

# Social Media for Learning

A qualitative and quantitative study regarding the implementation process, strategic issues and utilization of Web 2.0 technology for formal learning

**Abstract:** The thesis aims to increase the knowledge on how the acceptance regarding social media based E-learning 2.0 information systems for formal learning can be increased and how the acceptance affects the social learning experience. To achieve this, the thesis relies on both a qualitative and quantitative approach and is primarily inductive. The thesis concludes that the acceptance can not be seen as a linear process, as is common practice. Instead, one should see the process of acceptance as interlinked with the experience and external variables in a continuous process that can either 'spiral' upwards or downwards. Furthermore, the thesis identifies the problem of innovation resistance. The thesis then analyzes information gathered from industry experts, practitioners and a live case to find how one can improve acceptance and thereby the social learning experience. Once these variables have been identified the thesis presents strategic advice. The thesis ends by a discussion of the results, both regarding the impact and contrast to previous research as well as highlighting areas for further research.

**Keywords:** E-learning, Experience, Social media, Strategy, Technology acceptance

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# 1 Introduction

*This chapter will present the purpose and research questions that will drive the thesis forward as well as the information necessary to understand why there is a need for research within the area. Please notice that to make it easier for the reader to quickly get a good overview of the thesis, the literature review will be presented in the next chapter.*

## 1.1 Background

*“Social Media is about sociology and psychology more than technology.”* (Indyposted, accessed 2011)

The impact that the digital technology has had on society in the last decade has been profound. Individual's lifestyles have been changed and the world has become 'a little bit smaller'. However, it is worth noting that the effect that digital technology has on various aspect of society can differ greatly. One area that has been behind in harnessing the benefits of digital technology is the way we learn in formal environments, but slowly it is changing through the emergence of E-learning. E-learning is about utilizing electronic tools for learning (see '9.1 Definitions', for detailed definitions). In 2010, a study at the Stockholm School of Economics (SSE) was conducted regarding this relatively new phenomenon. The study, which now is the Pre-study (2010) for this thesis, found that utilizing digital technology can allow for a deeper and more effective learning experience by providing powerful tools, e.g. instant communication; for example extending it beyond the classroom. E-learning has thereby seen a rising importance and lately the focus has shifted to E-learning 2.0 which is about utilizing electronic tools to create a social learning environment. In addition, a new breed is born today under the banner of Digital Natives. Digital Natives are not only familiar with handling digital technology, they are also believed to be more likely to excel when this trait is fully utilized (Sherman, 2009; The Institute for Corporate Productivity, 2010). However, despite this, the scientific evidence of E-learning 2.0 is limited (Redecker & Punie, 2010)

Furthermore, as societal segments have to adapt to the above, social media is becoming increasingly popular. For example, Facebook has over 500 million users (Facebook, accessed 2011) and there are currently over 19 million Wordpress.com sites in existence with more than 286 million people reading them (Wordpress, accessed 2011). In a study by Redecker et al. (2010) social media was found to have wide acceptance within the EU, especially among younger people. Social media is really not just a phenomenon anymore, it is a fact of life. It is also something that organizations of

all kinds, be it governments or advertisers, are trying to better understand and utilize. Social media is part of what is called Web 2.0 technologies and Bughin & Manyika (2007) concluded on page 32 that *“More than three-fourths of the executives who responded to a McKinsey survey say they plan to maintain or increase their investments in technology trend that encourage user collaboration, such as peer-to-peer networking, social networks, and Web services.”* Furthermore, Manyika et al. (2007) concludes that Web 2.0 help create value in interactions and ensure that participants have the correct information and context. Moreover, an article in the The Economist (2010) states on page two that *“In the business world there has also been much hype around something called Enterprise 2.0, a term coined to describe efforts to bring technologies such as social networks and blogs into the workplace. Fans claim that new social-networking offerings now being developed for the corporate world will create huge benefits for businesses.”* However, the article further states that there are worries relating to the new tools leading to lack of work and leakage of important information.

The Pre-study (2010) also made it clear that Web 2.0 technology and thereby social media also could be useful beyond its currently common leisure use, in the form of an easy to use and low cost E-learning 2.0 solution. This then resulted in an actual implementation of a platform in a course where social media was used as the foundation, since social media is designed to facilitate communication which should make it a good platform for a social learning environment. However, once the course started it became obvious both from the interviews and measurements being conducted, that the real focus should not be the results the platform could create, as originally intended, but how a platform like this should be implemented.

## **1.2 Problem Area**

The literature review (see ‘2 Literature Review’) will further support that E-learning is on the rise but that it yet has to realize its full potential in the formal learning environment. Furthermore, research also shows that the social element in learning is increasingly becoming important, indicating that E-learning 2.0 can improve learning.

