3D Virtual Shopping Mall

“Towards Transformation of levels from 2D to 3D”

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Abstract

This research examines the effects of using 3D virtual shopping malls and shows the user interaction and experience in this type of virtual environments. Technology developments and the use of the Internet made users to expect more services, which help to improve the user's life. Using a 3D virtual environment and adding a shopping idea to it is considered as very interesting, especially if it reflects the real world in a virtual reality that make its users attached to it. Furthermore, the possibility of having an avatar to represent themselves in computer-mediated virtual environment help users to explore the virtual environment. Another advantage is that users have the possibility to invite friends and to navigate inside a 3D Virtual-shopping mall not alone but together, which gives the user the capability to socialise inside the mall. Besides, changing of the customer's profile and chatting with friends is supported, too. Moreover, the transformation process from a two-dimensional environment to a three-dimensional environment is considered to be convenient for both, customers and mall owners.

I have used phenomenology to investigate this new phenomenon. In addition the data was gathered by interviewing several participants from different educational levels as well as business owners of 3D virtual malls. The research will show the potential of using a 3D virtual shopping mall from the user's perspective as well as from the business' owners and having a 3D virtual shopping mall is not only considered entertaining, but also convenient.

As a future work I recommend to interview the merchants in this research to grasp this idea completely.

Keywords: Virtual worlds, 3D virtual shopping mall, phenomenology, virtualizations level, Avatars, social media.
Executive summary

Having 3D Virtual Shopping Mall is considered to be interesting for both customers and business people. To explain this idea I will go through the transformation process from 2D to 3D environments. The research problem is how this 2D to 3D transformation affects the user’ experience and which strategies could be used to attract merchants and customers to use such virtual environment.

The aim of interacting with technology to perform specific activity like shopping and studying through the use of computer machines motivates humans. I believe this user interaction make the user entertained with his performed activity. Thus, having a 3D environment to reflect specific realities will drive the attention of different users.

The research method that is used is Phenomenological Research, which it is based of four important phases. I have chosen this method, because I will investigates a phenomenon based on the lived experience of the people to explore the essence of this phenomenon. The data was gathered by interviews and distributed questionnaires to the participants in different locations, in order to have a complete understanding of the new phenomenon.

According to the data that I have collected and that was analysed by using the four phases of Phenomenology Research it is shown that having this type of research is considered to be interesting for the user and it drives the attention of business peoples. I consider the usages of 3D virtual-shopping malls as more convenient and entertaining to have.
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Chapter 1: Introduction

In the past, computers were only rigid devices that have been used exclusively for specific actions and purposes. Nowadays, through the use of Internet, the computer usage evolved to the next level of technology, that is considered helpful and can create a more efficient, less costly, and higher-quality service-delivery environment for the users (Renold et al, 2005, p. 235). The Internet is a transformation channel to the world of accessing to information. As a result, the user can access information that are available on the Internet easily, and carry out different activities through the use of Internet services like e-business, e-commerce, e-learning, e-governance activities and etc. In addition, the social interaction of the users will be enhanced. Hence, it is a combination between technology and information. The development of new technology services in the digital world e.g. the use of Internet and online services was used pursued excessively by the users. The possibilities of sharing and accessing information that is available on the Internet are mostly contributing to the users’ social life and daily activities. Online services have become a viable alternative for different actions like: shopping, online educations, meetings, and organizing businesses etc.

Due to the development of information technology (IT) and Internet, many online shopping website services have been developed. These business websites attract a lot of customers due to their advantages, like easy and fast price comparison. Examples for these business websites are: (Amazon, EBay, Blocket, Tradera and etc.). Online shopping websites in recent years have attracted more consumers due to several factors, e.g. a convenient price, the ease of accessibility to items, a fast shipping, obtaining customer reviews, and more recently social shopping (Lee & Chung, 2008), especially in developed countries.

These online shopping sites have much more popularity amongst customers because it considered entertaining and time consuming to the customers. These online shops are considered as 2D websites. Gradually, there are some more facilities that were added to online shopping sites, e.g. transforming these shopping sites in to 3D through the additional use of virtual reality. This transformation has led to a gradually use of the 3D virtual reality in different aspects, and it’s attracting a lot of customers of 3D Games, 3D Movies and etc. Recently virtual reality consists of business functionality, computer simulation and the designing aspect, which it is named “3D virtual shopping mall”. Renold et al (2005, p.235) express the changes in the technology in the following way: “The information revolution (really a database revolution) has greatly affected business and commerce, recreation, education, security, and social interaction” (Renold et al, 2005, p.235).

1.1 Intention of the study and area of interest

The result that the Internet becomes one of the requirements for our daily life when used excessively is surprising. One of the services that attract a lot of users is its online shopping feature. Its main idea is to bring the actual shopping experience directly into the customers’ houses, instead of the customers going personally to the actual malls. Furthermore, the 3D virtual shopping environment gathers several online stores less than one roof and creates an environment where the customers can navigate from one store to another easily. In fact, the
customer can create an avatar, which presents the customer in the virtual world and enables her/him to walk together with friends’ avatars in a 3D online simulation that brings the customers’ experience near to a virtual reality. In addition, users will have the capability to chat and communicate with friends, while shopping and passing through this inexperienced phenomenon. Because only little research has been conducted in this particular area, my motivation to do research in this type of field increased.

The area of the study will conceptualize the use of the 3D virtual shopping mall from two perspectives, namely the perspective of the virtual shopping mall’s company and the customer perspective.

• The virtual shopping mall’s perspective: The astounding variety of the 3D virtual shopping mall in regards to the shop owner’s business world. It shows a huge opportunity in the e-Business and e-commerce field. Having 3D virtual shopping mall is considered as a contribution to the field of business IT. Based on my empirical data the 3D virtual shopping malls are using a specific marketing system like, affiliate marketing system, Pay-per-click and social networks as a marketing strategy to attract stockholders and merchants.

• The customer perspective: Explain the experience of creating an Avatar, walking inside the virtual mall, listening and watching the animations and sound. Furthermore the differences or improvements between the different levels of transformation for the user.

Both perspectives are based on the empirical data that has been conducted in this research, and we will go through it in more details in chapter 4.

The study focuses on exploring the social science and the computer science aspects of the 3D virtual shopping mall environments. The design of a virtual shopping mall requires users with different skills and knowledge; sharing a common characteristic between them, like the desire and passion for online shopping. In addition, designing a virtual shopping mall helps to improve the customer’s satisfaction through the use of 3D. Moreover, I will explore the potentials of e-commerce and e-business through the strategies the mall’s developer use. The research questions are as follows:

1.2 Research Questions

1. How is the transformation from 2D to 3D shopping affecting the users’ experience of shopping?

2. Which strategies does the mall’s head company use to benefit the merchants and the customers to use the 3D virtual shopping mall?
1.3 Scope and Limitations

The scope of this study is spread over in different countries, but the main focus was in the United States (US) and Italy, as the firms that have contributed the most for this study are located there. In addition, I located the research to other countries like Sweden, Jordan and United Arab Emirates, in order to have a global overview regarding using online shopping experience with Avatars. Moreover, there is a need to consider the cultural aspect in different countries, however this is beyond the current study.

The study will be limited to the customer’s perspective and the virtual mall’s owner’s perspective in terms of marketing strategy and e-commerce only, and the author is not going to target the merchants, i.e. those who have a store inside the mall. In addition, the study will not cover the technical aspects as well.

Last but not least, I am investigating a new phenomenon in this type of research. Therefore there are only a limited number of available literatures in this area of research. However, I will refer to previous research that has relevance to what I will study.

1.4 Contribution of the Study

The accomplishment of this study is to explore the virtual world of using the Avatar with the experience of online shopping through 3D web environments. In addition, I will attempt to distinguish between the use of a 2D environment and a 3D shopping environment. Also, I will elaborate the most popular of them from the Users’ perspective.

1.5 Structure of The Thesis

This thesis provides a comprehensive coverage about the use of the 3D virtual shopping mall idea. It shows the transformation process from 2D to 3D virtual environments. The thesis’ structure contains the following parts:

- Chapter 1: Is considered as an introduction chapter for this study. It contains the research problem, the aim of this research and the motivation for conducting this type of research.

- Chapter 2: Contains an overview of the literature that has been conducted through this research, similar researches or topics.

- Chapter 3: Introduction of my philosophical worldviews and research method, which is phenomenology. In addition, this chapter will go through the history and philosophy of phenomenology and it will address the data collection of my research and how the research material has been collected.
• Chapter 4: This chapter is considered as a guided tour to show the reader the working process of the 3D virtual shopping mall.

• Chapter 5: Contains the empirical data that has been collected through the use of interviews and distributed questionnaires of the participants of this research. In addition, it shows their ideas and experience about the use of 3D virtual shopping mall.

• Chapter 6: This chapter convey the analysis of this research based on the phenomenological research method and the empirical material that have been collected by doing this research.

• Chapter 7: Discussion of my research according to the different literature and my empirical material and analysis part.

• Chapter 8: The last chapter in this research. It contains the conclusion of this research and its outcome. In addition, the challenges of the research are mentioned and suggestions for future researches are given.
Chapter 2: Literature Review

This chapter summarizes similar research that is done in the field of “3D Virtual Shopping Worlds”. First, a number of definitions to the concept virtual worlds is presented, which is followed by an e-business and e-commerce sections, the transformation process from 2D to 3D environments, explanations to the use of Avatars, and finally the use of social media.

2.1 Virtual Worlds

In conveying the idea of virtual worlds, several definitions and explanations has been emerged to describe the environments of virtual worlds by different scholars. Anna Croon Fors (2006, p. 151) writes:

“Virtual worlds emerged from a distributed technical systems that allows a substantial number of people to interact synchronously. The interaction takes place in a sustained environment based on some kind of special metaphor.”

Another way to define virtual world is Ivas and Junglas (2008) who write:

“Computer-simulated, usually 3D, representations that allow avatars to interconnect and communicate in relatively life-like environments.”

Barnes and Mattsson (2008, p. 195) defined virtual worlds as:

“Three-dimensional, computer-generated environment that appears similar to our 'real' world, often massively multi-user and connected to the Internet, and developed to supply online entertainment and social networking for users.”

Furthermore, Ibáñez et al (2011, p. 2) define virtual worlds as:

“3D multi-user virtual world provides a shared, realistic, and immersive space where learners, by means of their avatars, can explore, interact, and modify the world”.

In order to distinguish the idea of the virtual world environments and simplify its experience Barnes and Mattsson (2008, p. 197) categorized it in to four categories:

- “Entertainment”: Includes the consumption of media content, or of live content. One example to clarify this step is your avatar viewing a stage performance in the virtual world, watching a movie on a screen inside the virtual environment or listening to music or radio.
- “Education”: Virtual world environment are used now for teaching purposes and it includes tutorials and online lectures. There are many examples of universities and other organizations that are now using virtual worlds for educational and teaching purposes.
e.g. at Linnaeus University in Sweden. The course ‘Business Talking’ (1EN108) helps to train the students to speak English in the virtual world of Second Life.

- “Escapist”: For example, casinos, themed areas and 3D virtual video games would be a virtual world area with a gothic theme or a science fiction combat theme.

- “Aesthetics”: These category incudes simulations of the real world in a 3D virtual world. An example would be visiting a virtual museum such as the Second Life International Space Museum, Second Louvre or the Open Art Museum.

Hence, 3D virtual worlds offer a rich environment for customers that help to improve the user interface by interacting with each other, and increasing the user motivations to navigate inside the virtual world (Ibáñez et al, 2011). However, the users are not a homogeneous group. For example, Deléglise et al (2009, p. 297) argued that there are two types of users. The first type is the user that is used to 3D games and navigates in the room easily by utilizing the arrow keys on the keyboard as well as using the mouse. The second type is a beginner who may find a classic 2D menu preferable to be able to navigate in this type of environment.

Edirisingha et al. (2009, p. 459) explained that 3D virtual environments are usually developed for gaming, recreation and entertainment. In addition, 3D virtual worlds enable deployment of simulations in realistic looking environments (Ibáñez et al, 2011, p. 4). Having 3D virtual environments promotes imaginations, interaction, creativity and thus motivation for the customers to use virtual worlds (Huang et al., 2010, p. 1179). Zhao et al. (2003, p. 381) explained the 3D technology:

“This system provides customers with the ability of viewing and manipulating the commodities using 3D technology so that they can view the items under their favorable environment. At the same time, the agent technology is applied to greatly enrich the customer's shopping process by simulating the body language of the customer's symbol such as their pose and the controller's response in the virtual environment.”

Hence, a 3D virtual world opens the door to a new way of learning. Establishing realistic environments provides a powerful set of learning oriented tools, these platforms allow for the implementation of sophisticated instructional models within a framework with richer information and cooperation (Ibáñez et al, 2011, p. 8). In general, Jin (2011) explained that virtual worlds provide rich possibilities for social and behavioural research, including a variety of testing capabilities (Jin, 2011, p. 105).

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1 Check this page: [http://lnu.se/education/courses/1en108?l=en&ec_vt=English](http://lnu.se/education/courses/1en108?l=en&ec_vt=English)
2.2 E-Business and E-Commerce

The tremendous development of technology and the World Wide Web with the most familiar dot-com or dot-net companies help customers to get detailed information about specific products. Thus, having a virtual reality will help the users to interact with the simulated product of the virtual world and enhance the shopping experience. Carr (2003, p. 41) argues:

“Today, no one would disputes that information technology has become the backbone of commerce.”

Business activities are already conducted through 2D web environments and expand to be used in 3D virtual world environments, where the 3D virtual worlds provides more features and activates to it (Nah et al, 2011). Examples for established 2D environments are according to Ives and Junglas (2008) the following:

“(…) eBay, Amazon, Yahoo, Google, Salesforce.com, and others, coupled with initiatives like Napster, Wikipedia, Facebook, Flickr, Skype, Twitter, BitTorrent, Stock Photo and iTunes, have redefined products, distribution channels, and industries.” (Ives & Junglas, 2008, p155).

In addition, Nah et al (2011, p.732) argued:

“3D virtual worlds have the potential to revolutionize business and bring significant implications to business including opportunities for co-creation and enhancing customers’ perceptions and value of a brand.”

People are looking to live in a world that provides them with new facilities or patterns in the technology world that can help them to improve their daily life. Zhao et al. (2003) explained

“ The advantage of E-commerce is the unlimited time and space of purchase, i.e., the deal can be carried out at any time in any place (Zhao et al., 2003, p. 381).”

The idea of 3D virtual world is considered to be a very attractive way to be used as a commercial and marketing tool, by providing a new platform for business and marketing that are considered to be extremely attractive and compelling (Nah et al, 2011). Therefore, Nah et al (2011, p. 732) explained that:

“3D virtual worlds has been characterized in to three- dimensional environments has the potential of real-time communications, the ability of navigating inside the virtual world and manipulate objects, and the interactions between the customers.”

Various businesses have established a presence in 3D virtual environment e.g. Dell, IBM, Nissan and etc. (Nah et al, 2011). Hence, 3D virtual worlds provide a rich environment to business and marketing for conducting several activates that are helpful to make the customer engaged in
business activates, enhancing their online experience and promoting brand quality (Nah et al., 2011, p. 743). Zhao et al., (2003, p. 381) explained:

“This system simulates the whole purchasing process including viewing, choosing and paying for the items. Such comprehensive simulation is a new generation of E-Commerce system that makes the customer feels like they are personally on the scene.”

Some examples of the used methods and strategies are: strategic affiliate marketing and pay per click methods. These strategies will be explained in the next sub section.

**Strategic Affiliate Marketing**

Internet becomes the biggest global market for companies to use and it assists business in an efficient way (Ivkovic & Milanov, 2010, p. 319). Having virtual platforms for selling and buying products online and control the important business processes in the company is therefore useful. Virtual environments provide the possibility to connect with other companies or customers in a smooth way. Affiliate methods are considered as an important strategy, which is used in e-businesses, and they are required in today’s competitive market. In addition, most companies take the participation in e-commerce into consideration. Hence, it is represented in their long-term marketing strategy (Duffy, 2005, p. 161). To clarify the idea of this strategy the user should focus on communication or selling (Gupta, 2004). This strategy used various tactics to promote the company products.

