaire is Understandable and Inventive, followed by Secure, Exciting and Enjoyable (Chart 4.4). According to Gilan and Hammarberg, the interaction needs to be easy to apply, efficient and esthetical (Gilan & Hammarberg, 2016). Unfortunately, there is no item in the questionnaire that gives a direct indication on weather the respondents found their experiences esthetical, and both Easy and Efficient were two of the items with lowest scores (Chart 4.2; Chart 4.3) In fact, Easy was one of the item with the overall biggest share of low scores, together with Practical which was also the item with the lowest mean value. In comparison to a low score on Easy, Easy to learn scored high (Chart 4.4). This might depend on the fact that the virtual content might be easy to learn and understand, as Understandable scored the highest mean value, but that the equipment is more complicated and requires more effort than the usage of other technology.

The matter of performance is crucial when using TAM2 from a business perspective (Venkatesh & Davis, 2000). The report from YES Lifecycle shows that most companies prefer to practise their existing marketing activities, since they know that they work and the effect of them (Shtereva, 2017). Therefore, the low score on the items Practical, Easy and Efficient is especially worth noticing (Chart 4.4), as an unpractical or inefficient technology may have a negative effect on the performance of a marketing activity, which we believe may cause avoidance (Smith, 1947).
As VR usage has resulted in negative experiences due to cases of nausea and motion sickness (Chardonnnet, Mirzaei & Mérienne, 2017), the item *Pleasing* was predicted to score low. This was confirmed by the results as it had the second lowest mean value, together with *Easy* and *Complicated* (Chart 4.4). Despite the development of products, the scores show that these items are some of the remaining issues regarding the PUX of VR. Also, it has made us question whether the technology is suitable for a longer time of digital interaction, which might complicate the possibility to reach consumers through direct messages. As the UEQ does not cover a higher level of the comfort of usage, it is impossible to say whether the low level of *Pleasing* (Chart 4.4) has been affected by nausea. Other possible factors behind the item might be the feeling of being totally disconnected to the physical surroundings or the simple fact that it requires more equipment and effort in comparison to the traditional interaction through a smartphone.

The majority of the respondents found their experiences to meet their *Expectation* (Chart 4.2). Even though the mean value does not count as low, both Kotler (2017) and Dahlén (2002) claims that an experience that does not meet the user’s expectations might result in a disappointed consumer. Therefore, the smaller share of respondents with low scores shows that some users have had higher expectations of VR than they have received. This shows that VR might be a precarious technology for companies to use in marketing, as it risks not to meet the consumers’ expectations.

Gilan and Hammarberg (2016) highlight the fact that a high score of *Inventiveness* must be completed with an emotional and motivating experience to gain engaged customers. The majority of the respondents had found their experiences *Enjoyable* and *Inventive* (Chart 4.2), and these items had two of the highest mean values (Chart 4.4). Even though the majority of the respondents indicated on a *Motivating* experience (Chart 4.3), this item had one of the lowest mean values (Chart 4.4). As our research does not include any information about the experienced content, it is difficult to say what might have caused a lower score on this item.

### 5.1.2 Difference between item-groups

The Hedonic item-groups, *Novelty* and *Stimulation* (Table 4.2), had higher mean values than the Pragmatic item-groups. The items in these Hedonic groups are not considered as goal-directed but we believe they can be just as important in terms of business of marketing as the Pragmatic ones. For instance, a *Practical, Easy* and *Fast* experience probably would not result in continuous usage if it also is *Dull, Boring* and *Demotivating*.

Snapchat’s bitmoji collaborations with clothing brands is a good example of how a Hedonic user experience can result in continuous usage, as the application allows the user to dress their bitmojis in virtual clothing collections from brands such as Hollister, Nike, Adidas and other high-end brands (Rydzek, 2018; Kurutz, 2016; Lam, 2016). This is a perfect way for brands to be seen and to show consumers that they are adapting to new technology. In the same time, they create personalized marketing as the consumers are given the opportunity to choose brands and outfits based on their interests. It is important in order to create customer value and build a customer relationship (Miller and Washington, 2009) as well as it shows informative
data of the user’s preferences (Shuk Ying & Bodoff, 2014). However, it is worth to mention that the companies working with Snapchat are high-end or strong brands, who are in a better position of investing in innovative technologies in comparison to the companies who have participated in this research.