However, despite the promise E-learning 2.0 and social media holds for formal learning and the rise of Digital Natives, the understanding for E-learning 2.0 and how social media works when utilized in this form is limited. Furthermore, the implementation literature appears to have primarily focused on issues relating more directly to the actual technology. This creates a problem since the early observations during the project clearly indicated that even though technology was important, other

factors play much larger role in a platform's success. When for example social elements are brought up, they appear to not transcend well into the strategic implementation advice. Moreover, conventional wisdom often instructs how one should implement less social platforms and thereby platforms ill-capable of supporting E-learning 2.0. In addition, when one does cover the area, it appears to often lack detail. Finally, it appears that the normal way of dealing with the acceptance of an information system in the previous research often is of a linear nature. This will be proven in the analysis of the thesis to be a problem since learning itself is a continuous process and the process of acceptance follows the same logic. Thereby, due to the great promise of both E-learning, as well as social media as the platform, and the critical nature of its implementation, there is a need for additional research in this area.

### **1.3 Purpose**

*The purpose of the thesis is to explore how social media based E-learning 2.0 solutions for formal learning can be implemented.*

### **1.4 Research Questions**

Due to the scope of the thesis there is a need to focus on specific issues in regard to the purpose. The thesis will thereby focus on two core issues in regard to the implementation. Firstly, and foremost, the thesis will focus on technology acceptance (the decision about 'how' and 'when' one will use the technology), since without people accepting and thereby utilizing the system, it will not be possible to do a successful implementation. Secondly, the goal when implementing a learning solution is to create learning experiences for the users. Furthermore, due to the nature of E-learning 2.0, the focus is that the learning through the technology will be social. The core focus when implementing the solution can thereby be seen as the creation of various forms of social learning experiences. This results in three questions the thesis aims to answer which builds upon each other.

Firstly, even though one can see that technology acceptance is necessary to be able to create a social learning experience, it became clear during the literature review for the thesis that there are no current theories or models that can clearly illustrate how technology acceptance affects the creation of a social learning experience. Thereby, since the use of the technology in the end should result in social learning experiences the first question of the thesis is:

*How does technology acceptance affect the creation of a social learning experience, when implementing a social media based E-learning 2.0 solution for formal learning?*



Once the question above is answered, the thesis aims to explore the main variables affecting technology acceptance. The second question for the thesis is thereby:

*What are the main variables affecting technology acceptance, when implementing a social media based E-learning 2.0 solution for formal learning?*

Finally, once the main variables affecting technology acceptance has been outlined, the thesis aims to explain how these insights can be utilized through strategic implementation advice. This results in the following question:

*What are the main strategies that can be used to affect the identified technology acceptance variables, when implementing a social media based E-learning 2.0 solution for formal learning?*

## **1.5 Delimitations**

The study does not aim to provide a general guide of implementation for all forms of E-learning and social media based tools. Neither does it aim to give the ultimate answer to how a social learning experience is created. Furthermore, it will focus primarily on the core of social media; hence focusing less on more advanced high tech versions of social media such as virtual worlds. The study will also not explore the topics utilizing theory from all the fields of research that would be possible to use. Instead, it will focus primarily on experience, learning and technology acceptance. Moreover, the first question aims to provide a level of precision of the conceptual, not theoretical, since a precise theory, through its full definition, would require a level of explanation and precision that would be beyond the scope of the thesis. One can view this as aiding future theory and constructing the foundation for theory. Finally, the second and third question focuses on the main variables and strategies under normal conditions that can be identified in the empirical material.

## **1.6 Expected Knowledge Contribution**

The intent is to increase the knowledge regarding the implementation of social media related technology as an E-learning 2.0 solution for formal learning. By doing this the thesis will also be able to provide insight into the potential for social media as a tool for social learning, how a good learning experience can be created as well as hopefully inspire future research within the area. The increased knowledge within this area is important since social media and E-learning 2.0 could reduce costs, increase the quality of the learning experience and since a large share of the implementations appears to fail.

## **1.7 Disposition**

To give a platform for the rest of the thesis and an understanding for the greater field of research a literature review will now follow. This will then be followed by a methodology chapter so one can see how the research was conducted. The thesis will then continue by presenting relevant theories, models and frameworks for the empirics and analysis. The empirics and analytics chapter will then answer each of the research questions in their written order. Firstly, the thesis will show how technology acceptance and the social learning experience are interrelated, giving insight into how the technology acceptance process works. Secondly, the thesis will identify the main variables that seem to drive the technology acceptance process. Thirdly, the thesis will show how one can drive the technology acceptance process through the identified variables by finding strategies that affect the identified variables. The qualitative analysis will then be supported with a quantitative analysis which will be followed by a conclusion and discussion; broadening the view on the issues as well as identifying areas for improvement and further research. Finally, please notice that the word ‘social IS’ will be utilized instead of ‘social media based E-learning 2.0 solution for formal learning’.