Ivkovic & Milanov (2010, p. 319) describe affiliate marketing as:

“System of different business activities that should create a sustainable combination of strategies and other advertising methods (such as search engine optimization, paid search engine marketing, e-mail marketing) to improve sales and promotion.”

Duffy (2005, p.162) interpreted the idea of the affiliate marketing strategy. He explains this marketing strategy required some specific networks that maintain the relationship between the advertisers and affiliates. ‘The Merchants’ play the role as an advertisers on the affiliate’s website and the affiliates are playing the role of an ‘associate’. In the context of a virtual world e-business system the owner of the virtual world plays the aforementioned role of “merchant” and advertises his virtual world on several partners’ sites, which are the affiliates or associates. They are trying to accumulate their ad space by posting affiliate links; i.e. each business activity that is made through these links will gain the associate a commission (Ivkovic & Milanov, 2010, p.320).

This special network provides the technology to support tracking activities (Duffy, 2005). This is done “when an affiliate sends a potential customer to an advertiser’s website and ends the sales transaction” Duffy (2005, p. 162). Through this process the affiliates will manage the calculations of the commissions and the issuance of the payments to them is ensured and eventually made. These networks will manage the registered affiliates of the mall’s software system. The affiliate program creates a relationship between the business participants and the
online merchant, is a company that sells their services or products; and other independent websites that are associates or affiliates in that program (Ivkovic & Milanov, 2010, p.319).

According to Duffy (2005, p.162):

“When an affiliate seeks to join an advertiser’s affiliate marketing program and the process of providing access to ads (banners, text links, product data file) to affiliates so they can adequately promote the advertiser’s products and services.”

These networks basically make the process of participation easy for both advertiser and affiliate. Gupta (2004, p. 267) explained that affiliates grasp the customer’s mind-set, thus, affiliates creates a simple conventional channel for distribution. Affiliate marketing marketplace considered as possibility for innovative and entrepreneurial companies to accomplish money on commissions by promoting the products of other companies (Duffy, 2005, p. 162).

**Pay Per Click.**

Pay per click is another strategy used in the virtual shopping mall. General 2D websites provide several market activities and actions of selling, buying and advertising over the Internet. In e-commerce some methods for pricing are needed. One of these strategies is Pay-Per click. This strategy depends on the number of clicks, and click-based pricing (Kwon, 2009, p. 262). Kwon (2009, p. 262) illustrates the idea of Pay-Per click advertisement he writes

“The advertiser pays the publisher the cost-per-click times the number of clicks. If other actions are used to measure the performance, for example purchasing, submission of forms and so on, the total cost is determined by the cost-per-action times the number of actions.”

Hence, Pay-Per Click means that, “the advertiser pays only if the consumer clicks on the advertisement to read more about the selected product” (Fjell, 2009, p. 200). In general, using the Pay-per click method will improve the level of advertising (Fjell, 2009, p. 201).

These methods are based on the effects of consumers’ actions. Which are easier to measure with Internet advertisement, compared to classic media. The measurements include consumers’ attitudes, behaviors and response towards an advertising increases on the publishers’ webpage (Mangani, 2004, p. 301).

### 2.3 Transformation from 2D to 3D

The evolution from two-dimensional webpages to three-dimensional webpages benefits the user through a better convenience and flexibility in terms of user interaction. 2D is utilized only when there is a significant amount of content to be displayed (Deléglise et al., 2009, p. 295). According to Dalgarno & Lee (2010, p. 21): “Three-dimensional environments offer
transparency of knowledge representation”. Additionally, Deléglise et al (2009, p. 294) interpreted that:

“Having 2D interaction is particularly helpful and useful when interacting with WIMP (window, icon, menu, and pointing device) elements such as menus and dialogue boxes”

In contrast, 3D interaction gives the possibility to experience a more realistic and familiar user interface than 2D does (Deléglise et al, 2009, p. 294). A typical presentation of the static 2D text and image information does not attract many users because it gives the users a very limited opportunity to manipulate or observe the products (Han et al, 2002). To understand the idea of the transformation from 2D to 3D, it helps to stress the improvements in terms of user-friendliness in the web environment (Deléglise et al, 2009, p. 294). To improve 2D/3D web applications, bridges between high quality content and rich 3D navigation should be offered (Deléglise et al, 2009, p. 298). Deléglise et al (2009, p. 297) explained that:

“User friendliness should be analogous to that of a classic 2D website. However, sharp animation movement facilitates free movement about the room.”

Theses two visualisation levels of 2D and 3D provide additional values over 2D-only sites. The 3D technologies are used to deliver equivalent educational content in a learning context (Dalgarno & Lee, 2010, p11). Three-dimensional worlds are more fancy and offer different appealing 3D images, which drives the users’ interest. In addition, the navigations inside the 3D virtual worlds are simple to use. Deléglise et al (2009, p. 297) describe the 3D virtual worlds environments in the following way:

“In our sample, the 3D universe is a circular virtual room composed of seven stands the user can interact with this environment using an avatar. A chime or other sound welcomes the user and supplies him/her with complementary information. Each interaction with the environments is linked to a sound effect (push button, movement, transition, and loading) in order to alert the user of activity”

A transformation process from 2D to 3D may increase the customer’s interest for online shopping. Dalgarno and Lee (2010) support this idea by categorizing the idea of customers’ contribution in this type of environments, their categorises are:

1. “Presence (including both the physical state of presence as well as the social impression one makes).
2. Representation (including the visual appearance of the person’s avatar, along with their identifying name or description).
3. Embodiment (including their physical actions along with the social positioning of these actions).
2.4 Avatars

Customers use avatars for interaction in the 3D virtual world. Nah et al (2011, p. 732) define the avatars as “digital representations of the user and simulated bodies that can move in the 3D virtual worlds.” Another interpretation of avatars is Barnes and Mattsson’s (2008, p. 196-197), who argue:

“Avatar are graphical representations of characters - typically people - and are used in various applications including chat, instant messaging, blogs, games and virtual communities.”

Furthermore, Ives and Junglas (2008, p. 152) write:

“An avatar is a graphic identity that a virtual world user chooses to represent him- or her in this environment. Sometimes, an avatar is created as a representation of a human being but can also take on the form and appearance of fantasy-like creatures.”

Hence, avatars provide a visual representation of the user’s real, representative identity, and appearance that help them to socialize inside the 3D virtual world.

The sensibility that the user have when s/he control the Avatar by portraying him- or herself, or an alternative self, is unconsciously implemented within the virtual world environment. This is considered to be very useful for supporting a rich sensation of a psychological immersion in the performance of tasks. Furthermore, it is useful for supporting deep levels of communication, collaboration and relationship building (Dalgarno & Lee, 2010, p. 14)

Communications and interactions within a simulated environment helps the user to have a ‘sense of place’ in contrast to other text-based alternatives such as instant messaging, chat rooms, and multi-user dungeons/dimensions (Dalgarno & Lee, 2010, p. 22). It helps to embrace great relations within groups of individuals and provide rich communications environments and provides the ability to draw on spatial verbal communication through text as well as non-verbal communications in the form of gestures and facial expressions (Dalgarno & Lee, 2010, p. 17 & 22). The portrayal of the user is an important element of the representation because it helps to create a sensation of co-presence in the environment, which helps to improve the social interactions (Dalgarno & Lee, 2010, p. 14).

However, Ibáñez et al (2011, p. 5) argue:

“None of the above is possible without an adequate means of navigation through the world. Usually this is done via the mouse or the keyboard.”

By using 3D virtual environments, users interact with one another by using personalized avatars. This social presence plays a critical role in social interaction among the users (Jin, 2011, p. 108).
2.5 Social Media

Social media is considered as a facility for the virtual communities to attract the costumers. In the virtual shopping mall social media should be included, because customers from the local community feel more pleasant through visiting, shopping, and inviting their friends (Field, 2010, p. 55). Natho and Pfeiffer (2010, p. 136) have argued that “Social components are integrated using the new web technologies: blogging, social tagging and other communication features”.

Furthermore, Alan and Graves (2012, p. 80) explained that:

“Social network concepts of size, quality, complexity, diffusion, and distance determine the situational usefulness of social media tools such as Facebook, LinkedIn, and Twitter.”

Hence, social media opens up a world of networking and relationship-building opportunities for users and the business peoples (Sacks & Graves, 2012, p. 81).

At the heart of user experience is an improved sense of presence, which was proven through users’ evaluations. This could be observed through monitoring users’ interaction in virtual environments (Jin, 2011, p. 108). According to Jin the use of social media is interpreted as “being an entertainment medium for multi-user interfacing and social networking” (Jin, 2011, p. 105).

Hence, social media is considered as an important aspect in our daily bases to check and be informed of the new updates of friends. In addition, the announcements on social media that business owners are making to promote their items, improve the business working process and enhanced promotions.

2.6 Conclusion

In this chapter I have explained the topics that are used in the literature in regards to the idea of the 3D virtual shopping mall. First there are different explanations to the idea of a virtual world according to the literature. Using virtual worlds for online shopping is considered as something interesting for the business peoples. It includes e-business and e-commerce, which I explained above. The reading of this literature increased the understanding in regards to this idea.

Usually, users (costumers) are familiar with the e-business and e-commerce in the normal 2D web environments. Adding e-business and e-commerce to the 3D environment to show it in online stores is considered interesting and drives lots of attentions. That is why I also read about the transformation process from 2D to 3D environments and mentioned it above.
Moreover, having the ability to navigate inside the mall, using an avatar and to be able to chat with friends is considered as an interesting experience. Finally, social media drives the attention of several people, therefore it is interesting to include it inside the virtual mall and therefore it was mentioned above in the literature review.
Chapter 3 : Worldview and Method

In this chapter I will present the research’s worldview and the methods used in the study. I will mention the philosophical perspective, the research method, the data collection methods and the data analysis. In addition, the language of this research, its consent forms and the ethical issues will be explained.

The information system research is dominated by interphilosophical discussions. Hence, today we have a variety of methods and philosophical thoughts that have been introduced in the field of information systems.

3.1 Philosophical Worldview

Information systems are operating on the flow of implicit information that has been either told or researched upon. This study’s worldview behind the formulation of information with explicit evidence will be shown through the philosophical assumptions of this research. The studies in information systems (IS) are characterised by its relationship with information technology (IT), organizations, and people (Orlikowski & Baroudi, 1991, p. 1) as it is shown in Fig. 1. Myers and Avison (2002, p. 3) explained that information systems are considered as

““The discipline, which focuses on the development, use and impact of information technology in business and organizational settings.”

Figure 1: Information system relationship

Hence, research in the IS field has shown that information technology affects the social situation in which it is applied (Fors, 2006, p. 47). Furthermore, it shows the human ability for structuring their understanding and its usage (ibid.). The astounding variety of information system helps to show the different philosophical worldview. Hence the essential element in our case is epistemology, which helps to guide the research (Myers & Avison, 2002). Myers and Avison (2002, p. 5) describe: “Epistemology refers to the assumptions about knowledge and how it can be obtained”. The implied philosophical worldviews can be categorised into three perspectives: positivist, interpretivism, and critical studies (Orlikowski & Baroudi, 1991).
• **Positivist studies:** It tests a theory in order to increase anticipated understanding of the phenomena. In a descriptive work with no theoretical grounding or interpretation of the phenomena (Orlikowski & Baroudi, 1991, p. 5). Moreover, Myers and Avison (2002), illustrated that the positivist research assumes that the objects of the reality can be describes by the measurable properties, which are independent from the researcher (Myers & Avison, 2002, p. 6). In fact, the information systems research as Positivist means there is tangible evidence, quantified measures of variables, hypothesis testing, it can be shown the phenomena and provides an accurate measures of this research (Myers & Avison, 2002, p. 6).

• **Interpretive studies:** People can create and associate their own subjective and intersubjective meanings as they interact with the world around them (Orlikowski & Baroudi, 1991, p. 5). Myers & Avison (2002) illustrated it as access to a given reality or socially constructed reality, by the means of social constructions, which are language, consciousness and shared meaning (Myers & Avison, 2002 p. 6). The attempt of interpretive research is to understand the phenomena based on people interpretations of this phenomenon (Myers & Avison, 2002). Interpretative research is a facility that helps the IS researcher to visualize human understanding through actions in social and organizational contexts (Klein & Myers, 1999, p. 67).

• **Critical studies:** the main purpose is to criticize the status quo, through the exposure of what are believed to be deep-seated, structural contradictions with in social systems, and thereby to transform these alienating and restrictive social conditions (Orlikowski & Baroudi, 1991, p6). To propose critical research Myers and Avison explained (2002, p. 7) “Focuses on the oppositions, conflicts and contradictions in contemporary society, and seek to be emancipatory; that is, it should help to eliminate the causes of alienation and domination”.

Accordingly, this research is an interpretive research, because it depends on the complexity of human sense making when some situation is established (Klein & Myers, 1999, p.69). In fact, it helps to understand the phenomenon based on the meaning that people assign to it (Klein & Myers, 1999, p.67). Besides, the underlying philosophy in this research is phenomenology, this is considered to be the research approach, which is used to analysis this research and that will help to conduct and evaluate this research. In the next section I will attempt to interpret the phenomenological nature of the study. In addition, I will explore and describe how members of social reality are going to participate in social processes.

### 3.2 Research Approach

I will investigate the essential meaning of the phenomenon “3D Virtual Shopping Mall”. The gathered information from the participants will be explained and analyzed. Due to the aim of this research and based on phenomenological method, I have decided to use a qualitative research approach. According to Creswell, qualitative research is: “a mean for exploring and
understanding the meaning of individuals or groups ascribe to a social or human problem” (Cresswell, 2009, p. 4). The reason for this is that the findings are accurate based on the viewpoints of the researcher, participants or the reader (Cresswell, 2009, p. 191).

In a qualitative research the focus are on peoples experience more than on general believes (King & Horrocks, 2010). Qualitative research enables the researcher to study social or cultural phenomenon (Myers & Avison, 2002) and to understand people’s experience in social or cultural live. Hence it is suitable to explore activities, processes, and events in the 3D virtual shopping mall. Interviews will conducted on a group and individual level with CEO’s and consumers to collect necessary data. I will also use some questionnaires.

3.3 Phenomenological Research

A phenomenological study is selected for this research because the 3D virtual shopping mall is a new phenomenon we are witnessing in the development of the new technology services. Max Van Manen (1997, p. 10) gives several definitions and explanations to the phenomenological research, he writes:

“Phenomenology is the systematic attempt to uncover and describe the structures, the internal meaning structures, of lived experience. A universal or essence may only be intuited or grasped through a study of the particulars or instances as they are encountered in lived experience.”

The philosophical based and the investigation methods that are used in different fields like history, management, design, psychology, sociology, mathematic, philosophy, education, and so on, is also used in the information system research field (Introna & Liharco, 2004, p. 56).

The focus of this philosophy is to monitor the actual essence of life and describe the experience of these essences in details. According to van Manen (1997, p. 11) phenomenological research is “the study of lived or existential meaning; it attempts to describe and interpret these meanings to a certain degree of depth and richness”. Furthermore, Horrocks and King (2010, p. 175) define phenomenology as: “a philosophical tradition that has an enormous influence on the development of qualitative methods in social science”.

Another description of phenomenology is Hart’s (2005, p. 211) who explains: “Phenomenology aims to study the natural attitudes as a reality based on experience”. This methodology has driven the attentions of different research pioneers in the field of information systems.

Introna & Liharco (2004, p. 59) states that, “Phenomenology is a transcendental approach to our understanding of the world.” The purpose of choosing transcendental in their paper is that they can express more about phenomenology and explain its relation to the information system fields (Introna & Liharco, 2004).
To understand the basic notion of phenomenology, I will go through the key concept of it. Furthermore, the two founder’s perspectives are briefly explained. In the next section I will try to trace the development of phenomenology as a philosophy, established by the philosophers Edmund Husserl and Martin Heidegger.