Among all items groups, Efficiency had the lowest mean value which is logical, giving the fact that it has mainly been used in gaming so far. The mean values of the other two Pragmatic items-groups were almost identical to the Hedonic item-groups (Table 4.2). The standard deviation within each items-group is between 0,36 and 0,55 and the standard deviation between all item-groups is 0,26 (Table 4.2), which shows a consistency within the groups. The empirical findings reveal that many of the respondents have chosen to answer between 4-6 and avoided the more definite answers 1 and 7. This shows that their PUX have not been definitely positive or negative which we believe is the reason behind the low values on the standard deviation.

5.1.3 Gender

Previous research on the UEQ (Schrepp, Hinderks & Thomaschewski, 2018) have not presented any differences between male and female respondents in the past. Personally, we did not believe that the results would vary because of gender. However, we wanted to prove that the technology is equally suitable for both gender by presenting the differences between them. Also, it was of importance not to let personal presumptions affect the results and conclusions.

As both genders had the same total mean value on their PUX, our empirical findings did not indicate on an effect caused by gender which makes an analysis based on gender irrelevant for this variable (Table 4.1).

5.1.4 Open Questions Previous User Experience

In the first open question, the respondents were given the possibility to share their general experience of using Virtual Reality. We received six responses out of 35 participants with experience. This question did not reveal much more than the fact that the respondents experience is highly limited to the context of gaming. The experience itself has been of varying forms: good, bad and not remarkable. There is also an interest in awaiting the development of the usage among other companies, in order to see if the experience and quality of the content becomes more realistic with time (Table 4.3).

5.2 Perceived Usefulness

The second part of this analysis discusses the results from chapter 4.3, regarding Perceived Usefulness. The measurements are based on items from TAM2 (Venkatesh & Davis, 2000), from a marketing perspective, and consist of eight questions.
5.2.1 Mean values

According to TAM2, the Perceived Usefulness presents one’s perceptions of how well a job performance would be enhanced by using a certain technology (Davis 1989). The PU among the respondents of the survey have been analysed separately based on the experience, in groups as n_pux, n_pux, and as a gathered group in n.

The mean values, based on our results on PU, did not show any significant difference between n_pux and n_pux (Chart 4.6). Neither did the standard deviation differ significantly (Table 4.4). For both groups, Image had the highest score among the items and Ease of Use to reach consumers had the lowest, followed by Ease of Use for the Company to implement (Chart 4.6). This might reveal that the usage of VR in marketing is still a question of creating an innovative image of the brand, rather than a channel for direct marketing communication (Kotler, 2017).

According to Davis (1989), the effort required for usage must outweigh the performance of it. As both of the items regarding Ease of Use are remarkably lower than Job Relevance and Output Quality (Chart 4.6), it clearly shows that the effort they believe is required to implement and communicate with consumers is too high, given the performance of it. One of the main challenges, and Job Relevance, for marketers is to reach customers and deliver customer value through personalized content of relevance (Kotler, 2017). According to Magnusson and Nilsson (2014), a technology is the most useful when everyone has the possibility to use it, and still the technique has not reached the masses. As the consumerization of Virtual Reality is still very limited, it is easy to understand that the companies find it difficult to reach their market through this type of channel, in comparison to the more commonly used communication channels, as social media. As the Ease of Use for Consumer had the lowest standard deviation (Appendix 3, Item Statistics), the low score was equivalent among the respondents. In TAM2, Ease of Use is placed separately in relation to the other items which makes these findings understandable. In addition, the most used technology is traditionally adjusted to suit the preferences of the many (Magnusson & Nilsson, 2014). Once again the limited usage might cause confusion regarding what the masses, both consumers and companies, actually need and want in order to buy and use the technology.

The high score on Result Demonstrability (Table 4.4), among all respondents, might be a result of the fact that the technology has made it easier for companies to measure their digital marketing activities (Kotler, 2017; Gilan & Hammarberg, 2016), and that technology in general might be associated with tangible results.

As the lower mean values on Ease of Use (Chart 4.6) contributes to a lower mean value on the total PU, our findings clearly shows that the usage of Virtual Reality has to become easier for both companies and consumers, in order for the consumerization of Virtual Reality to emerge and become profitable for companies to use.
5.2.2 Difference depending on experience

The difference between the groups with and without experience, is surprisingly low. The mean value on total Perceived Usefulness in group $n_{pu}$ without experience only differs 0,1 from $n_{pu}$, the group with experience and the standard deviation only has a difference of 0,782 (Table 4.4). The group with experience had a slight lower perception on how Easy it was to communicate with consumers by using the technology, as well as the matter of Image and Other. On all remaining items the group with experience, $n_{pu}$, had a little higher perception, but the difference is low (Chart 4.6).