## 2 Literature Review

*The literature review will give an overview of previous research in the field and a platform for the rest of the thesis. It will start by covering E-learning and hybrid learning, followed by a learning based focus on social media. It will end by covering research and advice regarding implementation and strategy relevant to the thesis.*

### 2.1 E-learning and Hybrid Learning

The way that instruction environments can be designed today is broadly divided into three categories: traditional, hybrid E-learning, and pure E-learning. Traditional instruction is a face-to-face approach, hybrid E-learning mixes face-to-face with online and electronic educational tools and ICT (Information Communication Technology), and pure E-learning uses ICT in instruction without any face-to-face interaction. (Ahmed, 2010) E-learning is becoming increasingly interesting for society and educational institutions because it supports the concept of lifelong learning (Širca & Sulčič, 2003). As such, the interest of E-learning has resulted in a number of research projects being undertaken in order to fully understand the emerging subject area. Hung (2010) summarized the research trends of E-learning and provided a taxonomy of the research performed between 2000-2008 using text mining and bibliometrics. The findings of the study were based on 689 refereed journal articles and proceedings were retrieved in the period from 2000 to 2008 (Please see '9.2 Figures'). It concludes by highlighting that E-learning research is at its early stage and focus has shifted from issues of the effectiveness to teaching and learning practices when using E-learning solutions. A 2007 study looking into the effectiveness of E-learning as part of a hybrid learning course found that students in higher education acquire more knowledge and different knowledge than in traditionally delivered courses (Sulčič, & Lesjak, 2007). However, the true effectiveness is still to be realized as for example research show that 60 percent of projects related to E-learning introduction in British business environments were unsuccessful (Overton, 2004) or that 70 percent of participants in E-learning, which is carried out in American companies, are for various reasons unlikely to finish their E-learning training (Mungania, 2004). The lack of face-to-face interaction can be an obstacle as learning success increases if the tutor and learner 'have a face' (Höhle, 2008). Some studies on E-learning point the technical issues as being major obstacles in order to achieve effective learning (Cappel & Hayen, 2004). Concannon, et al. (2005) voice similar concerns in their study of technical difficulties hindering the learning process. However, they point to the benefits that E-learning provides, most notably the ease of access to resources. Cost saving is another benefit highlighted in related literature stating that "...reduced training time,

*the costs saved in travel and time away from the job and the ability of E-learning to serve large numbers at one time, or over time, with relatively little additional cost.”* (Macpherson et al. 2004, p. 3). However, some state that this isn’t true and that *effective* E-learning can cost more than traditional face-to-face tutoring (Guri-rosenblit, 2005). Many of the issues raised about E-learning have made many institutions adopt a blended learning approach, mixing face-to-face interaction with E-learning course. Studies have shown that “...*too many online classes and the lack of a teacher’s on-the-spot monitoring may negatively impact students’ learning.*” (Tsai, 2010, p. 3) and that a blended approach is more likely to improve the learning outcome, in comparison to traditional learning (Sulcic & Lesjak, 2009). Singh & Reed (2001) point out also on page six that blended learning is a more cost effective tool than pure E-learning solution and that “...*blended learning strategy actually improves learning outcomes by providing a better match between how a learner wants to learn and the learning program that is offered.*”

## **2.2 Social Media use For Learning – The Next Generation**

Over the last few years, Web 2.0 and subsequently social media applications have been on an exponential rise. This rise has changed the way people access, manage and exchange knowledge, and the way they connect and interact (Ala-Mutka, 2009). This is especially true in online education as Richardson & Swan (2003) highlight with teacher immediacy behaviors and the presence of others as being important issues for the people involved in delivering online education. Similarly, Moore et al. (1996) found that college teacher’s verbal and nonverbal immediacy behavior significantly influenced students’ ratings of instructions. Moreover, a study undertaken by Richardson & Swan (2003) examining online course found that on page one that “...*students with high overall perceptions of social presence also scored high in terms of perceived learning and perceived satisfaction with the instructor. Students’ perceptions of social presence overall, moreover, contributed significantly to the predictor equation for students’ perceived learning overall.*” Rudd et al. (2006) brings up the parallel development towards the use of social media in society at large by highlighting the increased understanding of the learning process as being increasingly *networked, collaborative and connected*. At the same time social and leisure life is already organized around *networks, collaboration and connection*. The increasingly networked lifestyle reflects the adoption of digital technology, i.e. Digital Natives, through the use of smart phones and social media tools. Sherman (2009) state that this trend is reflected in the teaching pedagogy shifting from the first and second generation instruction design (objectivism and cognitive constructivism) to today’s third generation (social constructivism). Social constructivism

focuses on the psychology of the learner and the *rich* social interaction between various parties. As more Digital Natives enter the workforce, training and development programs must be adapted to engage them effectively. A study by The Institute for Corporate Productivity (2010) developed the social media Benefits Index which examined the use of social media in organizations. They found that Millennials, or Digital Natives, learn more in less time, in 38 percent of the cases, and learn truly useful things, 34 percent of the time. This is in stark contrast to baby boomers which are around the low 20 percentile for both aspect of learning. The move towards the formation of social constructivism using social media can also be seen in the rise of corporate learning systems utilizing social media features (Menell, 2007), e.g. Salesforce Chatter and SAP Community Network. Medved & Wing (accessed 2011) further highlights the use of social media in the workplace by stressing that “...*learning happens informally, through learner-directed actions, including the use of social media tools.*”