**3.3.1 Husserlian’s Phenomenology**

The German philosopher Edmund Husserl, who lived from 1859 to 1938, established the idea of “Phenomenology” (King & Horrocks, 2010). He defined it as “the science of pure consciousness” (Earle, 2010, p. 287). Consciousness refers to the effect that happens or what are going to happen, and the try to interpret the experience through consciousness acts. Husserl started this idea first and explained phenomenology as a chain of senses. Introna and Llharco (2004, p. 71) explain:

“Phenomenology strives to accept and to proceed only within the primacy of human experience as experienced; that is, our ongoing intentional structural correlation with the world.”

Hence, Edmund Husserl has been described both as a phenomenologist and a transcendental philosopher (Earle, 2010, p. 287). Earle explained ‘Transcendental phenomenology’ helps and “relates to the way that knowledge comes into being consciousness and is seen as the rigorous human science of all conceivable transcendental phenomena” (Earle, 2010, p.287). In Fig. 2 my interpretation of the development of Edmund Husserl phenomenology orientations is presented. First, Husserl’s argues about sensation towards describing an object and called it ‘Unordered Sensations’, through this process the user experience an object based on interpreting the sense of specific act. According to Husserl’s idea (Introna & Lharco, 2004, p. 60) “Our senses operate in an unordered flux of one-dimensionality.” Husserl tries to use the phenomenology and described it as “Fullness of beings” (Introna & Lharco, 2004, p. 60) to be able to describe objects from different viewpoints.
Phenomenology according to Husserl is “never be unprecedented”. But it is the idea of “ongoing senses”. Therefore, phenomenology can be understood as an “already there” sense as it is shown in Fig. 2. Introna and Liharco (2004, p.59) explained further that: “Phenomenology is a transcendental approach to our understanding of the world”. Introna and Liharco (2004) explain the transcendental domain: “The a priori categories of mind, such as sensation or judgment.” They continue to explain Husserl’s definition of transcendental as: “The active, directed, ongoing life of consciousness that is the necessary condition for our ongoing experience of the world to be meaningful as a such.” (Introna & Liharco, 2004, p. 61).

The idea of phenomenology based on Husserl’s work starts with the word “already there”. Through this idea we are experiencing the world as a “Whole” in its “Fullness” and the judging of the objects surrounding us e.g. as something being interesting or boring, hard or soft.

Husserl defined the experiencing of the world as “Noema” which refers to unity, meaning (Introna & Liharco, 2004, p. 62). In addition, “Noesis” is the direct experience of the world. In another words it is the ongoing act of experiencing (Introna & Liharco, 2004).
The main idea of Husserl phenomenology is to “describe” and give the account of the necessary “Neomatic Structural Unity of the intentional consciousness”. Besides, to ensure the working process of phenomenological in the right way, Husserl used “the reduction process” that helps to reduce a person’s impressions through the senses as showed in Fig. 2. The use of the term “reduction” according to Dowling (2007, p. 132), in the end of Fig. 2, means that:

“The person reduces the world as it is considered in the natural attitude to a world of pure phenomena or, more poetically, to a purely phenomenal realm”.

Husserl furthermore coined the term “epoché” which means suspension of judgment in the ancient Greek philosophy. Epoché is considered as the opening of an entire realm of subjectivity, which Descartes barely touched (Natanson, 1973, p. 65). It is used in analysis and describes the structure and constitution of the field that the phenomenology is applied to (Natanson, 1973).

In his work Husserl has described several numbers of reduction process. The first is the phenomenological reduction, used for natural attitudes towards a particular object or phenomena (Introna & Liharco, 2004). Dowling explained that: “Husserl uses the term “natural” to indicate what is original, naive, prior to critical or theoretical reflection” (Dowling, 2007, p. 132). Using natural attitude helps to purify human consciousness and discover the essence of a particular phenomenon (Earle, 2010, p. 287). The reduction process has to be preceded by an action turning facts in to essence (Natanson, 1973, p. 66).

The second step in the reduction process is the eidetic reduction, which helps to make the reduction in the essence of the work (Introna & Liharco, 2004). Husserl explained that it begins with in experience and remains within the same experience (Natanson, 1973). By these quotations he argued the natural knowledge from his own perspective. He called it “Natural” standpoint form the theoretical perspective. Fig. 2 shows Husserl’s idea in the use of the phenomenological method. Behind the formulations of phenomenology Husserl started by experience something that we are using in our daily basis as a practical example to interpret the human experience as experienced for example a “Chair”. The chair is defined as “A piece of furniture consisting of a seat, legs, back, and often arms, designed to accommodate one person” (The free Dictionary). Our description and picturing the chair is based on our “Unordered Sensations”. Thus, we are sensing outside of the chair because it depends on our sensation to the object or the chair. Therefore, it is called Unordered Sensations. Furthermore, we can sit on the chair, put it in front of the desk, we can stand behind the chair and we can some time put some things on the chair. So, this is the experience of the chair and it is based on a person’s senses to it. Whatever one is sensing one is interpreting these sensations of the chair experience. However, when you are seeing the chair we are describing it from one side of the chair only. We cannot see the other side, unless if we move and look at the chair from another side. In summary, “phenomenology” is like an “already there“ sense as if a chair is plastic, steel, wood, etc. which is helping us to remind and explain the chair as a chair that we can sit on and is useable for different activates and help to establish it in the “Transcendental Domain” (Introna & Liharco, 2004).
3.3.2 Heidegger’s Phenomenology

Martin Heidegger (1859-1938), the German philosopher, was one of Husserl’s students (Earle, 2010, p. 288). He studied phenomenology in the footsteps of Husserl (Earle, 2010, p. 287). However, Heidegger’s work is understood as a critique of Husserl’s transcendental inquiry (Introna & Liharco, 2004). For example Heidegger criticized the “cognitivist tendencies” in Husserl’s work, i.e. the reduction of meaning to some contents in the mind.” (Introna & Liharco, 2004, p. 68).

Based on Heidegger’s interpretations of the “Transcendental” that is considered as

“always and already grounded in the consciousness, all knowledge, human undertaking, are drawn on an ever present substratum: the world, a world that is always already there, radically primary” (Introna & Liharco, 2004, p. 68).

“Our scientific system of orientation in time and space has their condition of possibility in our being a Body,” “A Lived body that is the ongoing horizon of orientations and meaning.” (Introna & Liharco, 2004, p. 68).

In his book “Being and Time” Heidegger’s, Introna and Liharco (2004, p. 68) explain: “The intentional relations with the world is not Epistemic as Husserl assumed but rather Practical and Ontological”. Earle (2010) explained that Heidegger points out that “Being and Time, is considered to be a radical movement away from traditional philosophical approaches to human beings” (Earle, 2010, p. 288).

According on Heidegger “the transcendental domain is not a “purified” consciousness as in Husserl’s idea, it is the ongoing and unfolding referential whole in which everything what is has its being.” (Introna & Liharco, 2004). Heidegger’s interpretation of the Transcendental Domain is the world that we are living in. Thus, he uses the term “Being in the world” arguing that we are humans living the world. So he referred to humans as “Dasein” (Introna & Liharco, 2004). Dasein (Humans) are considered as an ongoing structure openness towards the world that they are living in and Heidegger considered the world as a (Unity) (Introna & Liharco, 2004). Heidegger started with the possibility for describing the object that we are experiencing. For these descriptions he is using the term “refer” which makes sense of the necessary relation or reference for the object or the tool that you are already using. (Introna & Liharco, 2004).

Through the idea of describing the object, he is using the involvement of the Whole in the world that refers to the “Horizon of meanings”. Heidegger emphasized the “notion of temporality, taken to mean the horizon of all possibilities of being or existence, which make sense to us in terms of time – past, present, and future” (Earle, 2010, p. 288). Heidegger explains that the relation with the world is ontological. In fact, “Heidegger’s focus is ontological as opposed to the epistemological focus of Husserl” (Earle, 2010, p. 288).
Husserl describes “a chair” as chair in his example. Heidegger explains the chair as a “Possibility for something”, in the context of the chair example a “possibility for sitting” or a “possibility for standing on” and so on.

According to Heidegger the phenomenological method is human experience as experienced (Introna & Liharco, 2004). Following Heidegger, Lucas Introna and Fernando Liharco (2004) developed interpretations of phenomenological. They categorized it in the following four phases:

1. **Describing the Phenomenon**

   The first phases aims to describe the internal horizon of the phenomenon as simply as possible without any assumptions (Introna & Liharco, 2004, p.72). The idea is to describe the basic idea of each object and explain its experience. In this phase it is just about the descriptions of the phenomenon in our ongoing activity of the world without intention to explain this phenomenon (Introna & Liharco, 2004, p.72).

2. **Analysing the etymology**

   The second phase is to trace the origin of the word. In fact, it is not the idea of showing the meaning of the word rather than bringing the meaning of the thing itself in the antepredicative life of consciousness (Introna & Liharco, 2004, p. 72). They propose a complete understanding of the word and to show the fullness of its meaning.

3. **Performing the reduction**

   This phase will accomplish the phenomenological reductions of the finding of the first two phases (Introna & Liharco, 2004, p.72). In order to reach the essential description of the phenomenon, the reduction process must be performed. In fact, it brackets out the fundamental aspects of a specific phenomenon that led to show the intentional experience of the phenomenon (Introna & Liharco, 2004, p.72).

4. **Investigating the essence**

   The last phase of this process attempts to show the fundamental research element that shows the phenomenon as it is (Introna & Liharco, 2004, p. 72). The mean of essence is “What makes a thing what is (and without which it would not be what it is)” (Dowling, 2007, p. 133). The essence is won by means of reducing the phenomenon, i.e. stripping out the elements that are being common to the phenomenon (Introna & Liharco, 2004, p. 72).

In the analysis of this research “3D Virtual Shopping Mall” I will demonstrate and proceed carefully according to these four phases that are presented above. The reason behind choosing these four phases for the analysis of the 3D Virtual Shopping Mall phenomenon is the flow of the analysis and a good method for argumentation (Introna & Liharco, 2004, p.73). The analysis will be presented in chapter 6.
3.4 Data Collection

The data collection is conducted with the use of interviews and questionnaires. These methods are used in order to answer the research questions of this study that were introduced in the introduction part and to investigate this phenomenon from different point of views. The data collection process is presented in Fig. 3 to show the research process and the various methods used for the data collection as well as the relationship between the methods.

![Figure 3: The Data Collection Process](image)

The collection of the empirical material was conducted through different parts and with different participants. The motivation to include them in the study was because my research is qualitative. According to Laurel (2003) a qualitative approach: “It is ideal for learning exactly how each person feels and thinks about a topic or design, without concern for the influence of others.”

Furthermore, the interviews are the most common methods in qualitative research (Horrocks & King, 2010). The interviews, illustrated to the left of Fig. 3, were conducted with the CEO of the virtual shopping mall in United States, the CEO of an IT consultant company in Jordan, a PhD student, master students, and teenagers. The first part of the data collection was an interview with the CEO of VirtualEShopping mall. I have chosen the CEO of the virtual shopping mall to get accurate information and to understand how he has established the idea of the 3D virtual shopping mall. In addition, my reason for this interview was to gather data about strategies and
business issues. The second part of the data collection was the interviews with two groups of master students. Each group consist of five students. I have specifically selected master students, because they have experiences and knowledge about e-Business and e-commerce. In addition, they can discuss the potential that has been included in this type of work. The third part was an individual interview with a consultant and with a PhD student. The fourth part of the interviews was a PowerPoint presentation to a group of Swedish high school teenagers.

The questionnaires were an additional means to gather data, used in the research. In Fig. 3, to the right, shows the questionnaires that were sent to different students, employees, and customers who use the VirtualEShopping. A consent form that contained the ethical issues of this study was included. The questionnaire's phase in this study where conducted with two groups of participants. The first group was a questionnaire to the COO of Esimple; the founder of the “Virtuy Mall” virtual shopping mall in Italy. This mall was recently established and it is considered to be a new idea in Italy. The second group of questions have been sent to students and employees, with different levels of education. In order to show different people points of views in the 3D virtual shopping idea and what drives the participants interests in this type of study. This will enhance and diversify the data basis of this study. I have selected these informants based on their working field, study field and to people who are interested in online shopping and have a lot of experience in regards to it.

The collected data material presented in chapter five will be analysed with the use of Lucas Introna and Fernando Liharco's (2004) phenomenological method to get the most useful information and themes that are helpful in conducting in this research as it is shown in Figure 3.

3.4.1 Research Settings

The participants of this study were very familiar with the 2D Internet shopping environment in different ways because they have already tested and experience this idea through daily bases in the world they are living. According to the interviewees in this study, the participants exemplified their experience of online shopping through buying online tickets (train, buss and flights tickets), while other participants experiencing shopping of clothes, shoes and electronic devices.

However, a 3D shopping mall was something that the participants were not familiar with maybe some of the participants has some theoretical knowledge about the 3D virtual world but they had no experience of a 3D virtual shopping mall. Thus, there are not much people who are familiar with this phenomenon. The 3D virtual shopping mall idea established first in United State of America, this idea attract allots of business interest. This idea is considered as a possibility for customers to interact with the business world through a technological platform from the customer’s home by one mouse click from different places.

3.4.2 Interviews

The conducted interviews were either face to face interviews or through the use of the software application (Skype) that allow the users to make high quality phone calls through the use of Internet in different locations. After sending several email invitations, specific times and dates
were arranged by means of electronic communication (E-mails). This was needed, because some participants live in different time zones.

I have managed to arrange suitable times and dates for the interviews through Skype. These interviews were performed in different locations were recorded by a voice recording devices for means of documentation of this meeting. After that, the recordings the interviews were transcribed verbatim. Furthermore, these transcriptions where sent to the interviewees to check the validity.

Each interview started with a brief introduction about my research and its aim. To convey the idea of a 3D virtual shopping mall I provided each interviewee with more details of this research. I followed an interview guide that was prepared to start the discussion with the participants. The questions in the guide were open-ended questions, see appendix A. These interviews were conducted during my data collection phase of this research. The individual interviews lasted at least one hour and half while the group interviews lasted three hours.

The interviews where conducted in different places some of them were performed at the campus of Linnaeus University, the local buildings at the Linnaeus University, and some of them where distance based. They were recorded, after permission from the participants, with a computer recorder program named “Audacity”. In addition, a mobile recorder was used as a backup system. The recordings were converted into a written text as it is shown in the appendix, where you can find the interview guide and the verbatim transcriptions of the interviews. According to King and Horrocks (2010), transcriptions are the process that converts recorded material into text.

The interviews are categorized into four parts as I have mentioned in the beginning of this chapter. In order to meet my research aim I have presented my data to the participants of this research and also presented the 3D virtual shopping mall to them. Through the interviews I have shown the digital world in the 3D virtual shopping mall and navigated in it by using my avatar. In addition, I presented the virtualization and technology transformations from 2D reality to 3D reality from social and economical aspects. Interviews have been conducted with:

1. **CEO of VirtualEShopping Mall**

Mark Stein is the CEO of the VirtualEShopping mall that I have interviewed in order to get accurate information in regard to the idea of 3D Virtual online shopping. The interview was conducted through the use of ‘Skype’. Due to the time differences between Sweden and United States this interview was holding on Monday 07 on February 2011 at 20:00 PM Sweden Time Zone. This interview lasted for two hours. The host was asked several open-ended questions following the interview guide see Appendix A.

2. **Two focus group interview with master student**

The focus group interviews where conducted with two groups of students. Each group consist of five students. The first focus group was held on 9 of June 2011 at 12:00 PM and the second was
3D Virtual Shopping Mall

held on 23 of June 2011 at 14:00 PM. Those students were undergraduate’s master student at the Linnaeus University, studying different fields like; Information Systems, Structure Engineering related to civil engineering, and Marketing. I started these interviews by explaining the idea of my research, what it is for, and then I asked some semi-structured (open-ended) questions. In addition, I took the participants to a tour inside the astonishing variety of the 3D virtual mall. I have guided them through this activity inside the mall and they expressed their impression regarding the mall.