As the results are so similar, it makes us question if it is the experience that affects the PU in $n_{pu}$, or if there is a stronger independent factor involved that is not included in this research.

5.2.3. Gender

It is important to prove that gender is not affecting the results of this research, as the respondents are asked to represent their company from a business perspective. As for our results of PUX, the difference on mean values between the genders of PU are also similar to one another (Table 4.5). Even though we did not presume any differences, this shows that the answers are representative for the companies and not the respondents own personal preferences. If there had been a difference between the mean values of males and females, perhaps it would be time to consider if the answers were of a personal character and whether the gender was a contributing factor. However, this was not the case and therefore we assume that the answers can be applied on a company’s perspective.

5.2.4. Open Questions on Perceived Usefulness

Among the total 56 participants of the survey, we received 14 answers in the open question regarding PU. In general, they described that Augmented Reality was nearer in time than Virtual Reality, due to the fact that it is used in one’s phone and does not require as much effort, and is therefore easier to communicate with the market. Also, they said that it would be interesting to see more examples of how others use it and what results from it are, before implementing it in their own strategy. Many said that the technology is interesting and innovative, but that Virtual Reality lies in a distant future (Table 4.6). This strengthens the findings from the item-questions, as it shows that they find it difficult to communicate with their consumers and use it as a marketing channel (Kotler, 2017). Also, the environment can be crucial for the message to be correctly sent and received (Dante and Carrillat, 2014) the effort required for VR is too high as the whole environment must be replaced, in comparison to AR which only needs to be partly virtually replaced.

5.2.5 Cronbach’s Alpha

From the Reliability Statistics (Appendix 3), we are able to see that the Cronbach’s Alpha is 0,886 which shows that our test has a high level of reliability, as $\alpha \geq 0,9$ is considered to be very good (Hair, Black & Babin, 2010). The items chosen for this group are closely related, as
we can see in the Item-Total Statistics (Appendix 3). Out of eight items, there is only one item that could be deleted to further increase the Cronbach’s Alpha. This item is Subjective Norm. However, the value (0.887) does not differ noticeably from the actual value (0.886) that it would be of interest to delete it, nor do we consider it enough to argue that this item should be removed. Given these statistics, we can state that all of the eight items are of high relevance and they also have high reliability.

5.3 Relation between Previous User Experience and Perceived Usefulness

The third part of this analysis discusses the results from chapter 4.4, regarding the relation between the measured variables based on a linear regression. The measurements of the linear regression are based on results from chapter 4.2 and 4.3 and it excludes the group of respondents without experience of Virtual Reality, n_{pu}. Also, this part presents and discusses the significance-test of the relation.

<table>
<thead>
<tr>
<th>Linear Regression</th>
<th>y = 0,659x + 0,254</th>
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<tbody>
<tr>
<td>R: Coefficient of correlation</td>
<td>0,496</td>
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<td>R² : Coefficient of determination</td>
<td>0,246</td>
</tr>
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</table>

Table 5.1. The Linear Regression

Our results shows a positive relation between the measured items. As the presented regression coefficient is calculated to 0,659, our independent variable PUX affects the dependent variable PU with 65,9%. The residual is calculated to 0,254, which shows that there are factors affecting the PU which are not included in the model of this research (Chart 4.7). However, the R-value on 0,496 shows a positive relation, but also that the strength between the variables is rather low, in comparison to the highest value 1,0 which equals the strongest relation possible. In addition, the R² -value on 0,246 is far from the desired value 1,0 which further shows that even though the relation is positive, it is not strong (Table 5.1). The relation was proved to be statistically significant in a 90% confidence level (Table 4.7) and the interviews with two of the companies in the biases showed similar results as the digital survey (Table 4.8).