### **2.3 Issues to Consider when Implementing**

Although, the theoretical benefits of E-learning are easily recognizable the practical truth is that many of them never come to fruition. One of the main reasons for this is the way the E-learning solutions are implemented into the learning environment. Wagner et al. (2008) view the stakeholder approach, and fulfilling the needs of each stakeholder as the main determinant for successful implementation. Similarly, McPherson & Nunes (2008) emphasize that staffing issues and training of both tutors and students are critical to success, and these factors are as well affected by institutional leadership. Sun et al. (2008) developed a more holistic model at what makes for successful E-learning by looking at six dimensions: learners, instructors, courses, technology, design, and environment. They as well conducted a survey that found that Computer Anxiety and the Technology Acceptance Model (TAM) related variables are of critical factors affecting learners' perceived satisfaction (this model will be discussed in detail in chapter '4.3 Technology Acceptance'). Further support for the TAM variables are found by studies carried out by Saadé et al. (2007) summarizes on page one that “...*TAM is a solid theoretical model where its validity can extend to the multimedia and e-learning context.*” Taking the viewpoint of instructor importance, in relation to technology, in integrating E-learning into the learning environment Baylor & Richie (2002) state that technology integration was predicted by teacher openness to change, which in turn is predicted by teacher technology competency. Furthermore, technology impact on higher-order student thinking skills was predicted as well by teacher openness to change and constructivist use of technology. Finally, looking at instructors' and learners' attitudes towards E-learning Liaw et al.

(2007) found in a study that instructors have a very positive perception towards using E-learning as a teaching assisted tool. The intention to use E-learning is influenced by perceived usefulness and self-efficacy. When it comes to learners' it was found that self-paced, being led by the teacher and multimedia instructions are critical factors. Selim (2010) as well on page two mention instructor characteristics as being important but also inappropriate technology use or the solution “...*not enjoying enough attention and support from the organization.*”

## **2.4 Implementation Strategies**

Social media in relation to E-learning can be seen as creating learning communities, where various parties and professional can connect to each other (Lenox & Coleman, 2010). In the forming of an online community there are a number of research articles discussing various strategies. McInnerney & Roberts (2004) suggests three protocols to aid the development of social interaction in the online environment: the use of synchronous communication, the introduction of a forming stage, and the adherence to effective communication guidelines. The forming stage is a warm up period, designed to assist the formation of a ‘sense of community’, e.g. interaction in synchronous chat rooms. The authors stress though on page seven that “*Foremost among these guidelines is the need for unambiguous instructions and communications from the educator to the students involved.*” On a more general note, Cooke & Peterson (1998) examined from a corporate setting the implementation strategies of SAP systems and found that executive commitment, strong project management, and people with the abilities and skills needed to carry a project to completion are the most important factors. As for whether to implement step-by-step or in a ‘Big Bang’ fashion they believe that the strategy must reflect the objectives and constraints of the business. Besides the extrinsic environment, intrinsic motivators need to be considered in order to gage the individual (Glucksberg, 1962). Pink (2009) articulated three parts to successful intrinsic motivation; Autonomy: the ability to work to your own schedule, Mastery: the desire to get better and better at something, Purpose: is the concept that you are working towards something greater than yourself. It is therefore important that implementation strategy engages the individual to become intrinsically motivated. Dublin (2004) emphasizes the need for continual implementation cycles with the various phases of planning, developing, implementing, supporting overlapping. This is to provide momentum for the solution and to keep the individual engaged. Finally, the need of a marketing communication plan and a change communication plan is highlighted. A marketing communications plan needs to tell all of your stakeholders about the vision and a change communication plan is to support the learner as they move through the three phases of adoption: awareness, engagement and involvement.

## **2.5 Key Take Aways**

The literature review demonstrates the importance and relevance of the research questions. As learning is increasingly moving towards the social domain, with the rise of the Digital Natives and shift in teaching pedagogy to social constructivism, there is an increasing need to understand the formation of the learning experience. As learning is increasingly viewed as a network experience with different actors interacting, via social media based E-learning solutions, there is need to understand what happens when an additional actor enters the network, i.e. when an actor accepts the networked and becomes part of it. This causal link between how acceptance affects the overall networked learning experience is still not fully understood, and as learning is increasingly moving in this direction there is a need to resolve this. When it comes to underlying variables that affect the acceptance process they are slightly better understood, as section 2.3 demonstrates. However, the variables don't appear to take into account the total picture of what makes up the acceptance process. As for example, there is more of a focus on technical aspects and less on social aspects. In order for acceptance to be fully understood the underlying variables need to be more comprehensive in what areas they cover. Finally, section 2.4 displays strategies and what to consider in order to influence the acceptance process. Although, the strategies appear to consider the social aspect they are of such broad nature resulting in that their ability to deal with practical matters are diminished. This demonstrates the need for applicable and grounded strategies.