3. Individual Interviews with a PhD student and the CEO of a consultant company

In this part I did not focus only on specific group of people. I have used different type of people with variants professions. The motivation was to get different point of views in regards to the phenomenon of 3D virtual shopping mall. This interview is concerned with assessment of two perspectives, first the business perspective by conducting an interview with the CEO of IT consultant company in Jordan. The interview was hold on the 8 of June 2011 at 13:00 PM through the use of ‘Skype’ and lasted for one hour and half. Second, a theoretical perspective was gained by conducting an interview with a PhD student that is doing research in the “Social Media and Participatory Process in Democracy” at the University of Stockholm. This interview was conducted face-to-face in the local building of the Linnaeus University on 10 of June 2011 at 14:00 PM. It lasted one hour and half.

Both participants had a solid experience in the use of e-business, e-commerce and also in e-marketing, especially the CEO of the consultant company. Therefore different aspects have been discussed by using different interviewees.

4. A presentation to a group of high school students

The aim of interviewing teenager students was to investigate specifically young generation. This generation grew up with the use of the Internet, video gaming and the development of the new technology. To convey the general idea, I used a PowerPoint presentation that I have prepared to explain the main issues of the virtual shopping mall and the transformation from 2D webpage to 3D simulation. The education level to those students was a high school level. Some of them are studying the information technology (IT) branch. This interview was held on 13 July 2011 at 11:00 in the ’11-Gordan’ and last about one hour in the Swedish language.

In order to meet the above aims, as part of this study, it is needed to talk to teenagers about the 3D online shopping and to ask them to login into the 3D virtual shopping mall and explore it, and move around. Later, they can share their experiences and ideas by taking part in interviews or answering questioners. But the format of this interview was closed-ended interviews.
3.4.3 Questionnaires

The purpose of the questionnaires was to get an overview of different peoples opinions in regards to the 3D virtual shopping mall. Questionnaires have been distributed to several people with different educational level. I have selected the participants according to their working knowledge in regards to the information system field and according to my working experience with them. In addition, I have get some list of people that are using the VirtualEShopping mall and to send the questionnaires to them. The time period for the distributed questionaries’ was between 1st of May till the 1st of August 2011. I have distributed about 20 questionnaires form to different students and employees and 20 questionnaires form to the customers of the VirtualEShopping mall. But due to the ethical issues in this research it was not obligatory to answer these questions in the questionnaire, it was optional. Most of participants, however, answered the questions, only a few did not answer them. A lot of questionnaires have been sent to the customers of the VirtualEShopping mall and also to some employees in the consultancy fields and IT fields, unfortunately, I did not get any response form their side.

I have divided the questionnaires in to two parts:

1. Questions to the COO of the Virtual mall in Italy

Gabriele Maidecchi the COO of Esimple, one of the developers of Virtuy Mall, the 3D virtual shopping in Italy has answered the questionnaires that I have send to him through means of electronic communications (E-Mails).

2. Questions to student and employees

Several questionnaires have been sent to different people and employees through different educational level with consent form to check their point of view in this research.

Most of the participants have solid educational background like master educational level background in information technology (IT) and also information systems. The questions have been sent to them as a documents file that contained semi-structured questions with the information consent that contain all the terms and conditions for this research. They filled in the answers based on their point of view and send it back to the researcher.

3.5 Language of the Research

In this research, the language that is selected from the author is the English language; although some interviews were conducted in the Swedish language, but I translated these into English to fulfil the research requirements.
3.6 Ethical Issues

The ethical issues are highly considered in this research. Hence, all the participants were informed that all personal information would be kept strictly confidential and anonymous for the participants of the group interviews. The participants of the single interviews told me that their anonymity is not needed. In addition, there is an information consent form that participants needed to read and sign. This form contains the interviewee’s rights, short summery of study, and terms and conditions of the interview. The consent form is included in the appendix D, E. It includes the terms and conditions of my research in a simple language and were delivered to the participant either in the interviews, or by deliverance of the questionnaires. My consent form is attached in the appendix D, E.

3.7 Validity and Reliability of the Research

In order to show that the information used in this research is accurate, reliable and general information, the researcher has to use validation, reliability and generalizations of this research information. Therefore the validation of the finding of this research is considered as an important step in my research. Cresswell explains the term validity as: “the researcher check for the accuracy of the findings by employing certain procedures” (Cresswell, 2009, p.190). In order to show this research is valid the researcher, according to Yin (2003), should cover the following points in the research “Select the specific types of changes that are to be studied (and relate them the original objectives of the study); and demonstrate that the selected measures of these changes do indeed reflect the specific types of change that have been selected” (Yin, 2003, p.35).

To follow these ideals, several strategies could be used. In my case, for the validity of the research of the 3D Virtual Shopping Mall, I have chosen to triangulate “different data sources of information by examining evidence from the sources and using it to build a coherent justification for themes” (Cresswell, 2009, p. 191). Hence, during the process of this research all these factors were taken into account and multiple source of evidence based on my data collection were used. Lastly, I also build a theme for analyzing the findings.

Reliability “indicates that the researcher’s approach is consistent across different researcher and different projects” (Cresswell, 2009, p. 190). Yin illustrated the goal of reliability as: “To minimize the error and biases in a study” (Yin, 2003, p. 37). To check the reliability of this research, I had to be sure that my approach is accurate and consistence. Therefore, a checking of the transcripts of the research is needed, to make sure it is out of mistakes. Hence I sent the transcripts back to the interviewees. The transcript has been checked and confirmed to avoid spelling mistakes and that it document these meetings. In addition, during the data collection and the arranged meetings with the interviewees, I shared my data with them and the idea has been discussed.
Chapter 4: The 3D Virtual Shopping Mall - a guided tour

Virtual E-Shopping is a 3D virtual shopping mall that has been launched in Louisville, Kentucky in the United States, and it is considered as the first 3D Virtual shopping Mall. In order to visit the mall and navigate inside it through the use of the Avatar, the shopper or the customer, have to go through several steps. Hence, I will take a tour inside this 3D Virtual mall, and explain the user interface with the 3D technology and the experience of an avatar.

We will start with a list of guidelines explaining how to use this 3D virtual mall. The first step is to visit this website: www.virtualeshopping.com, the main webpage for the 3D Virtual-shopping mall. The second step is to register yourself in the Mall by filling some basic information about yourself, in order to help your friends to recognize and finding you inside the mall. The third step, in order to have a universal accessibility inside the virtual mall the user has to download and install a software application\(^2\), which is called “The Mall Client” application as long as the user is connected to the Internet. This application enables the users to access the 3D shopping mall from different areas. After downloading and installing this application, a small window will appear on the right side of the user computer screen called “Click to launch”. By clicking on this small window, it will lunch the main mall page and it will load the mall. As it is shown in Fig. 4, the customer has to enter her or his information in order to signing into the mall with her/his membership data by entering her/his username and password, if the user was already a member in this mall otherwise the user can login as a guest, see Fig. 4.

![Figure 4: Main Mall Client.](image)

After the user signs in for the first time mall, the application will load the lobby of the main mall. In the lobby, the system shows multiple shopping e.g. the Main Mall, Ultimate Gift Show and

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\(^2\) This application does not support Mac computers.
NW Florida Mall etc., connected to the VirtualEShopping mall as the main server, in order to embrace variety of requirements to the users or customers as it shown in Fig. 5, ‘The lobby of the Mall’. The customer can choose and decide which malls attract him/her from the list.

![Figure 5: The Lobby of the Mall.](image)

Before the user can go to the main hall, a welcome page will appear to the users that show some information and instructions guides for the users to use inside the 3D virtual shopping mall, see Fig.6. As example, the mouse or the keyboard in the computer can be associated with a numbers of actions that play a big role in generating this appearance and these actions can be easily controlled by the user interface. In addition, this instruction shows and informs the user, if s/he is a guest user; they wont have the ability to chat with friends. Thus, the user has to register inside the 3D virtual shopping mall to perform the social activities like chatting with friends.
The customer, who has selected to enter the main mall, will be transferred directly to the main hall or entrance as shown in Fig. 7. Through this hall, s/he can walk and enjoy the stores inside the mall. The main mall entrance shows hallways, rooms, doors, shops, wing section and promotions or advertisements, which is visualises the artefacts of real worlds shopping malls.
VirtualIEShopping mall provides the user with different activities; one of these activities is an interface for selecting the avatar type before starting the shopping experience. The user can create her\his own Avatar to explore the shopping environment inside the virtual shopping mall. The first entrance to the user inside the virtual shopping mall will be the defaults avatar that has been specified by the mall owners. The avatar inside this shopping mall is called “Persona”. In order to change your avatar, the customer has to click on the persona button, where a window called (Persona Creator) will be shown as can see in Fig. 8.

Through the persona creator, the user can change her\his own name, choose her\his own gender, and change her\his style like (hair style or clothes), as well as select his own face color and the color s/he prefers. Moreover, the customer can change her\his profile and add some information about her\him self, as well as inviting his friends to view her\his own profile. After performing this step, the customer has created her\his own persona (Avatar) based on his selections. Thus, the last step in this process will be to click on “Save”, in order to save the changes that the user made on her\his persona (Avatar), and then click on “Return to Mall” to go back to the main mall hall. Now, the user can navigate inside the virtual shopping mall, manipulate products, and interact with other users via a chatting tool.

![Persona Creator](image)

**Figure 8: Persona Creator**

Besides, there are some keyboards shortcuts that can be used to improve the usability inside the virtual shopping mall and helps the user to explore the changes that the user made to his/her own avatar. By clicking on (F1 key) you will be able to see your persona from behind, and if you click on (Del key), you can circle yourself and observe it from different directions. Inside the mall you can invite your friends, and have a shopping tour together with the experience of user simulation through your persona.
The communication in the virtual shopping mall between the customers is conducted through chat panels that are shown as an icon in the left side of the computer screen. By clicking on it, a chatting window will be shown on the bottom of the screen page. By pressing on the chat button a new chat will be initiated during the shopping time then the user will have the ability to chat with her/his friends (as it is shown in Fig. 9). In addition, there are a few animations available to the chat options like Giggle, Wave, Laugh, Wait, Kiss and you can say that you are here.

The persons names who are inside the mall is shown in Fig. 9 on the right side in the chat panel; hence by clicking on one of the names that were listed in this panel, you can invite a friend of your friend to join you inside the mall. In addition, you can view his/her profile or ignore the friend that you do not like. While you are walking inside the mall, maybe you will lose your friend there, hence, you can click on “transport” to transfer you to where your friend is standing; this is done by clicking on the “transport” button, which will take you directly to your friend’s side.

Fig. 10 shows my friends and me inside the VirtualEShopping mall navigating and exploring what the mall facility and what is provide for the users or the customers. Besides, we see the shopping mall contained several separated stores and hallways which link the stores. By clicking on a door the customers can enter a store for shopping.
Furthermore, in order to know the names of the stores that contributed to this mall, you can click on the search button, and it will directly show you the store directory. Which consist of a list of the stores that are available inside the virtual shopping mall, without the need to walk around everywhere in the mall as it is shown in Fig. 11.

As it appears to the user a list of the stores that are available inside the 3D virtual shopping mall, the user or the customer can click on (G) letter, then choose (Game Fly) it will transforms the user their as it shows in Fig. 12. It will show a Persona (Avatar), which it is the customer service
to play this game. Hence, by clicking on this persona, there will be an audio message that shows the products that this person is selling, and if you click on this person again, this message will stop appearing.

![Figure 12: Play Game Fly](image)

This is considered as one of the features that the mall contains, in addition to several other features. Fig. 13 shows peoples playing Game fly.

![Figure 13: Shoppers are playing Game Fly](image)

Inside the mall there are different ways in advertising, one of these ways are having the “JumboTrons”. Which it is considered as large screens for displaying videos on the stage, in order to keep the audience centralized around it as shown in figure (14), having the JumboTrons
on the stage could help in presenting videos for special events, like having different concerts and
another advertisements of the stores.

As you can see inside the mall, there are some musical guests in the JumboTrons up in the stage,
while they were recording their concert. These features can help them to appear live in their
“Persona” form on the stage, and helps them to interact with their fans as well. In this way, the
user can have all sorts of celebrities, special events and fashion shows, as well as advertisements
that keeps on going through videos on the JumboTrons and live in real time by the personas.

Figure 14: The JumboTrons

Fig. 15, is s screen shot inside the mall shows me and my friends walking inside the mall in
different areas, trying to check the stores that are available inside the mall.

Figure 15: Friends meeting
To perform the shopping activity through this virtual mall the user approaches to a door of the shop of the store as it shows in Fig. 16, by clicking on it, it loads a related room data eventually the user may enter the room.

![Figure 16: One of the shops inside the mall](image)

For VirtualEShopping the user can press on the store door and it will transform to the main webpage shop as it shows in Fig. 17. Their user can browse the items and perform the shopping activity and the item will be shipped to her/his place.

![Figure 17: the main shop](image)

For more entertainment you can walk among people in your Persona (Avatar) just for fun. In addition, there are some other attributes available in the mall that are known as the “Shopping tips”, in order to help users to chat with their friends, singles or anyone. Also, “My dates” is another feature in order to help you remembering the users about friends’ birthdays and anniversaries. Therefore, when you click on more, it shows you the special days and the things that you would like to have or you already have. In addition to the “I want it / I got it list”, you will be having your item shipped to your place.
Chapter 5: Empirical Material

In this chapter the empirical findings will be presented. I have conducted several interviews and questionnaires to explore the idea of 3D virtual shopping mall that has emerged in our days. The presentation starts with the business owners and ends with the students that participated in this research.

5.1 The Idea of the 3D Virtual Shopping Mall

“VirtualEShopping Mall” in the United States is the practical project that has been established to convey this idea. Based on my data collection with the CEO of “VirtualEShopping”, the CEO was inspired to develop this idea by establishing a shopping center with a storefront that people can log in to. This shopping center is virtual and uses an avatar to perform the social activities inside the mall. Mark Stein the CEO of the VirtualEShopping described his thinking in the following way:

“This idea just sort of exploded in my head because I realized that there could be a virtual shopping center with storefront, a site which in and off by itself”.

In fact, Mark Stein was thinking of having an idea that includes user interfaces inside the virtual world and to sign in to this virtual world as Avatars. In this mall the users are not only going to find the best offers for the items but it is also a facility for socializing, which is possible by using a virtual environment. It is a social event that is considered as a place to go out with your friends and navigate together inside the virtual mall.

In order to have a comprehensive view of the variety of this phenomenon, this study does not include only the virtual shopping mall in the United States of America, but also another one in Europe that has also established a 3D Virtual shopping mall. This country is Italy, which is considered as one of the major countries that have established 3D virtual shopping mall. It is called “Virtuy Mall”\(^3\). Gabriele Maidecchi, the COO of “Esimple”, the company that has launched the 3D virtual shopping mall “Virtuy Mall” in Italy was one of the participants in this research. He explained that the company called “Esimple” which is a technological consultant for business companies created the virtual shopping mall.

While, The COO of Esimple told:

“The behavioural marketing, where people are analysed to know what they buy according to product placement in a certain part of the shop/mall and so on. Having a real 3D environment allows marketers to test their theories in a much more efficient and economic way, while from the customer’s point of view there’s the mix of buying online in all comfort and experiencing a near-to-reality range of emotions associated with it.

\(^3\) The founders of “Esimple Company” started the idea of 3D virtual shopping mall, and they are the CEO (Chief Executive Officer), CTO (Chief Technology Officer), COO (Chief Operating Officer), and CCO (Chief Communications Officer).
And unlike traditional ecommerce, you can have friends near you criticizing your choices or suggesting new items.”

The CEO of VirtualEShopping is planning a platform and idea for the other people who are interested in having this type of mall to be united under one platform that it is called the VirtualEShopping mall. He explained that one of the strategies that are used in the mall is called “Licensing Opportunities”, in order to provides full requirement to licensing business for people to use the mall. According to the CEO of VirtualEShopping Mark Stein:

“This is work or idea for people that can also develop and published virtual shopping mall but the main linkage will be tagged to VirtualEShopping Mall”.

Gabriele Maidecchi the COO of Esimple, explained the marketing strategies that are used in Virtuy Mall, he told:

“The best way of funding a project like this would be through a two-channel marketing effort, one aimed to gather merchants, the other aimed to promote the merchants products to gather customers for them.”