The low mean value on Ease of Use to reach consumers (Chart 4.6), shows that the total PU would probably be higher if the consumption of the technology increased, as it would probably be easier and more profitable to use it as a communication tool (Magnusson & Nilsson, 2014). The low mean value on Ease of Use regarding the implementation of VR technology (Chart 4.6) might depend on the fact that there are few examples on how to approach it, which makes the process of how it works uncertain. Even though the items on Job Relevance, Output Quality and Result Demonstrability are higher than the items on Ease of Use (Chart 4.6), the effort required for research and planning on the subject might not be worth it as they question the possibility to communicate with their market. This means that the effort required does not necessarily outweigh the performance of it (Davis, 1989). This is reflected in the results from the UEQ, as the item Easy was one of the items with the lowest score (Chart 4.4), as well as in the comments from the open question on PU where the respondents suggests AR to be more
suitable for them (Table 4.6), which does not require as much equipment. As mentioned regarding the open questions on PU, Virtual Reality requires that the physical reality is totally replaced, in comparison to Augmented Reality which is complemented with the physical reality, it is easy to understand why AR is perceived as easier to use from a marketing perspective (Dante & Carillat, 2014).

The results has shown other connections between the items in UEQ and in TAM2, than those regarding the level of Ease. For instance, the Hedonic items, like Innovative and Enjoyable can be connected to Image which all had the overall highest mean values (Table 4.2). In comparison, the Pragmatic items like Practical and Efficient can be connected to Job Relevance and Output Quality which may require more goal-directed items. However, as we mentioned earlier, the Hedonic items are also relevant in marketing activities and the quality of the personalized marketing (Kotler, 2017), which makes it impossible to assume that one item in the UEQ would affect PU more than another. Especially as the adoption of new technology might be a good way of building an innovative brand personality, as the Subjective Norm and Image had high mean values (Chart 4.6).

Fazio (2007) argues that attitudes are based on experiences, which are stored in memory. In comparison, Schwartz (2007) claims that attitudes are more likely to be formed depending on the given situation. Our results shows a combination of the two (Eagly & Chaiken, 1993), as it shows a positive relation but a low strength In addition, it is important to highlight that for many, the experience has been limited to gaming, and therefore it might be difficult to fully apply their memory-stored experiences in a business situation.
6.0 Conclusion

This chapter concludes the research question of this thesis regarding the relation between Previous User Experience and Perceived Usefulness of VR technology. In addition, it presents the eventual main factors behind the limited usage, and our suggestions for further research.

Our empirical findings shows a positive, but rather weak relation between Swedish companies’ Previous User Experience and Perceived Usefulness. The regression analysis reveals that there are other factors affecting the Perceived Usefulness than the Previous User Experience. The relation has a statistically significant on a 90% confidence level. Hence, it can be applied to the population. Also, it shows that the respondents experiences of VR were not as negative as we had predicted, despite the discussions about the technology’s bad childhood. On the contrary, the general opinion from the respondents experiences were positive. Especially they found their experiences to be understandable, inventive and enjoyable but not as easy, organized or practical.

Further, there was no significant difference on Perceived Usefulness between the groups with or without experience. In general, the mean values from both groups showed a rather neutral opinion as neither of them were remarkably positive nor negative regarding the usage. Again, this clearly reveals that there are other factors that should be taken into account to understand the companies perceptions regarding the phenomenon of VR marketing. The result does not show any difference based on gender for neither of the variables, which is important as they are to represent their company’s perception rather than their individual opinion.

The results from this research shows that poor quality Previous User Experiences of VR are unlikely to be the main reasons behind today’s limited usage of the technology in marketing. Even though the companies who participated in the survey thought of the technology as something that was likely to increase the image of their brand, the results also reveal that the Ease of Use is the most negatively affecting factor on Perceived Usefulness, among the items included in this research. This includes the Ease of Use from both perspectives: the implementation of the technology in marketing activities and the potential to reach consumers with relevant, personalized content through VR marketing. The respondents suggest a bigger interest in the usage of Augmented Reality, as they perceive it as more readily and easily available for both them and their consumers, which makes it a more strategic channel for them to use.

Even though Virtual Reality is easier to use now than in its early days, we have found that the effort required might not outweigh the performance of it, yet. For now, the question of when and how we are to face a digital citizenship remains unanswered.
6.1 Suggestions for further research

As this study only covers Swedish retail companies using e-commerce with a certain revenue, it would be interesting to see if a similar test on another population would show similar results. Also, it would be of interest to do a qualitative study to complement and support this study in order to get a deeper understanding of the limited usage of VR, and especially the matter of Ease of Use as these items have the lowest scores on PU in this research. The area of VR technology is relatively unexplored and qualitative research is definitely needed in order to find a deeper understanding of this phenomenon.