### 3 Methodology

*This section will describe how the research was conducted. It thereby describes the research design and approach, as well as detailed description of both the qualitative and quantitative elements. It ends with a short description and logic about the platform; the foundation for the case study.*

#### 3.1 Research Design

The thesis is primarily inductive, since the authors' conclusion is that the existing theory cannot give accurate predictions. It does however have deductive elements, since certain minor parts, such as the link between certain variables and the experience, should be predictable. This relationship is not rare, as Bryman and Bell (2007) on page 14 puts it “... *just as deduction entails an element of induction, the inductive process is likely to entail a modicum of deduction.*” Furthermore, the primary research approach is qualitative, due to the inductive, interpretivistic and constructionist view. In other words, due to the focus being understanding the phenomenon, not to predict, as well as to interpret information on a deeper level through the eyes of the participants. The goal is to find outcomes of interactions in which the individuals are involved in the construction and not separated from it (Bryman & Bell, 2007).

However, to successfully achieve the goals of the thesis a combination of a qualitative and quantitative approach was deemed useful in which the quantitative information supports the qualitative. For example, the quantitative insights provided material for interviews, and the interviews resulted in improved questionnaires, which then help in the analysis of the qualitative information. Furthermore, the use of quantitative research can also help generalize findings. The combination also results in a clearer both static and procedural picture of the area being studied (Bryman & Bell, 2007).

#### 3.2 Research Approach

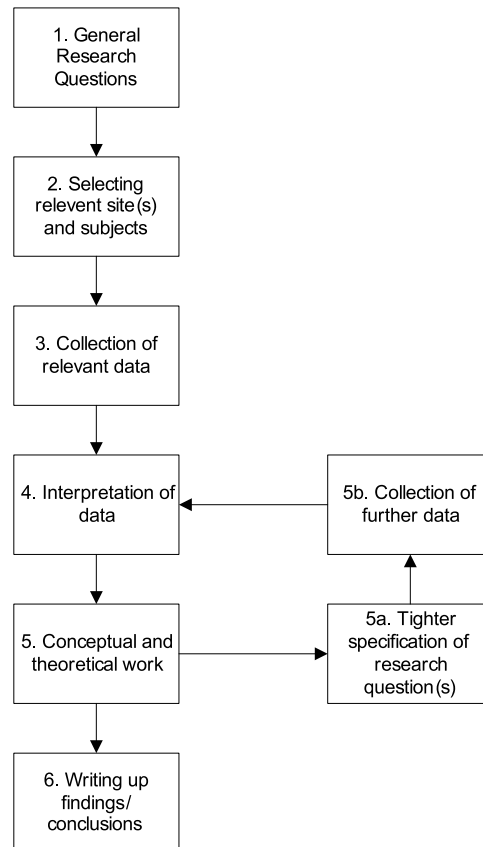
The research can be divided upon two different segments: The main case, which is the implementation and use of the platform in course 2304<sup>1</sup> at SSE in all of its three modules, and interviews with subjects outside the main case. This provides a view into an implementation process through the case, as well as a broad view of experts and practitioners through the non-case interviews. The two different segments can thereby be compared and combined to provide new insights.

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<sup>1</sup> 2304 is a master level course at SSE focusing on the media industry and media development. It has students from both SSE and KTH, consists of three modules and goes on for one semester (15 ECTS).



The qualitative elements consist of observations, semi-structured interviews and a focus group within the main case, as well as semi-structured interviews with people within various industries relevant to the thesis. The quantitative elements consist of three questionnaires that was distributed as a longitudinal study within the main case, as well as access to another thesis quantitative data performed at the same time. The qualitative and quantitative approach will be discussed later in this chapter in more detail. In general, due to the qualitative focus, the research process is quite well illustrated by the following figure:



*Figure 1. The research process outlined above (Bryman & Bell, 2007).*

### **3.3 The Learning Project at SSE and the Pre-study**

This thesis is a part of a greater learning project at SSE which incorporates a pre-study and two theses. The theses themselves are results out of the pre-study and due to sharing similar areas the two groups cooperated regarding information gathering. It is however important to also point out that the thesis writing was done strictly within the groups. The cooperation was regarding data collection and both groups were present at all interviews except the two interviews conducted in China where only one of the authors' of this thesis was present.

Since the thesis was a result of an extensive pre-study, information and insights were available at the beginning of the thesis. It is important to make it clear that the guidelines and level of quality

when gathering the information for the ‘pre-study’ part of the project was the same as for this thesis and that the authors were present throughout the entire process of the previous report.