Convincing the merchants is not considered an easy process at the beginning of the virtual shopping idea because it is not something that the users see everyday. According to the COO of the Esimple Company the founder of Virtuy Mall told:

“The key element was to make the merchants understand that it wasn’t all just about an ecommerce website, but about the 3D part making it an awesome promotion tool.” There are some merchants that are hocked to this idea and they had their virtual shops inside the virtual mall.

Similarly, Mark Stein the CEO of VirtualEShopping Mall, introduced marketing system methods that are used in the mall to attract customers and these are affiliate marketing and pay per click systems. Affiliate marketing method, in this context, according to explanation of the CEO of VirtualEShopping are, large companies are joined together under one web publisher to provide contents, images, and promotion that are showed in that web publisher. Google is one of these companies that are using this affiliates method. The CEO of VirtualEShopping Mark Stein said:

“It is very easy to get accepted and access to these content and paid in this model to get a percentage of sales formulations”.

He went on to explain that most of the stores inside the VirtualEShopping mall are considered as “Affiliate Stores”. The customer click on one of the stores key site and makes a purchase any time with in 60 days then will be get a percentage of that sale. He explained:

“Most of our stores are affiliate store so if somebody click through to this key site and makes a purchase any time with in 60 days then will be get a percentage of that sale.”
The other marketing systems method called “Pay Per click” that are used in the VirtualEShopping mall for some stores that are not using affiliate marketing system method. While, they tend to use another method called “Pay Per click”. This method according to Mark Stein the CEO of VirtualEShopping mall explanation is used for merchants who sign up in the mall as pay per click customers, they registered with credit card. Thus, the procedure of paying is when traffic of customers is inside the mall its start by 10 senses per click, just like Google key work advertising. According to Mark Stein:

“The more are their stores been clicked the more the opportunity appears in billboard or whatever appears to the center atrium. So it’s like an auction system the more traffic they bring the better there position is.”

In addition, social media is used as some marketing strategies for both VirtualEShopping and Virtuy Mall to promote the idea of the 3D virtual Shopping mall. The social media consists of using some social online sites like (Facebook, Twitter, Blog and est.). Based on the CEO of VirtualEShopping, interpreted that:

“The social media is playing a big roll in the marketing for customers and readers”.

Besides, the COO of Esimple explained that they are very active in the use of social media and there are many visits per month to their virtual mall and it considered as very effective idea to attract customers apart from more traditional sale channels.

In addition, VirtualEShopping based on the interview with Mark Stein, is using 3D social networking that focuses exclusively on the features that involved shopping. So the user profile picture represents the Avatar (Persona) that the user has created. In another features customers can use a chat panel to chat with their friends inside the mall. Also, there are other features like shopping tips; dates and an “I want it - I got it” list.

Moreover, one of the participants of the questionnaires explained his idea regarding the 3D Virtual Shopping mall:

“It save a lot of waste time in driving, parking, searching, bargaining, noise, emissions and extra expenditure.”

The founders of “Esimple” Business Company were thinking in having this virtual shopping mall, he told:

“The initial concept was to allow shop owners to sell their products through our portal with no startup costs, just a mark-up on the sale.”

In order to convey this idea the founders of the Virtuy Mall were thinking in the mall paradigm, the COO illustrated”
“We would rent a mall space, just like in the real world and allow people to put their products on their own, with a walkthrough-friendly system.”

As an example, the standard space allows to input your products through PNG image. Shipping the items to the customer is considered as an important aspect to attract more customers to this virtual shopping mall. According to the COO of Esimple, the shipping issues are considered as a problem in some shopping site or malls, he went on to explain,

“Esimple manages all monetary transactions and all the shipping procedures and problems.”

The working mechanism to manage the shipping issues in the Virtuy 3D mall is based on a ticket system to keep track of the items. As an example, the COO explained that,

“As soon as a sale is finalized, we notify the shop owners who packages the item. Then we notify the courier who picks up the item and delivers it to the customer.”

The CEO of IT-consultant Company explained further:

“Online shopping helps to expand the business horizon through the use of the Internet and development of the technology.”

5.2 The Experience of the Customers of the 3D Virtual Shopping Mall

The master students tested the Avatar (persona) inside the mall they walked, run, and chatted with each other. They made different activities in their avatars, like changing clothes, hair color etc. According to the students this experience is impressive for some and they consider it as an interesting project. Having the ‘Avatar’ (Persona) helps the user to relate to the virtual world, by finding yourself in the center of the activity. I believe this attract the attention of the participants by shaping there virtual presence in this world.

The participants experienced this idea and they had explained interesting idea. In addition, one of the master students was impressed about the mall design and programming that had been done and he thinks that:

“It is much better than the 2D malls because is gives you the freedom inside the 3D virtual Shopping mall.”

One of the interviewees stated:

“The 3D virtual shopping mall idea is like a hub that gathers all the shop under one roof and then you click on one of the shops and it is connect you back to the 2D real shop. In addition, the mall idea is very nice especially the chat features that inside it.”
Furthermore, having the idea of sharing your experience with others is entertaining. One of the participates illustrated:

“Interactive shopping malls would be nice to visit not just for buying something but also checking what your friends have been buying and chatting with others like you do in usual in real malls.”

Similarly, the teenage students think it has a very good functionality and through the chat you can also start a new social relationship.4

Based on interviews that I have done through this research, the participants are using online shopping in the 2D stores to buy different assets online, they think:

“It is easy and cost effective to use online shopping.”

According the intentional PhD students:

“It is a very good idea in the 2D web shop to provides the customers with different information’s about the products the online shop offers”.

According to the CEO of IT-Consultant Company interpretations of using online shopping told:

“Online shopping its great tool for business and to expend your business without having a headache of finding the allocations and stuff like that and its smart way of doing business nowadays.”

However, according to the data collection of this research one of the participants explained, that it was difficult for the customers to buy online, too, when the 2D online shopping stores started. But, now it becomes much easier because in each online shop there are lists of guidelines that help the customers through the shopping process. In addition, it provides the customers with the information about the selected products. Which it is called “The Availability”, that the intentional PhD student describe it as:

“One motivational factor that drives people to buy it.”

Availability means the existing of products on the online stores. The issue with availability will drive people to buy things and create a hype around the products. The Master students brought up another point and discussed the use of online shopping through talking about the experience in regards to the online shopping. One of the students explained her idea of online shopping as:

“You can find a variety of products with some special promotions only online.”

Another student told:

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4 Translated from Swedish to English.
“We can go to the shop to see the item and test it and if it is cheaper on the Internet, I will buy it”.

Two-Dimensional environments, containing width and height coordinates, currently used with most online shopping facilities are considered interesting to the users. The CEO of IT-Consultant Company told:

“This idea of the shopping mall benefits by saving clients and customers time. In addition, expanding the market space not only globally but also internationally.”

One of the master students explaining this idea is a very good idea but she cannot make any statement about it because she cannot control her Avatar or put some clothes on it. Another student is saying that it is sometimes boring because you are running inside the mall trying find your friends and its time consuming.

Thus, the arguments continue with the student to improve the usability in this VirtualEShopping mall. They are expecting to have some more interesting applications to attract the customers and keep in touch with the virtual mall updates. Some student suggested adding more functionality, make it smoother and add new possibilities. So the main idea is to name this mall as beta software for testing purposes and then assess it with additional functionality to keep people interested to it. Maybe like adding video games to keep the customers hocked in to the mall.

The master students suggested that having the shops 3D shops inside the virtual mall. However, one person suggested the reverse. He suggested to have a 2D website and when you click on a link, it will transfer you to the 3D websites so the FrontPage will be 2D and then it will be 3D later. Furthermore, he thinks that the application’s software is very compute intensive for the computer.

As for future expectations, one of the students stated that it could be interesting if his entire friends are available in this shopping mall. Then s/he will join them with no doubt. Some students like what this mall is offering as good experience for first time user go inside the mall.

The teenage students like the idea of the virtual shopping mall because it is faster and easier and effective. However, they still go to the physical shopping mall5.

Some of the ideas form the interviews explains that the shipping is a concern for some. So if the shipping is cheap s/he will prefer to use the virtual mall instead.

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5 Translated from Swedish to English.
3D Virtual Shopping Mall

One of the master students stated:

“It’s just need like an additional functionality to keep people interested in it but overall it very good idea its just need like a video games kind of have like something you hocked to it.”

The COO of Virtual Mall explained this idea is important to improve the quality of life like handicapped people, he told:

“People with a handicap preventing them to actually go in a real mall whenever they want could really benefit from a wide use of this kind of technology.”

The COO said that the 3D framework was gathering the attention of many developers of the whole affair. Eventually, they implemented it into a commerce tool by allowing visitors not just to imagine the aforementioned mall paradigm, but also to experience it directly in their browser.

Beside, through the data collection phase the participants from the business field of research explained the business idea in regards to the 3D virtual shopping mall platform. In fact, producing a platform that combines different shops less than one roof considered as interesting idea to have that attracted a lot of users. In order to convince the merchants to participate in this type of 3D virtual shopping mall required using different strategies. Based on my interviews and questionnaires to the Virtual shopping mall owners and CEO of IT-consultant Company. They had illustrated different strategies and ways to use in this field. These strategies are used to expand the idea of 3D virtual shopping mall and to attract more customers to it.

5.3 Social Media

The use of social media (Facebook and Twitter) is recommended by both students and mall owners. The argument is that people can share their reviews about specific product it kind of important because it helps other people in their decision-making. Moreover, other ideas from the participants explaining the idea of the Avatar and the 3D shopping mall drives a lot of attention specially the avatar. The idea of interactive shopping is preferable by people.

In the interviews the focus was also on security issues. The security is always considered as a concern for both the manufactures and the users. The interview with our participants discusses the security issue that the user will face while using the Internet especially while shopping online. The customer will use her/his credit card through the shopping process on the Internet. So, this is considered as very important information and it puts the customers in risk if it would be misused. In addition, the master students in the group interview agreed that the payments issues are a big concern for the online shoppers, because they have to save their credit information online, which is a security risk, if the website is unsafe.

The PhD student added later that there were security issues before with Visa Card and Master Card that were considered as a very big problem. He said that:
“They didn’t have a very secure way of verifying the purchase but lately there is something called “3D secure” which means that you need your credit card with your smart card reader and you are actually verified on the site that you owned.”

So, this process is actually preformed by putting the credit card in a small card reader and then when you press a button, in the screen there is some text that asks, “Enter your pin code?” Pin code is a secret number that only the user knows, then you will get a code back so; you will type it in your web browser. This reduces the amounts of risk and when people understand this technique then they will be using online shopping because they will go through several secure steps and not having a direct contact with the merchant.

Therefore, the customers do not have to fear what the merchants can do with their credit card numbers. Because the data is going directly to the visa or the master cards companies.

Thus, the use of 3D secure solutions according to the PhD candidates thinking is:

“Increase the faith in the idea of online shopping rather than decreases it.”

Another aspects that consider as a concern from the group of Master students, is when you buy from a non well-known web shopping site and you registered in that site with your personal information and bought some item. Sometime you will have some spam E-mails that send in to your e-mail account. One of the students said that these online shops should have some kind of certificates to be trusted. However, another master student said that:

“Security might be subjective problem in real world and electronic world”.

Through the interviews and questioners to the participants, we go through some shopping websites where there is some facility for safe payment like using PayPal. It is highly recommended and guarantees the secrecy of your bank account. While other buying over the Internet and they do not have any problem or concern regarding the item.

According to the COO of Esimple, they have not experienced any type of security problem in their system so far. In addition, all the money processes are done through the banking partner for Esimple. Thus, they do not hold any credit card information in their server because their banking partner manages all the payment process through encrypted connections.

As suggestions for online shopping from our PhD candidates, through the interview we discussed also, that there are two websites in Sweden Prisjakt and Pricerunner. The possibility in these sites that you search for specific products and it will show that product in different stores. Therefore at these sites hosts all the stores in Sweden and you can check different products and know which are the cheapest stores that sell that product and buy it directly.

Based on the CEO of VirtualESHopping, the main mall page is connected to Facebook and Twitter. And for further development to the mall is “Facebook Connect” an application that
show the feedback of your activities inside the shopping mall like if you have changed your persona profile picture this will be shown in your Facebook page that

“ Person X has changed her profile persona picture”.

So according to Mark Stein, the CEO of the American mall:

“ Mostly show the feedback and your actions inside the mall on the Facebook Page”.

The customers can express their experience regarding the shopping virtually inside the mall.

However, in the other 3D mall in Italy Virtuy, COO of the Virtual mall explained that when they have started programing this virtual mall, there were not that much interest in the social media in Italy, therefore they have not included it, yet. But for now, the COO of Esimple is using social media as a strategy that are used to attract customers to the 3D shopping mall.

Another perspective the CEO of Consultant Company is aware of publishing every detail in the social media. So, he is suggesting having a privacy issue. He illustrated that:

“There are some people are making money out of information and usually people think this information it there own information. To steel it or make use of these information I do not think they will like this idea.”

Contrary, the PhD student thinks in other way regarding to the use of social media in the 3D mall. He explained that there are some potentials to this mall if they use social media or try to integrate Skype to call each other inside the mall. Like when you go in with your friends you can make a group call on Skype that you can talk to each other simultaneously while you are shopping. Thus, when you leave the Skype group conversion that mean that you have sign out form the mall and you are done with shopping instead of using the chat forum.

Similarly, the master students discuss the idea of social media in the 3D virtual shopping mall, too, after I explained the idea of “ Facebook Connect” to them, in order to know if they like to express their virtual shopping experience. The student replied that having Facebook connect that publishes all the user activity in the virtual mall on Facebook, was unacceptable, because it is interference in there private activities. In addition, some of the students said that they heard that Facebook applications are unsafe, because Facebook is absorbing the information you have entered which led us to information insecurity.

However, one of the students is suggesting that we can have the VirtualEShopping mall as an application on Facebook so we can login to it and publish your mall activity will be optional like some game in Facebook. The person gets the invitation and it is optional if he want to login and check it or not. In addition, publishing of activities would be optional, too.

This development and having a virtual shopping mall with having the physical mall it is interesting but it does not replace physical malls.
The CEO of VirtualEshopping said, that:

“Retailers are shrinking the size of their physical stores”.

Therefore, this idea of virtual shopping appeared because of the economic problems that some countries are facing in the current time. After some years physical stores still only exist because some people like the idea in doing things in the physical world. However, as a future work the CEO of VirtualEShopping interpretation is that there would be some kind of “scanning technology” that is going to be developed. It would give you the ability to specify measurements to your body, the exact fit base on the scan and be sending to your place. So he thinks

“This need a lot of time till the virtual stores replaces the physical online stores. And I don’t think it will totally replace it because we still want to do something in the real or physical world”.

In addition the COO of Esimple stated that

“I don’t think traditional shopping is going to fade off anytime soon, but I also strongly believe ecommerce should be a viable choice for most businesses.”

Also this is the same thinking for the CEO of an IT consultant company.

The PhD student prefer to use online shopping or going to the physical mall instead of the virtual due to the difficulties he is facing when he is attending an physical mall like (car, other cites, buses, est.). Moreover, the master students will be more attracted to the idea of virtual mall if they updates the shops everyday like the physical shops because they do not want to waste two hours on bus. However, others prefer to go to the physical mall instead of the shopping mall. Some of them are suggesting that there are two ways either save time and go directly to the shop you know or you can go to window-shopping with some friends. All of these helps to expand the virtual shopping mall horizon and provides more efficient businesses environment. One of the participants in the data gathering explains that having a 3D virtual shopping mall is considered as creative 3D promotional tool for the products.
Chapter 6 : Phenomenological Analysis

The aim of this research is to discuss the idea of a 3D virtual shopping mall and the differences of the transformation (virtualizations) from 2D to 3D virtual environment. This chapter will show the analysis as the main aspects illustrated in this research that have been conducted through the data collection section (interviews and questionnaires). To convey the idea of the 3D virtual shopping mall, I have used a phenomenological analysis. Max Van Manen (1990, p. 131) writes that:

“Phenomenology, like poetry, intends to be silent as it speaks.”

Hence, the phenomenological method means to focus on experience as experienced of the ongoing structure of the world that we are living in. My analysis’ is based the phenomenological method developed by Lucas D. Intron and Fernando M. Ilharco in (2004) has inspired me to use this analysis for my study.