Another topic brought to our attention was the absence of consumers on platforms such as VR. As the companies are dependent on the consumers and their demands and actions, it is crucial to understand the factors behind consumers’ VR usage, in order for the consumerization of the technology to increase. Furthermore, it would be interesting to understand the perceived benefit of VR marketing from a consumer’s perspective. For instance, which products and what kind of marketing consumer wish to find in a Virtual Reality.

6.2 Contributions

We hope that this research will be useful for Virtual Reality producers, as it shows some of the factors that might influence on whether Swedish companies find the technology useful or not. Much of the previous research on Virtual Reality has been limited to either gaming, or from consumers’ perspective. This research shows the companies’ perception of the phenomenon, which we hope will help address the issues behind the limited usage in order for Virtual Reality to reach it full potential in the terms of marketing.
References


Rebecka Risholm & Julia Toft Sandén
Appendix

Appendix 1: The Survey

Enkätundersökning: Virtual Reality marketing

Denna enkät undersöker svenska företags erfarenhet av Virtual Reality och deras syn på att använda det inom marknadsföring. Dina svar kommer att bidra till vår kandidatexamen i Internationell Marknadsföring, vid Högskolan i Halmstad. Alla deltagare kommer att vara helt anonyma och svaren kommer endast att användas för akademiskt ändamål.

Tack för din medverkan!

Vänliga Hälsningar,
Rebecka Risholm & Julia Toft Sandén
Högskolan i Halmstad

1.1 Kön

☐ Kvinna

☐ Man

1.2 Ålder

Short answer text

1.3 Företag (Endast synligt för oss)

Short answer text
1.4 Har du upplevt Virtual Reality?


○ Ja
○ Nej

---

Virtual Reality marketing

Vi ber dig vänligen att dela med dig av dina erfarenheter av användandet av Virtual Reality, baserat på följande uttalanden.

2.1 När jag använt Virtual Reality, har jag upplevt det som

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2.2 Vill du dela med dig av något annat angående dina erfarenheter av Virtual Reality?

Long answer text

Virtual Reality marketing

Vi ber dig vänligen att dela med dig av dina åsikter om användandet av VR-teknik i marknadsföring, ur ett företags perspektiv.

3.1 De ledande företagen i vår bransch har en positiv uppfattning om andra företags användande av VR i marknadsaktiviteter.

3.2 Implementeringen av VR-teknologin i ett företags marknadsaktiviteter medför en högre status.
3.3 VR-teknologi är ett relevant marknadsverktyg att använda för vårt företag.

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3.4 Användandet av VR-teknologin kan ge positiva resultat för vårt företag.

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3.5 Det är möjligt att visa mätbara resultat genom att använda VR-teknologin som ett marknadsverktyg.

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<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Instämmer helt</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

3.6 Det är enkelt att implementera VR-teknologin i vår marknadsstrategi.

<table>
<thead>
<tr>
<th>Instämmer inte alls</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Instämmer helt</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
3.7 Det är enkelt att kommunicera med våra kunder via VR-teknologi.

<table>
<thead>
<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Instämmer inte alls Instämmer helt

3.8 VR-teknologin kan vara användbar för vårt företags marknadsaktiviteter, men för andra orsaker än de nämnda ovan.

<table>
<thead>
<tr>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Instämmer inte alls Instämmer helt

3.10 Vill du dela med dig av något annat angående användbarheten av Virtual Reality?

Long answer text

Tack så mycket!

Tack för att du tagit tid att svara på vår enkätundersökning.

Rebecka Risholm & Julia Toft Sandén
Högskolan i Halmstad

:::

Är du intresserad av en kopia av vår uppsats? Om ja, skriv din e-mailadress nedan.

Short answer text

Rebecka Risholm & Julia Toft Sandén
Appendix 2: The Regression Analysis in SPSS

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.496*</td>
<td>.246</td>
<td>.223</td>
<td>.9008</td>
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</tbody>
</table>

a. Predictors: (Constant), UX

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>90.0% Confidence Interval for B</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.254</td>
<td>1.021</td>
</tr>
<tr>
<td>UX</td>
<td>.659</td>
<td>.201</td>
<td>.496</td>
</tr>
</tbody>
</table>