### **3.4 Determining the Theoretical Framework**

The theories utilized in the thesis came from an iterative process. The authors began by studying previous research and theory relating to the area and to find which theories that could provide guidance. The conclusion was that none of the existing theories would provide enough guidance to result in multiple clear predictions. The theories did however form a good foundation for continuous research. Once more information was retrieved, the theories utilized were adapted accordingly. Therefore, during the research process the current theoretical framework came to existence. The resulting conceptual model, to be discussed later, was derived throughout the analysis of the material. However, despite this being one of the main conclusions of the analysis the decision was made to write this early in the thesis report, since knowing this conceptual model would make the thesis more pedagogical to read.

The chosen theories/models/frameworks can be categorized into three sections: acceptance, experience and learning. Firstly, due to the critical importance of technology acceptance for all three research questions, the authors chose a prominent model (the TAM) as a guide for the analysis, and additional theories indirectly relating to technology acceptance to develop a deeper understanding and analysis. Secondly, due to the learning experience being a critical part of research question one, there was a need to develop a deeper understanding for the concept of experience. In addition, since answering question one will lay the groundwork for the rest of the thesis, experience theory was deemed useful for the totality of the thesis as well. To establish a good understanding for the concept of experience, it was covered from both a marketing point of view as well as learning point of view. Finally, since both the purpose and the research questions regards E-learning, the authors decided that it would be necessary to utilize cognitive and affective learning theory to better understand the end goal of the solution as well as learning’s relation to the experience and acceptance.

### **3.5 Determining Variables and Strategies**

The authors feel that it is important to clarify what the difference is between the identified variables in chapter 5.2 and the strategies in chapter 5.3. The identified variables are constant sets of attributes, connected to the social IS, affecting/making up the technology acceptance process. Strategies are actionable plans to influence the main variables and are thereby in a sense dependent

on the variables since they make up the objectives of the strategies. Please see ‘9.3 Analysis Overview Tree’ for a simplified overview of the logic behind the analysis.

### 3.6 Qualitative Data

Qualitative research can be performed by observations, interviews, focus groups, and case studies. (Bryman & Bell, 2007) This part will describe the collection and quality of the qualitative data.

#### 3.6.1 Observations

Throughout the main case, observations were performed to see how the platform was utilized. The observations were done by non-participant observations (Bryman & Bell, 2007) of the activity on the platform, as well as through a plugin gathering statistical data. Observations were also made in the classroom during the first lectures to observe the reaction to the course and the platform, as well as to be available in case of questions. To record the observations, notes and screenshots were taken. Reliability and validity of the observations was assured by two or more people agreeing on each observation and since the observations were done unobtrusive (Bryman & Bell, 2007).

#### 3.6.2 Interview Design

The primary method of gathering data was through semi-structured interviews. This was because semi-structured interviews provided a suitable way of getting a deep and broad understanding for the area. It allowed for the possibility of gathering information from a broad audience of people, letting their viewpoints come across, while still preserving reliability and validity in the material. (Bryman & Bell, 2007) It was important that the interviewed individuals were relevant and could provide the deep and broad knowledge necessary to answer the questions. Furthermore, it was important that all relevant actor types were included. Thereby, the selected people to be interviewed needed to come from different industries, all be considered to have experience/opinions of E-learning and/or social media and unlikely to all have the same experience/opinion. To achieve this, interviews were gathered from four formal learning institutions of three different countries, as well as organizations utilizing and/or implementing/developing relevant systems. The organizations were also from different industries to assure a broad sample. The interviewees were offered to revise the transcripts to assure accuracy. Furthermore, all interviewees were asked regarding if they approved the interview being recorded. The people directly interviewed for the thesis can be seen below.

Interview subject	Company/Organization	Position / Role
Per Andersson	Stockholm School of Economics	Professor, Department of Marketing and Strategy
Rafael Bueno	FMCG company	Digital Marketing Manager
Rickard Hansson	Incentive	CEO

Gustav Jonsson	Incentive	Marketing Manager
Pernilla Josefsson	Royal Institute of Technology	PhD student on E-learning
Steve Mahaley	Duke University	Global Practice Lead, Learning Innovations Team
Pia Melke	SBAB Bank	IT Department – Knowledge Management
He Ping	Tsinghua University	Associate Professor
Christopher Rosenqvist	Stockholm School of Economics	Affiliated Researcher, Department of Marketing and Strategy
Ciara Sutton	Stockholm School of Economics	Affiliated Assistant Professor, Department of Marketing and Strategy
Peter Strate	IFL Executive Education SSE	Lead Consultant E-Learning
Kerstin Söderberg	Industrial and Financial Systems	Community Manager / Corporate Marketing
Robing Teigland	Stockholm School of Economics	Associate Professor at the Center for Strategy and Competitiveness
Serdar Temiz	Interactive City	Director of Innovation and Entrepreneurship
Marina Zhang Yue	Tsinghua University	Visiting Professor at School of Economics and Management (SEM), Tsinghua University
Prefered not to be mentioned	Accounting firm	Branding manager
Prefered not to be mentioned	Freelance	Marketing Consultant

*Table 1. The interviewees (not including the pre-study).*

Furthermore, the pre-study leading up to the thesis also included interviews with all types of actors in market. The interviewees covered a broad spectrum, including E-learning companies and learning institutions to a game company and an independent consultant. In total 20 people were interviewed (including a focus group). However, these people were not explicitly asked if they agreed to that their names would be presented in a thesis. For this reason, they are not referred to by name, but instead as ‘Pre-study (2010)’.