To argue and give a deeper understanding of the phenomenon of 3D virtual shopping mall I applied the following four phases, to increase the understanding of this phenomenon.

1. Describing the Phenomenon of 3D Virtual shopping Mall.
2. Analysing the etymology of the 3D Virtual-shopping Mall.
3. Performing the reduction to the 3D virtual Shopping Mall.
4. Investigating the essence of the 3D Virtual-shopping Mall.

The analysis integrates the empirical data collection with the phenomenological analysis of 3D virtual shopping mall in order to limit repetition of formulation of the research and the effectiveness of the analysis.
6.1 Description of the Phenomenon of the 3D Virtual Shopping Mall

I will start the analysis of 3D virtual shopping mall by exploring my description of this phenomenon. In this phenomenological analysis I will try to explain the meaning of the 3D virtual shopping mall in its ongoing activity by describing the external horizon of the phenomenon of 3D Virtual shopping mall. Hence, I will not intent to show my reflection to the content that are shown in the 3D virtual shopping mall in this first step. The 3D virtual Shopping mall is like a nexus of relationship that provides a bi-directional way of relating the customers to the real world and the Business people to the Business world.

To describe 3D virtual shopping mall I attended and experienced it by looking to what appears on the Internet page of the computer. It seems attractive to go through 3D Virtual shopping mall.

In a 3D virtual shopping mall the user can see by using his avatar presents, shows, exhibitions, stores. All the activities are supposed to be relevant data in the context of a shopping center. Using a 3D world is convenient for the user, e.g. he is either working or studying and s/he does not have much time to go out physically to the physical mall and buy specific items, s/he can navigates inside the virtual shopping mall and buy the selected item. In addition, this mall is considered as a socialized area for the customer to contact people and go out with friends. This is supported by the 3D graphic design, which helps the customers to enjoy their times inside the virtual shopping mall and through the shopping tour. By creating a personal, virtual character used to move around virtually inside the mall and trying to be active and interact with the virtual environment, shopping tours are possible even while working at office, while watching TV or doing other things.

The 3D virtual shopping mall delivers a virtual reality experience. It works online by navigating to the main website, after installing a small application from the main mall website called “Mall Client”, to open it, the customer has to click on the “Mall Client Application” down button to turn it on, it will by this start the avatar and transfer him/her to the virtual shopping world. Hence, the customer attentions will be directed towards the computer, the customer will sit down physically or cognitively and perform activates. Obviously a computer and an Internet connection are needed to be able to use the virtual store.

In this virtual mall are lists of malls that contain different store that are gathered under one roof. The customer can walk through and by clicking on one of the stores inside the mall, the customer either be forwarded to the 2D webpage, the main website of the store that you can buy from it, or you can browse the item in three dimensional view inside the store.

The motivation for having humans to interact with technology is to perform specific activities like playing games, checking updates of your friends, shopping, studying, etc. Most people enjoy these kinds of activities, and thus, they can develop a passion about computers and technologies in general. Using a 3D environment will drive the attention of these kinds of users.
However, through this phase I will describe the 3D virtual shopping mall as it is, without any assumptions. I will only try to take particular contents into consideration, apparently this is not an easy task.

The participants of this study were very familiar with the 2D Internet shopping environment in different ways, because they have already tested and experience this idea regularly in their daily life. However, a 3D shopping mall is something that the participants have not tested before. It could be that some of the participants have some theoretical knowledge about the 3D virtual world or they played 3D computer games. However, none of them had any experience with a 3D virtual shopping Mall. Probably, there are not many people familiar with this idea. In fact, the 3D virtual shopping mall idea was established first in the United State of America. The idea attract allot of business interest. Therefore, I believe that this idea is considered as a possibility for customers to interact with the business world through a technological surface from the customer home or by one computer click from any other place and that my research will provide additional understanding of the problem area.

In a virtual mall there are several subordinated, different stores that are gathered under the mall’s roof. The customer can walk through by clicking on one of the store symbols inside the mall, by this the customer can either be transformed to the 2D webpage, the main website of the store where you can order the products, or you can investigate the store’s item in three dimensional view inside the store in the mall.

The participants’ impression regarding the 3D shopping mall describes it as very interesting, fancy, beautiful, entertaining, innovative idea and impressive project. This idea attracts the customers’ interest in the 3D virtual shopping mall, most of them liking online shopping and performing social activities inside the virtual mall. The action of those people is shaped through the login to the virtual world, the creation of their avatar and browsing the stores and interacting with each other socially by using the avatars in the virtual world.

The phenomenological description of the 3D virtual shopping mall through this phase showed the virtual world as a host for stores that contain relevant product data, that helps to attract the customers and business people for particular situations, acting as mediation between ourselves and the world, and help the customer to be more social through the social activity that are available inside the virtual mall or other social media like (Facebook, Twitter and etc.) of gathering and locating as an Avatar inside the 3D virtual Mall. By finishing this phase we have the first phenomenological description for the main central meaning of the 3D virtual shopping mall, its strategies, and the world that we are living inside of it.
6.2 Analyzing the Etymology of 3D Virtual Shopping Mall

The analysis of phenomenon in the second phase intends to show the Etymology of the word “3D-virtual-shopping-mall”. Etymology means trace back the origins of the word (Introna & Liharco, 2004, p.72). Based on online dictionary Etymology defined as:

“The branch of linguistics that studies the origin and history of words.” (The Free Dictionary)

I will trace back the etymological roots and identify the origin of the word “3D-Virtual-Shopping Mall” to be able to explain its phenomenological meaning, and to have a clear vision about this idea. Based on Introna and Liharco (2004), the intention of phenomenology is not through finding the original meaning of the word, but it is used to track back the development of meaning of the word. Thus it helps us to make the necessary relations or references more evident, which in turn help us to understand its meaning.

To analyze the etymology of the complex word “3D-virtual-shopping-mall” it is needed to split up the compound word into its distinct parts to give an adequate etymological understanding of each part’s origin and history.

By dividing the meaning of “3D-virtual-shopping-mall” into its separate parts, each part is considered as independent, which makes it possible to show the meanings of each word per se. According to online dictionary (Online Etymology Dictionary), 3D is an adjective, virtual could be an adjective or a noun, shopping could be a verb, noun or an adjective and Mall is a noun. I will start by giving the original meaning of each word as follows:

- **“3D”**: 3D is an abbreviation for “three-dimensional”. Dimension is defined as “The number of coordinates needed to specify a point on the object.” (Weisstein, X). These coordinates are well known in daily language as height, width and depth. The historical connection to 2D, that is also important, will be discussed later.

- **“Virtual”**: the etymology in the English language for this word goes back until the 14th century. It means, "influencing by physical virtues or capabilities," and is derived from Medieval Latin *virtualis*, which itself is derived from the Latin word *virtus*, which means "excellence, potency, efficacy," literally "manliness, manhood". The meaning of "being something in essence or fact, though not in name" is first recorded 1650s” (Online Etymology Dictionary). Computer sense of "not physically existing but made to appear by software" is attested from 1959 (Online Etymology Dictionary).

- **“Shopping”**: is considered as the process of going to the shop and buying some products that are of interest for customers. In some dictionaries shopping is defined as “the process of browsing and/or purchasing items in exchange for money.” (Business Dictionary). Based on Online Etymology Dictionary, this word where used firstly in the 20th century 1913, and officially add to the vocabulary in 1959 (Online Etymology Dictionary).
“Mall”. Based on the etymological dictionary the word “Mall” is traced back from the 17th century and means "shaded walk serving as a promenade," this phrase is generalized from “The Mall”, the name of a “broad tree-lined promenade in St. James's Park, London”. The name was given to it, because it was formerly an open alley that was used to play pall-mall, a croquet-like game involving hitting a ball with a mallet through a ring, from French “pallemaille”, Italian “pallamaglio”, which is based on Italian “palla” which means "ball. The modern sense of an "enclosed shopping gallery" is from the nineteenth Century. The word “Mall” is officially used since 1985 (Online Etymology Dictionary).

Earlier in the 20th century, the idea of online shopping was not possible with the limited information technology infrastructure at our disposal. Now, I will go through the origin of “3D” by showing the different virtualizations levels, i.e. the gradual transformation from one-dimension to two-dimension and then the three-dimensional environments. I will start to explain the history by mentioning the first establishment of the World Wide Web in 1989. This idea drove the several successes, such as the Dell Online shop. These were documented in the late 1990s (Ives & Junglas, 2008). The World Wide Web developed and improved much in its first 10 years and later (Ives & Junglas, 2008). Moore’s Law, which is about the doubling of transistors every two years and thus performance generation is also seen as a symbol for other radical improvement on the software side like richer user interfaces, spin-offs from video-gaming, open source solutions, cross-world interoperability and 2D dimensional web browser. Thus it is nowadays common that you can browse one item through the use of the Internet, this will inexorably drive virtual worlds towards ever-increasing reach, realism, and usability” (Ives & Junglas, 2008).

I draw the following conclusions of the explanation of the history of the concept 3D:

1. One-dimensional web environments are considered as linear measurements. The web browser, however, uses one additional dimension, and thus it is a two dimensional (2D) software, which contains width and heights. Establishing 2D web environment stores is considered as a creative idea for doing businesses. An online two-dimensional environment provides different facilities for the customers like for example buying different types of tickets, electronics devices, clothes, furniture and etc. This is considered as an online shopping experience. The ability to browse the item in a 2D store and having well colours and graphs to attracts some customers and business people.

2. However, adding another dimension to develop this idea even further -from width and height only- to also including depth is considered as three-dimensional environment. This transformation process form 2D to 3D environments give the user a new digital medium to explore and expand the user’s horizon. In addition, having the flexibility of browsing the items in regards to the costumers and more business benefits for the stockholders. This type of online 3D virtual shopping mall draws the interest of business people to help them to sell their products through the mall with out a start-up cost. But the business exploitation of virtual worlds lies

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largely in the future. Practical examples of 2D online shops are EBay, Amazon, etc. this is seen as a very practical idea to buy online and get the goods send to ones place. The content that is presented in the 3D virtual shopping mall basically is an Internet page that contains different text, image, colours, videos and different graphics that are presented in a three dimensional way.

3. Using the avatar a person can go and navigates inside a 3D environment. This is considered as a very creative idea that faced very good reaction from the customers and business people. The 3D virtual shopping mall considered as very interesting idea because it gives the customer much more freedom and choices than a 2D mall. Having the user interface inside the mall and the chat panel that help the customers to contact each other is very useful to go out with friends for virtual shopping tours. Hence the transformation from 2D to 3D is considered as a very creative idea for virtual worlds.

To summarize this part I conclude that the meaning of 3D-virtual-shopping-mall is composed of several sub-terms, which can be converted to the full meaning of an “excellent promenade for exchanging items with money, featuring height, width and depth and an avatar”.

6.3 Performing the Phenomenological Reduction on the 3D Virtual Shopping Mall

The third phase of this analysis will recover the essential meaning of the “3D virtual shopping mall” phenomenon. The argument is supported by the empirical findings that I have collected through this study based on the questionnaires and interviews in the data collection chapter, which you can see in chapter 5.

The main focus is to show the 3D Virtual Shopping Mall phenomenon as it appears or is reflected in our consciousness. According to Introna & Liharco (2004), the reduction is a return exactly to the horizon of meaning. (Introna & Liharco, 2004, p. 79). Reducing the phenomenon of “3D Virtual Shopping Mall” to its original meaning is done by disregarding characteristics that we value in other, normal cases, while it is attempted to keep the meaning as complete as possible.

In fact, the reduced phenomenon of the 3D virtual shopping mall shows us something formulated to attract or rather already has attracted our attention and locates our actions in the ongoing activities of our world of work, social life, and entertainment and so on. As stated on chapter 5.2, the customer’s experience show that doubts can be clarified by recognizing the difficulty that the one has to go through when s/he tries to imagine the situation of 3D virtual shopping mall in the presented way. In this study the 3D virtual mall is shown as a designed digital simulation that can visualize different items like stores, videos, images, item discounts or commercial announcement and avatars. These cases in the 3D virtual shopping mall are very difficult to describe or imagine. However, if we lose the description of the meaning it will lead to lose the essential meaning of the 3D virtual shopping mall and this object will lose the desired meaning.
3D Virtual Shopping Mall

The variety of the 3D virtual shopping mall displays the applicable information within the involvement whole in order to relate us with the world. As an example think about the case when the first 2D online shopping website was established, when a man saw this idea of 2D online shopping website for the first time it would have been a very curious object for him and he would wanted to know more about it and he would navigate inside that shop and browse through the items. However, a 3D virtual shopping mall consists of lots of curious objects to go through, and delivers much more navigation freedom inside, this drives attentions as a whole. Moreover, the man knows it as just a 3D virtual shopping mall, a person cannot imagine it essential meanings. We researches are already engaged in the world of the information system, we know exactly what is the potentials that are exists in the 3D virtual shopping mall. Thus, the data that are presented in the 3D virtual shopping mall refers to us, our interactions with the technology, avatar, stores, socialization and so on. It refers to the aspects of our ongoing activates in the world: Can we buy something or not, shall we chat with friends and so forth. The 3D virtual shopping mall provides several meanings in the world below the main surface, like presenting, social behavioural, avatar, shopping and other activates that view the involvement and action in the world. In addition, the 3D virtual shopping mall provides business opportunities for business people because it help to save the clients and customers time, i.e. it is more convenient for both sides. The PhD student and another interviewee mentioned another argument for this point of enhanced convenience, namely, the increased availability of products offered inside the shop. By this, the mall is functioning like a hub. Therefore the customer does not need to browse several other shops, thus, it is easier to find specific items, time is saved, and the convenience is improved.

Furthermore, as we found out by the people’s experiences reported in the empirical chapter, the mall owner provides several services to the storeowners, like shipping, handling of payments and site security. This is all organized by the parent company, i.e. the mall. Because the mall is a bigger party then all its smaller stores, it can achieve better contracts, e.g. directly dealing with banks by using direct computer interfaces and/or receiving special and better services from them. Additional benefits are supplied through the use of affiliated marketing and pay per click, as it was stated in the empirical finding chapter. Another marketing benefit is generated by the usage of social media, like Facebook connect simply by the fact the people will discuss a special mall, store or product and all friends can read it. In short, the services improve all clients business, organizing business is easier for them, and therefore everybody’s convenience is improved, too.

Some participants considered the possibility to interact in the virtual mall with friends is very interesting because you can buy things and socialise in the same time. Thus, the 3D shopping mall eases the way of life and offers entertainment at the same time.

To establish the phenomenological reduction, it is important to consider the intentional “object” of the 3D virtual shopping mall in our situated consciousness. To grasp the concept of the 3D virtual shopping mall, its world should be taken in the consideration. Therefore, we have to think about all possible relations of our word (nexus). The 3D virtual shopping mall functions in a world that makes sense, because all the activities that are done in the world should refer to each other as meaningful.
3D Virtual Shopping Mall

All in all considering what was said above, I therefore state that the reduced meaning of the 3D virtual shopping mall is to enhance people’s and business’ life by providing convenience and entertainment. In order to have its core essence meaning I will try to go beyond the common ground and try to define the necessary references of the 3D virtual shopping mall phenomenon.

6.4 Investigating the Essence of the 3D Virtual Shopping Mall.

To get the essential idea behind the 3D virtual shopping mall one shall not generalize. Introna and Liharco (2004) explained the concept of generalization as: “Pre-supposes the existence of some essential meaning for its operation.” (Introna & Liharco, 2004, p. 81). In fact, the essence is considered one of the core aspects in the study of the phenomenon because it helps to provide the changes in the world. Introna and Liharco illustrated that exploring the imagination by “What one can and what can not imagine” (Introna & Liharco, 2004, p. 82) is considered as the key concept for proceeding with the analysis. The analysis of the 3D virtual shopping mall aims to take out the main essence of phenomenon that is necessary for the 3D virtual shopping mall. Thus, imagination of the object help us recognize the object as it self.