a. Dependent Variable: PU

Appendix 3: Cronbach’s Alpha in SPSS

Reliability Statistics

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.884</td>
<td>.881</td>
<td>8</td>
</tr>
<tr>
<td>Item Statistics</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>------</td>
<td>----------------</td>
</tr>
<tr>
<td>De ledande företagen i vår bransch har en positiv uppfattning om andra företags användande av VR i marknadsaktiviteter.</td>
<td>4,29</td>
<td>1,045</td>
</tr>
<tr>
<td>Implementeringen av VR-teknologin i ett företags marknadsaktiviteter medför en högre status.</td>
<td>5,03</td>
<td>1,403</td>
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<tr>
<td>VR-teknologi är ett relevant marknadsverktyg att använda för vårt företag.</td>
<td>3,46</td>
<td>1,597</td>
</tr>
<tr>
<td>Användandet av VR-teknologin kan ge positiva resultat för vårt företag.</td>
<td>4,11</td>
<td>1,641</td>
</tr>
<tr>
<td>Det är möjligt att visa mätbara resultat genom att använda VR-teknologin som ett marknadsverktyg.</td>
<td>4,49</td>
<td>1,560</td>
</tr>
<tr>
<td>Det är enkelt att implementera VR-teknologin i vår marknadsstrategi.</td>
<td>2,83</td>
<td>1,618</td>
</tr>
<tr>
<td>Det är enkelt att kommunicera med våra kunder via VR-teknologi.</td>
<td>1,83</td>
<td>1,785</td>
</tr>
<tr>
<td>VR-teknologin kan vara användbar för vårt företags marknadsaktiviteter, men för andra orsaker än de nämnda ovan.</td>
<td>2,60</td>
<td>1,418</td>
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### Inter-Item Correlation

<table>
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<th></th>
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<td>,169</td>
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<td>,676</td>
<td>,509</td>
<td>,423</td>
<td>,495</td>
<td>,485</td>
<td>,523</td>
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<tr>
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<td>,735</td>
<td>,635</td>
<td>,440</td>
<td>,486</td>
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<td>,695</td>
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<td>,486</td>
<td>,564</td>
<td>,290</td>
<td>,251</td>
<td>,253</td>
<td>1,000</td>
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<tr>
<td>Item</td>
<td>Total Statistics</td>
<td>Scale Mean if Item Deleted</td>
<td>Scale Variance if Item Deleted</td>
<td>Corrected Item–Total Correlation</td>
<td>Squared Multiple Correlation</td>
<td>Cronbach’s Alpha if Item Deleted</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------------------------</td>
<td>---------------------------</td>
<td>-------------------------------</td>
<td>----------------------------------</td>
<td>-------------------------------</td>
<td>---------------------------------</td>
<td></td>
</tr>
<tr>
<td>De ledande företagen i vår bransch har en positiv uppfattning om andra företags användande av VR i marknadsaktiviteter.</td>
<td>24,34</td>
<td>62,114</td>
<td>.441</td>
<td>.535</td>
<td>.887</td>
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<tr>
<td>Implementeringen av VR–teknologin i ett företags marknadsaktiviteter medför en högre status.</td>
<td>23,60</td>
<td>53,953</td>
<td>.706</td>
<td>.721</td>
<td>.864</td>
<td></td>
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<tr>
<td>VR–teknologi är ett relevant marknadsverktyg att använda för vårt företag.</td>
<td>25,17</td>
<td>49,264</td>
<td>.833</td>
<td>.733</td>
<td>.849</td>
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<tr>
<td>Användandet av VR–teknologin kan ge positiva resultat för vårt företag.</td>
<td>24,51</td>
<td>48,787</td>
<td>.829</td>
<td>.807</td>
<td>.849</td>
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<tr>
<td>Det är möjligt att visa mätbara resultat genom att använda VR–teknologin som ett marknadsverktyg.</td>
<td>24,14</td>
<td>52,126</td>
<td>.707</td>
<td>.733</td>
<td>.863</td>
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</tr>
<tr>
<td>Det är enkelt att implementera VR–teknologin i vår marknadsstrategi.</td>
<td>25,80</td>
<td>52,047</td>
<td>.677</td>
<td>.650</td>
<td>.867</td>
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<tr>
<td>Det är enkelt att kommunicera med våra kunder via VR–teknologi.</td>
<td>26,80</td>
<td>63,282</td>
<td>.526</td>
<td>.511</td>
<td>.883</td>
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</tr>
<tr>
<td>VR–teknologin kan vara användbar för vårt företags marknadsaktiviteter, men för andra orsaker än de nämnda ovan.</td>
<td>26,03</td>
<td>57,264</td>
<td>.522</td>
<td>.522</td>
<td>.882</td>
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