### **3.6.3 Focus Group Design and Execution**

For the thesis a focus group with the students within the course 2304 was conducted. The focus group took place with six students from the course from multiple nationalities and with students of both genders as well as from two schools; SSE and KTH. It was important that the group had a varied setup of participants to give a deep and broad description of the questions being raised. To assure this, the focus group was rescheduled once to assure a sufficient amount of participants.

The focus group followed a semi-structured approach in which areas and questions were written down beforehand. During the focus group one member of each thesis was present with the students and one member of the group writing this thesis was behind a mirror glass. This arrangement assured that both of the thesis groups was in control over the interview. It also assured that accurate observations of the participants’ reactions to questions could be noted. Since the two teams were linked through Skype, the observer could make sure that the focus group ran according to schedule

and that interesting remarks could be followed up. To reward the participants for being in the focus group there was a lunch break in the middle of the focus group as well as candy after the lunch. The focus group took approximately 1.5 hours, excluding the lunch break, and was video recorded. The information about the person behind the glass and the video recording was given to the participants.

#### **3.6.4 Quality of Qualitative Research**

Bryman & Bell (2007) bring up four ways of discussing and measuring the quality of quantitative research: Credibility, Transferability, Dependability and Confirmability.

*Credibility:* Multiple accounts of social reality, respondent validation and that the interview was done in the correct way are critical for credibility (Bryman & Bell, 2007). Each interview was conducted by two or three members of the greater project group, with always at least one from each group present. Furthermore, a broad range of experts, practitioners and users were interviewed. Moreover, all respondents were asked if they wished to validate the transcripts, and all interviews were recorded and the transcript was sent to all three members of the greater project group. Finally, the interviews were conducted in a semi-structured manor described earlier following the advice by Bryman & Bell (2007).

*Transferability:* The next step in assuring quality is if the qualitative information can be transferred to other milieux. The key factor here is if rich accounts are given so that others can make this judgement (Bryman & Bell, 2007). The authors are assuring transferability by: Firstly, give an overview of the process of how the interviews was done, as well as make it clear with whom in what industry. Furthermore, the authors also utilized the fact that three people, within two different thesis groups, have access to the interviews and were also normally present at the interviews. Nevertheless, to make sure that a third party can easily transfer the interviews to another area cannot be completely assured since there would not be enough room to properly present the information required for a high level of transferability from a third-party perspective.

*Dependability:* This term is similar to reliability in quantitative research. To assure dependability notes and records would need to be kept of the process and put up for per evaluation (Bryman & Bell, 2007). All interviews were conducted in accordance with the advice being provided by Bryman & Bell (2007). Furthermore the interviews were recorded, the offer of confirming the transcript was given and the three individuals of the greater project group could verify the interviews. Continuous meetings to assure a good process was also done with the two tutors, Christopher Rosenqvist and Per Andersson.

*Confirmability:* This term refers to the attempt to be as objective as possible, that the researcher acts in good faith (Bryman & Bell, 2007). The interviews were conducted in a neutral way, where encouragement of a subjective nature only was given near the end of an interview and then recorded so that the context could be heard for the gathered information.

### **3.7 Quantitative Data**

This part describes the quantitative side of the case study which supports the qualitative research. All quantitative research done by the authors were performed within the main case.

#### **3.7.1 Practical Execution of the Study**

The choice of population was natural since the case study would focus on the course 2304 at SSE; which resulted in students from both SSE and KTH. The decision was made not to find other classes as well due to three reasons: Firstly, the core of the research was qualitative. Thereby, due to resource limitations a broader quantitative study would not be possible to conduct to a sufficient quality. Secondly, the quantitative study was a support of the qualitative. Thirdly, due to the thesis being a part of a larger project, quantitative data was available from a similar study conducted in a less deep, but broader sense.

To gather the data, questionnaires were designed and handed out on three occasions. The occasions were at the start of the course before the platform could be seen, after the first module as well as after the second module of the course. The studied population consists of 65. The response rate was 53/65 for the first, 20/65 for the second and 34/65 for the third hand-out. The lower rate on the second and third hand-out was likely due to constraints at the time of the hand-outs. However, due to the role of the information, the data was still seen as useful. Furthermore, all of the filled in questionnaires were considered valid after inspection.

#### **3.7.2 Questionnaires**

*Pre-testing:* The questionnaires were checked by the author of the other thesis within the project for good order and that there were no other potential problems. Furthermore, the questionnaires were also checked by Christopher Rosenqvist to assure that they seemed valid. Finally, after the first hand out the answers provided were scrutinized to find any sign of problems.