In the beginning we can start by describing the surface of the 3D virtual shopping mall, it displays the entrance of the virtual mall that are simulated in three dimensional views of some stores, terraces, chat panel, avatars profiles that can be controlled by the user who has it, JumboTrons the big screens that the user can press the ‘on’ button will display some advertisements or commercial to the shops that the mall host them and shops or stores that when you click on them it will transform you to the main shop or store site. In addition, these themes of presentations has its meaning form an ongoing horizon of activities that shows their meaning in the relevant presentation, those are available in the form of life. In fact, the 3D virtual shopping mall is presenting the constituted as meaningful in the way the world is.

The variety of 3D Virtual Shopping mall drives the attention and attractions of the ontological understanding of the virtual mall activities that engaged to the world. In the 3D virtual mall it is important to note that inside of it you are watching, seeking, socializing, entertaining and interact with the technology. Human beings have a sense of seeking for something new and innovative to preform a certain activity in the world. In fact, the fundamental way of the ontological way of seeking is by gain its ontological importance as 3D virtual shopping mall. Thus, seeking priority is either understanding a thing or seeking for the truth. Seeking is watching the 3D virtual shopping mall as already implied in the ontological agreement about the nature of the world.

The 3D virtual shopping mall has the attention of its surrounding who are interested in the development of technology and innovations. 3D virtual shopping mall displays the relied fundamental content. These types of agreements that mangers and users depends on, when using the virtual shopping mall in our world.

The phenomenological meaning in the 3D virtual shopping mall reveals as the already ontological agreement, because we unconsciously agree to see the virtual world as semi-real, it is unreal, but a visualized 3D environment tries to imitate reality and by using an avatar the user unconsciously agrees to that ontological commitment.
Like in older times, when the meaning of the term “mall” was widened from the first place in London, to any other place where you can buy and sell things in the shadows of some tree, or any other relaxing situation, the meaning is expanded again, being used in a virtual world context by using the internet. This gathers the essential meaning of already agreement which based on its background of ‘convenience and ‘entertainment’ that 3D virtual shopping mall does not show but it is hidden and it traces back way to the concept virtual world.
Chapter 7 : Discussion

This research investigates the idea of a 3D virtual shopping mall with regards to the customers and business people’s interest for this type of phenomenon. As I have explained earlier in my study, the analysis discussed two perspectives the business owner’s perspective and the customer’s perspective in regards to the idea of a 3D virtual shopping mall. In addition, the transformation process from a 2D environment to a 3D virtual environment in the field of shopping was explained. This idea assesses the use of 3D virtual online shopping that helps to associate the success in online shopping together with a socialization process.

Firstly, by discussing the analysis of the findings, I will answer the first research questions that was presented in the first chapter:

“How does the transformation process from 2D to 3D shopping affecting the user’s experience?”

The user interface with the 2D environments has remarkable increased through development of the new technology of the digital world. The use of Internet and dot.com web browsers increases the uses of business online websites for several purposes as I have explained earlier in chapter 2 and chapter 4. The 2D presentation does not attract much customers as much as in a real life one because it gives users a very limited opportunity to manipulate or browse products (Han et al, 2002).

The idea of the 3D virtual shopping mall combined both 2D and 3D environments that considered as hybrid (2D/3D). In my empirical data the CEO of the VirtualEShopping explained that the idea of his mall is considered as a bridge between a 2D environment to a 3D virtual environment. This is similar to Massó et al in (2005), as he stated that if a 2D Graphical User Interface needed to be incorporated in a 3D environment without appropriate modifications, a hybrid 2D/3D User Interface is obtained. (Massó et al, 2005, p. 169).

As an example of using 2D online shopping shops are EBay and Amazon. The CEO of one of the virtual malls – VirtualEShopping – said that EBay, which is using an auction system where the merchant uploads product offers with low price and asks for a higher price from the customer. This offer is connected with a deadline. Through the interview we discussed the idea of having an auction in the virtual mall like on EBay. However, the CEO of VirtualEShopping thinks that his virtual mall is a very great product for anybody to use to sell his or her items. In the virtual mall, auctions could be used, too, but in different way. The procedure in the mall is based on bidding, too, but the more you bid the more you improve also your avatar’s positions in the virtual mall.

The second virtual mall – Virtuy – from Esimple is compared a lot of times to the online shopping websites EBay and Amazon. However, the COO of that mall said that there is a huge difference between Esample and EBay although they are much similar to Amazon. Hence, the COO of Esimple told us that people using eBay sell their own stuff through the system. If one
would buy a computer on eBay, it would be up to good luck to make a good deal and not be scammed. In contrast to that, he told that Esimple is the company selling in Virtuy; they would guarantee the sale according to all European laws. If something would go wrong, they would deal with it. Besides, people would pay to them, not to the individual shops. Thus, they can avoid the problems in most efficient way.

Massó et al, (2005) explained the idea of 3D virtual environments present a three-dimensional user interface that are specialized to navigate and manipulates physical objects inside the virtual world (Massó et al, 2005). Virtual world avatars are defined there “as three-dimensional and typically, but not exclusively, anthropomorphic representations of people, including related in-world behaviour and paraphernalia, for the purposes of interaction within virtual worlds.” (Barnes & Mattsson, 2008, p.197). In fact, having 3D virtual worlds give the customer a flexibility to engage with the activities that are closer to experiencing the products and services, that led to enhance customer’s beliefs, attitudes, and behaviours toward the products (Klein, 2003).

The user’s experience is enhanced in two ways, namely in a convenient sense and in a entertaining sense. First, users can relate the 3D environment of the 3D shopping mall to previous enjoyable experience of 3D games, as one of our participants mentioned, whom we cited in the empirical findings chapter. Hence users of the 3D mall will feel entertained and relaxed just by the use of a 3D environment, instead of the old fashioned 2D one. Second, the 3d environment not just provides entertaining it also can positively affect the user’s convenience. By supplying an alternate reality in 3D, shortcomings of the user’s real world can be avoided. This is especially true for handicapped people and people living far away from the next metropolis with all its various possibilities. While handicapped people also enjoy walking around in the 3D world, which is rather an argument for the first sense, it is also a very convenient way of shopping, because they are not limited to move around, e.g. by stairs or escalators without elevators or metal ramps for wheelchairs. Therefore there experience is not only enjoyable, but also convenient. This is also true for the second group of people that we mentioned. People living far away from the next mall are spared from travelling long distances to the next city. Instead they can experience shopping in a mall from their homes, by using a 3D online mall. Normal shopping or ordering things in a 2D web shop cannot provide such a level of experience, because the whole mall environment with the different stores and special advertisements is missing.

All of this is in line with our own findings of the phenomenological reduction part, where we found out that a virtual world supports the user’s convenience and entertainment.

The next research questions in the research is:

“Which strategies does the mall’s head company use to benefit the merchants and the customers to use the 3D virtual shopping mall?”
The development of the use of the technology especially the use of the internet helps to improve the brand, popularity, and potential of businesses to create sites in 3D virtual environments, therefore companies are looking to use this 3D virtual environments in order to create a richer environment that helps to engage the customers in business activities, enhancing their online experiences, and promoting brand equity (Nah et al, 2011). Ivens and Junglas (2005) categorized it in to three parts (social presence, visualization, and simulation) that helps to produce valuable model and will provide rich insights, helps to attract more customers to the use of this virtual environments and make it interesting for them. According to the aforementioned authors, the business exploitation of virtual worlds would lie largely in the future (Ives& Junglas, 2008, p.155) through:

1. Business-to-business marketing and selling. This shows significant opportunity to influence the social presence aspects of virtual worlds (Ives & Junglas, 2008, p.153).
2. The thing that helps to improve the business is cost reduction rather than revenue generation (Ives & Junglas, 2008, p.153).

A 3D virtual shopping mall is considered according to them as a “3-D computer-simulated environments in business environments” (Ives & Junglas, 2008, p.151).

Jin (2011) explained that the idea of Avatars is “important antecedent of enjoyment, persuasive outcomes (healthy eating intentions), and feelings of presence in immersive 3D virtual environments” (Jin, 2011, p. 111). The results show that regulatory fit significantly increases users’ enjoyment of virtual social interaction (Jin, 2011, p. 111). This idea seeks to examine the use of social interaction for the participants. This also fits to my analysis part. According to that, I believe having an Avatar that the customer can control and creates its own reflection through the avatars and convert it in to the virtual reality has drive the interest of the participants in this research, also it is convenient for handicapped people and helps countryside people to increase their social life. 3D virtual worlds offer the customers a sense of presence, immediacy, movement, artifacts, and communication which theses activates are not shown within traditional internet-based learning environments. (Edirisingha et al, 2009, p. 461)

3D Virtual Worlds provides better platform for development of intelligent shopping assistants than form based interfaces and the user can walk inside the virtual mall with absorbing the information that are views their (Bogdanovych et al, 2009, p. 745).

By combining the 3D dimension with e-commerce a lot of customers are attracted to go through this type of a virtual shopping mall. Thus, the variety of the 3D virtual shopping mall in regards to the business world shows a huge opportunity in the e-Business and e-commerce field given the different facilities in this type of fields.

The 3D virtual shopping mall is considered as a way that helps to shapes and mediates our activities in the world by entering our ongoing activity and engagement with the virtual
environment. I believe that this 3D virtual shopping mall environment offers the ability of to simulate in the real word environments, thus it create the fantasy of “Being There”. This idea attracts customers that are interest in online shopping and perform social activities inside the virtual mall. The action of those people is shaped through login to the virtual world, create their Avatar and browse the stores by the kind that the content are presented and try to understand that virtual people (Avatars) that surrounding them inside the mall are interacting with each other socially. This is considered as an entertaining way to go out to different shop and buy some items and be shipped to your place. The COO of Esimple told us that he thinks that the reason for the positive reactions to the 3D mall was, because the user is the center in it. Moreover, one of the master students explained the mall idea by calling it enjoyable and featuring attractive visual affects. He would prefer to use online malls as long as they are user-friendly and secure. Besides, he added that graphics is a useful way of selling mass products, because the graphics will make it outstanding.

Furthermore, the centralized security, banking, marketing and shipping services, that are all provided by the virtual mall owner are very useful and practical for the merchants, because they do not have to care about all these things. Good examples for one of these factors are the pay per click and affiliate marketing systems, mentioned already in the empirical data and analysis part. Another advantage of this is the increased trustworthiness for the customers, because the virtual mall owner can afford bigger investments into data security and credit card data handling.

Hence, Ives and Junglas (2008) predict that by 2018, virtual worlds would be a major, if not dominant, platform for business applications and opportunities (Ives& Junglas, 2008, p.151). In addition they noted that the upside potential and downside risk of these platforms are too high for businesses to ignore (Ives& Junglas, 2008, p.151). We agree to that point of view, because anybody likes entertaining and convenient activities, the major arguments that we identified in the reduction process. All the above mentioned points once more show our result that 3D virtual shopping malls could be a platform to drive the users convenience and her or his entertainment, hence I believe in Ives’ and Jungla’s prognosis.
Chapter 8: Conclusion

The variety of the 3D virtual shopping mall as rich media and user control and shopping experience influences the users in terms of business and customer’s behaviour. I have started this research and now knowing the potential that this idea offers to the customers like entertainments, shopping and socializing with peoples confirms my decision. This phenomenon is considered as a new experience in the technological worlds that we are witnessing today. I have used phenomenology to analysis the research phenomenon because it investigates the lived experience of the peoples and shows the horizon of the meaning, Fig. 18 shows the horizon of the 3D Virtual Shopping Phenomenon. Through visualizing this idea from different angle by seeing the transformation from 2D to 3D and inside the 3D virtual shopping mall includes these facilities like avatars, mall guide, chat, Facebook, shops and etc.

Having 2D online shopping environments is considered interesting, but the level of user interaction with the real world is limited. In fact, having 3D virtual world environments bring the user into an actual or real worldview through interaction and manipulations of objects. Virtual world helps to simulate the objects to be as close as possible to the real world objects. This transformations process form 2D to 3D considered effects the users interest in the virtual worlds.

The main finding in this research from the owner’s perspective is considered as very rich environments to start a business with. This idea is considered to be very interesting because it is flexible and convenient through the use of Internet. I believe based on my data collections and analysis of the business peoples that it considered as a way for saving money. Instead of renting
a physical place and pay rents and payments to the employees the merchants can save this money for having a physical store, the merchants can have a virtual instead.

From the customer’s perspective it is considered very entertaining, convenient and flexible, having the avatar for socializing in this environment considered very interesting and fascinating to use and connect with your friends. In addition, having social network application attract most of the participants, however, there are a few who did not like this idea, because its usage like the navigation in the 3D world might be too complicated for some. The idea of the 3D virtual shopping mall is not just the limitation on shopping but also the user is performing different activities through the use of technology.

However, 3D virtual shopping malls do not prevent the customers from attending the physical malls. Still there are some customers willing to attend the physical mall to see and feel the real product. In addition, this virtual mall can improve the quality of life of handicapped people; it is an alternative way of shopping with friends and guaranteed barrier free.

As a future work for this research the future researcher could interview the merchants and get more information from them in regards to how they participate or maybe cooperate in the mall and how are their business profits. In addition, researching in the programing idea of this 3D virtual shopping mall is possible.

### 8.1 Challenges

Through this research I have gone through several challenges:

1. The technical challenges where quite visible in the VirtualEShopping mall. Mark Stein the CEO of the virtual e shopping mall said, “a lot of peoples think its cool”. Therefore the system was overloaded due to too many visitors, which crashed the server. This also affected my research, e.g. I had to postpone my interviews because of the technical problems.

2. The mall application required a fast Internet connections and due to the high usage of the internet in the library of Linnaeus University it was difficult to open the mall applications, so I had to make the interviews at my home to able to interview the participants and show them the virtual malls.

3. Limited research papers, due to the limited research that has been done in this field affected my literature review negatively. Thus, the information that is used in this research is based mainly on the empirical material of this research.

4. Non-Swedish students had a problem with the language on some Swedish shopping sites, because in Swedish web shopping site the language is in Swedish only, which is a problem for foreigner customers.
5. Verbatim transcripts were very time consuming to write. Even if they consist only of simple words and the recording is good, and thus you can easily write them down, it is consuming lots of time and energy. In addition, the sound quality plays a big role in completing the transcripts; if it is recorded with bad quality it will be hard to manage the text transcription and takes more time.

8.2 Suggestions

Through the interviews and the questionnaires that I have discussed and spread through this research, all the participants suggested some ideas in order to improve this 3D virtual shopping mall and make it more desirable. One of the suggestions was making this 3D virtual shopping mall as a Facebook application so the user can download the mall application through the use of Facebook and use his social contacts of Facebook. In addition, add some kind of themes for people who like to work on it and send some type of emails to the customers to inform them about the discount that are available know in some shops.

I think sending some notifications to the customers, for example free presents if you go and buy from a store with a special sale etc. By this the customers will go inside the mall to see what kind of rewards they have each day. Furthermore, an implementation of a voice chat inside the mall is considered as a good facility to attract the costumers.
3D Virtual Shopping Mall

References


Business Dictionary. Available at: http://www.businessdictionary.com/definition/shopping.html


Appendices

Appendix A: (Interviews Guide and Questionnaire In English)

Interviews Questions to the CEO’s

My name is Rasha and I’m studying a master program of information system in Linnaeus University in Sweden. As you know virtual shopping mall recently adopted and consider as a very high fashioned. Currently I’m working on my thesis project. In this research I’m focusing on the role of 3D virtual online shopping with the experience of creating your self as an Avatar and to be able to walk and chat with your friends inside the mall. In addition I will show the transformation of technology from different levels of virtuality the “Virtualization “ (1D, 2D and 3D) in the virtual shopping world.

I was browsing the net and I have sewed the mall that your company has created and it was so interesting to go through and fascinating designs work. Therefore I was so anxious to contact the company hoped for an interview or sending questionnaires.

Kindly, I would you please participate in my thesis by filling the questions below and discuss your experiences and activity through 3D Online Shopping experience.

All personal information will be confidential and anonymity will be granted upon request. In addition there is a form you have to full and see the terms and condition to the interview if it’s acceptable for you to participate in it.

The questions:

1. Please, could you tell us about your education status, professional experience, Could you tell about your background, education, employment history etc.? 

2. How solid is your background experience regarding to the Information systems? And if you have knowledge about their experiences about e-business, e-commerce.

3. Its really a fascinating mall, how did you get this idea of creating this mall? What is your inspiration?

4. Could you tell us please, what was the first reaction from the customer side towards this mall?

5. These days we have EBay, Amazon and Tradera …est., if you compare it to the 3D virtual mall, what are the pros and cons with these kinds of services? How do you illustrate your mall between them?

6. do you use social media in the virtual mall? Or what is the role of social media like Facebook, Twitter..ets?
7. How the merchant was convinced to be involved in the mall, what was the impact on the merchants for contributing in this type of mall?

8. Do the merchants have limitations, possibilities and technological features inside the mall?

9. Do your company as a mall hosting in charge for the shipping the item to the customer or the companies that has a place inside the mall is responsible for that?

10. What are the positive and negative that the company is facing in E-Business and E-commerce?

11. What kind of systems that you are using for attracting more customers like for example “Customer relationship management (CRM)”?

12. What kind of strategy for marketing you are using to get funding to the Mall like for example “affiliate marketing system” what’s your opinion in this type of strategy?

13. To illustrate innovation in online business models and communications approaches. But what is success for a new e-Business?

14. How you take for granted the security issues helps the mall to be more efficient in all the branches? Or how do you handle the security problems, payment issues?

15. If the customers have any problem with the technology, how do you handling technical issues that customers might face after collecting their order from you?

16. Do you think that virtual malls could improve the quality of life of handicapped people?

17. From the customer perspective: do you expect lower or higher prices? Please, give some reasons for your opinion.

18. With the development of the new technology, what do you think about this type of transformed from 1D, 2D and then 3D mall? And the experience of creating your own Avatar by which you could walk and shop inside the virtual mall together with your friends.

19. How are you handling the works or ideas for creating 3D virtual shopping online that might be similar to your mall, which are published by other people? Because I know there are smellier idea for 3d virtual online shop in US and other countries that will lunch it in the future like in China.

20. Would you close your real shops, if it turns out, that the virtual shopping variant is more efficient and results in more sales? Why or why not? In another format. If you have an actual mall, would you close the actual mall instead of the virtual shopping mall? If its turn out that
3D Virtual Shopping Mall

attract more customer than the physical mall. or in other world the benefit in the use of virtual shopping mall is more than the physical mall.

21. Do you know if there is any researchers have done a research in this type of field?
22. Please if you have any comments you like to add?
23. Is it possible in the future that I can contact you back for further questions?

Thank you so much for participating in my research and answering the question. Feel free to contact me on my Mail: rashaalhumadi@gmail.com, or Skype ID: rashagardenia.

Appendix B: (Interviews Guide and Questionnaire In English)

Question to Interviews an Online Shopper

I am Rasha Al-Humadi and I am studying Master of Information System in Linnaeus University in Sweden. Currently, I am working on my thesis. My research topic is about investigation of “3D virtual Shopping mall” from different aspects such as economic and social.

In this research, I focus of this study is investigation of 3D virtual online shopping in social and business life with the experience of creating yourself as an Avatar and to be able to walk and chat with other customers and sellers inside the mall and etc. In addition I will show the transformation of technology from different levels of “Virtualization“(2D and 3D) in the virtual shopping world.

In order to meet the above aims, as part of this study, it is needed to talk to people about this 3D online shop and ask them to login into that and explore around. Later, they can share their experiences and ideas by taking part in interviews or answering questioners.

Following questions are constructed based on these expectations. All personal information will be kept strictly confidential and anonymous. In addition, there is a consent form that participants need to read and sign. This consent contains the interviewee’s rights, short summery of study, and terms and conditions of the interview.

The questions:

24. Please, Could you please give a brief information about your background for example education, work experience and employment history etc..?

25. How much you have been involved with information system in your works. For example concepts such as e-business, e-commerce and e-shopping and etc has been twisted with your work?

26. How do you use online shopping? How often?
27. What kind of experience do you have about online shopping? Why do you use online shopping? To what? How many times (week, month, day)?

28. Could you give some examples of online services you use? International online shops or national?

29. What are your experiences of web shops in terms of usability (interface, understand how to navigate, how to pay, privacy, security)?

30. Do you like online shopping? Is it interesting to you; if yes, then why?

31. What do you think about 2D web for example EBay or Amazon, H&M online..etc? What is your opinion about having a 2D web shop?

32. Is it entertaining for you as customer to use 2D online shop or mall? Example: http://virtualeinc.com/bestBuy/ what do you think about it?

I have showed a 2D web shop but with mixed media it is also possible to develop 3D shops.

33. How different it can be if your shop would be transformed into a 3D mall? You could create your own Avatar by which you could walk and shop inside the virtual mall together with your friends.

Please login to this site www.virtualeshopping.com, after you register yourself you have to download the application of this 3D mall. So, take a tour inside the 3D Virtual mall and explain the user interface. Below is a list of guide lines how to use this mall.

Chat screen: if you bring up the chat screen and press the chat button we can chat with each other.
F1 key: you will be able to see your persona from behind.
Del key: you can circle your self and see yourself from front.
Transport: to transport to where you are standing by clicking on your name and then click on transport it will transport me to your side.
Persona: you can change your look by clicking on the persona button you can change your name, style and hair. Etc and then you can save it. In addition I can change in my profile and add information about me invite my friends to view my profile. For fun you can walk through people.
“Shopping tips” so people can chat with friends, sing
“My dates” to remember put your birthday in there and when somebody clicks on more it shows them the special days and the things that you would like to have or you do have. so involved about shopping.
In addition that the “I want it / I got it list”. And have your item shipped to your place?
After chatting and this tour I will start asking.

If you compare this (3D) webshop with the one’s you normally use, what do you think about the experiences in this type of virtual mall? Usability (see comments above)

---

7 This application does not support Mac computers.
34. Do you like the features and experience that this 3D virtual mall is offering to the customers instead of the 2D?

I have showed you a 3D mall and you also experience it as an Avatar, also you have experiences of real malls (Samarkand, city mall e.g.) What do you think about them? Which one do you prefer? If you have a real mall, would you prefer to use the virtual shopping mall instead of the real shopping mall? Or in other words: are the benefits in using virtual shopping malls superior to a physical mall? Please explain your answer.

35. Could you please tell us about your experience as an Avatar?

36. From the customer perspective: in online shopping do you expect lower or higher prices? Please, give some reasons for your opinion.

37. There will be some kind of social networking in the mall like Facebook or twitter. Do you, as a customer, prefer to use it in order to inform your friends about your activity inside the mall? In other words: Do you want to express your virtual shopping experience?

38. Would you like to give any other information or comment or suggestion?

Do you think it is possible for me to contact you back if it was required. Thank you so much for participating in my research and answering the question. Feel free to contact me Via: rashaalhumadi@gmail.com.

Appendix C: (Interviews Guide and Questionnaire In English)

Questionnaires in Swedish.

Jag heter Rasha Al-Humadi och är master student på Informations system programmet vid Linnéuniversitetet i Växjö. Nu arbetar jag med min uppsats (examensarbete på magisternivå). Den handlar om en “3D virtuell shopping galleria" som jag kommer att studera utifrån olika aspekter som t.ex. ekonomiska och sociala.

I studien fokuserar jag 3D virtuella online shopping i det sociala och näringslivet med erfarenhet av att skapa sig själv som en avatar och att kunna gå och prata med andra kunder och säljare inne i gallerian etc. Dessutom kommer jag att olika visualiseringsformer, 2D och 3D, i den virtuella shopping världen.

För att möta ovanstående mål, som en del av denna studie, är det alltså nödvändigt att intervjuar olika människor om den här 3D online butiken för att undersöka deras erfarenheter och idéer om fenomenet.

Alla personlig information kommer att hållas strikt konfidentiellt och anonymt. Dessutom finns det en medgivande om deltagande. Detta medgivande innehåller intervjuupersonens rättigheter, kort summering av studien och villkor för deltagande.
Frågor:

1. kan du ge en kort beskrivning av din bakgrund som vilken utbildning, arbetslivserfarenhet och tidigare anställningar du har?

2. vKan du beskriva de informationssystem (IT-system) som du använder på ditt jobb, din fritid. Känner du till begrepp som e-handel, och e-shopping? Använder den typen av system?


4. Vilken erfarenhet har du om online shopping? Varför använder du online shopping? Till vad? Hur många gånger (vecka, månad, dag)?

5. Vilka är dina erfarenheter av webbutiker i termen av användbarhet (gränssnitt, förstå hur du navigerar, hur man betalar, integritet, säkerhet)?

6. Gillar du online shopping? Är det intressant för dig, om ja, varför?

7. Vad har du för erfarenheter av köpcentrum som är 2D web t.ex. Ebay eller Amazon, H & M på nätet .. etc? Vad anser du om att ha en 2D webbutik?

8. Är det underhållande (kul) för dig som kund att använda 2D online butik eller köpcentrum? Exempel: http://virtualeinc.com/bestBuy vad tänker du om detta?

9. Om man jämför den här (3D) webshoppen med de som du normalt använder, vad tycker du om den här typen av virtuella köpcentra?

10. Vad tänker du om de funktioner och tjänster som erbjuds i detta 3D virtuella köpcentrat? Om du jämför 2D och 3D?


11. Kan du berätta om dina erfarenheter av att använda en Avatar i köpcentrat?

12. Från kundens perspektiv: i online shopping förväntar du dig lägre eller högre priser?

13. Det kommer att finnas någon form av socialt nätverkande i gallerian som Facebook eller Twitter. Kommer du, som kund, att använda dem för att informera dina vänner om dina
aktiviteter inne i köpcentret? Med andra ord: Vill du uttrycka din virtuella shoppingupplevelse?

14. Har du några andra erfarenheter, kommentarer eller förslag som du vill dela med mig?

Är det möjligt för mig att kontakta dig igen om det behövs.

Tack så mycket för att deltagande i min forskning och för att jag fått använda din tid till detta. Om du har några frågor tveka inte att ta kontakt med mig via e-mail: ralwa09@student.lnu.se
### Appendix D: (Informed Consent)

**Informed Consent in English**

<table>
<thead>
<tr>
<th>Thesis Topic:</th>
<th>3D Virtual Shopping Mall.</th>
</tr>
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<tbody>
<tr>
<td>This study is investigation of 3D virtual online shopping in social and business life with the experience of creating yourself as an Avatar and to be able to walk and chat with your friends inside the mall. In addition I will show the transformation of technology from different levels of “Virtualization“( 2D and 3D) in the virtual shopping world.</td>
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<table>
<thead>
<tr>
<th>Written by: (data will be collect by and available to Author through all steps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full name: Rasha Al-Humadi – Second year master student</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:ralwa09@student.lnu.se">ralwa09@student.lnu.se</a></td>
</tr>
<tr>
<td>Phone number: (0046) 0761102428</td>
</tr>
<tr>
<td>Program: Master of Information System (2 year)</td>
</tr>
<tr>
<td>University: Linnaeus University</td>
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<table>
<thead>
<tr>
<th>Supervisor: (data will be available to supervisor through all steps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full name: Docent. Christina Mörtberg</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:christina.mortberg@lnu.se">christina.mortberg@lnu.se</a></td>
</tr>
<tr>
<td>University: Linnaeus University</td>
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<tr>
<th>Participation Rules:</th>
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<tbody>
<tr>
<td>• English is the main language of this study.</td>
</tr>
<tr>
<td>• Participating in this study is volunteer-based.</td>
</tr>
<tr>
<td>• Participants in the research can only access to their own data at any time.</td>
</tr>
<tr>
<td>• Participants in the research can stop their contribution in the study at any time and also can ask for removing the data they gave to the author of the thesis.</td>
</tr>
<tr>
<td>• Collected data from participants will be used for my master thesis.</td>
</tr>
<tr>
<td>• Data can be recorded by the means of audio recorders. However, if participant refused that, then data will not be recorded as the mentioned types.</td>
</tr>
<tr>
<td>• Only, the author of the thesis and supervisor of the work will access whole data through all steps. And participants of the study can just access their own data.</td>
</tr>
</tbody>
</table>
- Participants can ask for further information about the whole study. It will be provided for them if by doing so the rights of other participants will not be broken.

### Ethical Issues of this study:

- All personal information will be confidential and anonymity will be granted upon request.
- I will send to you the interview transcripts with you for verification purposes.
- These questions will be used for research purposes only.

### Consent:

I agree with audio recording of data. Yes □ No □ Conditional □ please indicate:

(If it was oral interview)

I understand the above explanations and agree with the statements above. Yes □ No □
Any further condition(s) or explanation(s) from participant:

Understand that my participation in this research is volunteer-based and I can withdraw from the research anytime I want. Yes □ No □

I understand that I can ask researcher to remove my data any time I want. Yes □ No □

By signing this document I consent to participate in this study and the data/information.

<table>
<thead>
<tr>
<th>Signature of participant</th>
<th>Date</th>
<th>Place</th>
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<tbody>
<tr>
<td>Name of participant</td>
<td></td>
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</table>
### 3D Virtual Shopping Mall

**Appendix E: (Informed Consent)**

*Informed Consent in English (MEDGIVANDE Om DELTAGANDE)*

<table>
<thead>
<tr>
<th><strong>Avhandling Ämne:</strong></th>
<th>3D Virtuell Shopping Galleria</th>
</tr>
</thead>
</table>

Denna studie är en undersökning av 3D virtuella online shopping i det sociala och näringslivet. Du kan skapa dig själv som en avatar och med den kan du gå omkring och prata med dina vänner inne i köpcentret och handla. Jag kommer också att visa visualisering på olika nivåer, 2D och 3D, i den virtuella shopping världen.

<table>
<thead>
<tr>
<th><strong>Data kommer att samlaa in av mig och jag och min handledare kommer att ha tillgång till dem.</strong></th>
</tr>
</thead>
</table>

**Namn:** Rasha Al-Humadi - andra året masterstudent  
**E-post:** ralwa09@student.lnu.se  
**Telefonnummer:** (0046) 0761 102 428  
**Program:** Master of Information System (2 år)  
**University:** Linnéuniversitetet

| **Handledare:** | Docent. Christina Mörtberg  
**E-post:** christina.mortberg @ lnu.se  
**University:** Linnéuniversitetet  
**Tfn:** 0470-708390 |
|-----------------|-----------------|

<table>
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<tr>
<th><strong>Regler för deltagande:</strong></th>
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- Engelska är det huvudsakliga språket i denna undersökning?  
- Deltagande i denna studie är frivillig.  
- Deltagare i forskning har endast tillgång till sina egna uppgifter och kan få den när som helst.  
- Deltagare i forskning kan dra sig ur när som helst och begära att deras bidrag i studien tas bort  
- Insamlade data från deltagarna kommer att användas till mitt magister uppsats.  
- Data kommer att spelas med en Mp3 spelare efter godkännande av personen.  
- Det är endast master studenten och hennes handledare som kommer att ha tillgång till insamlade data under studien och I skrivandet av uppsats. Och deltagarna i studien har bara tillgång till de egna uppgifterna.  
- Deltagarna kan begära ytterligare information om hela studien. Det kommer att ges till dem och de rättigheter de har.
Etiska frågor i denna studie:

- All personlig information skall vara konfidentiella och anonymitet kommer att ges.
- Jag kommer att skicka till dig utskrifter av intervjun med dig för verifikation.
- Intervjun kommer endast att användas för forskningsändamål.

Samtycke:

Jag tillåter inspelning av intervjun. Ja □ Nej □ Villkor □ ange:
(Om det var muntlig intervju)

Jag förstår det som beskrivits ovan och godkänner mitt deltagande. Ja □ Nej □
Alla ytterligare villkor (er) eller förklaring (s) från deltagare:

Jag är klar över att deltagande i denna forskning är frivilligt samt att jag kan dra mig ur studien när jag vill och utna att förklarar mig. Ja □ Nej □

Jag är klar over att jag kan be master studenten att ta bort mina uppgifter när jag vill. Ja □ Nej □

Genom att underteckna detta dokument samtycker jag till deltagande i denna studie och insamling av data / information.

Underskrift av deltagare □ Datum □ Ort □