*Questions:* The questions were designed to measure potential effects on the brand, learning styles, technology acceptance, opinions and reactions in direct relation to the platform, opinions and reactions in relation to the course as well as variables upon which the answers could be divided

such as computer skills or gender. Due to the nature of the questionnaires in supporting the qualitative research alterations were done between the three different times of distribution. Firstly, the questionnaire was expanded; keeping the order and priming effects in mind. Secondly, some questions were asked towards the module instead of the course during the second hand-out since only one module had been done at the time. Finally, during the second hand-out perceived usefulness and ease of use was measured with one question each, in contrast to the third hand-out when the constructs were measured with one additional question each due to the increased importance of the model. Thereby, when hand-out two and three are used together during parts of the analysis, only the first questions will be utilized. The table below show which question that is based on what source.

Question	Source
Question 1-2	Lindau & Person, 2008
Question 3	Eom & Wen, 2006
Question 4	Chuttur, 2009; Venkatesh & Davis, 2000
Question 5	Chuttur, 2009
Question 6	Chiu et al. 2007
Question 7	Pre-study, 2010 and discussed with Christopher Rosenqvist
Question 8	Pre-study, 2010 and discussed with Christopher Rosenqvist; Oh et al. 2007
Question 9	Designed by the authors and discussed with Christopher Rosenqvist
Question 10	Best, 2008
Question 11-12	Chiu et al. 2007
Question 13-16	Inspired by Lindau & Person, 2008

*Table 2. The sources utilized per question.*

### 3.7.3 Scales

According to Malhotra & Birks (2007) there are four main types of scales: Nominal, Ordinal, Interval and Ratio. All with their own unique characteristics and thereby advantages and disadvantages. The most suitable scale for the majority of the questions were deemed to be the interval scales. This means for our questionnaires that the individual got to answer questions on a scale from one to seven. The scale was chosen so a neutral alternative existed as well as to assure sufficient detail in the response while still avoiding too much complexity. The exceptions were the question relating to one's will to recommend where the scale was expanded due to the nature of the question. Furthermore, the questions such as gender did for natural reasons not use an interval scale.

### 3.7.4 Structure

A number of measures were taken in relation to the structure. Firstly, a less important question, of a less complex kind, was put first, to let the respondents warm up. Secondly, the most critical questions would follow to assure as accurate responses as possible by avoiding priming before them. Furthermore, the flow of answering the questionnaire and logic was checked. This was particularly important since the structure would be altered by the addition of questions throughout the research process.

### 3.7.5 Tools and the Reliability and Validity of the Study

*SPSS & Significance:* SPSS was utilized to analyze the information. The chosen level of significance was the standard level of five percent. Tests for normality were performed and the majority of the variables had a skewness and kurtosis within  $-2/+2$  and all critical (e.g. TAM) variables were within these limits. This, in combination with the central limit theorem resulted in the assumption of normal distribution. Correlation (Pearson), linear regression, t-tests and anova were performed including multiple splits and selective cases such as time of hand-out and school.

*Reliability:* One way of assuring that the data can be consider reliable is if multiple measurements, measuring the same variable, have a Chronbach alpha of at least 0.6, preferably at least 0.7 (Malhotra & Birks, 2007). In the questionnaires multiple questions were included that allowed for a Chronbach alpha test. All except two of the questions had a Chronbach alpha above 0.7, and commonly above 0.8. Only voluntariness in regard to the TAM was below 0.6 and as a result is what not used as one question in the analysis. Furthermore, since the tests were administered three times the possibility for a test-retest was possible (Bryman & Bell, 2007). Moreover, in two of the questions, sub-questions that should receive a different answer, if the questionnaires were filled in properly, compared to the surrounding questions were added. These results were also found.

*Validity:* Validity regards if the concept one wants to measured is actually measured with the measure. The minimum requirement is so called face validity, that “... *the measure apparently reflects the content of the concept in question*” (Bryman & Bell, 2007, p. 165). The measurements were either taken from previous studies or developed based on theory/models and then checked with a tutor as well as the author of the other thesis group within the project. The measurements were also done at specific time points to assure proper measurements (measurements of module one was directly after module one).



### **3.8 The Case Platform**

The platform was designed to facilitate and achieve mainly five goals: A high variety in activities, a more engaging and collaborative learning experience and greater changes in intensity as well as to correct various problems noted during the time the authors' themselves took the course. To achieve this, the course was broken down into its sub-parts and each part analyzed. Furthermore, various tools that could create the platform were examined with the three main criteria being (1) easy to use, (2) low cost and (3) good at supporting the five main goals. After having benchmarked a number of alternatives the project group settled on a self hosted Wordpress page that would be enhanced with a number of plugins, Twitter, Google calendar as well as a video communication tool called SuperCool School. The platform was deemed to be able to fulfill all the goals and criteria once one added the activities. Throughout this process, multiple meetings and other forms of communication took place with Christopher Rosenqvist. Furthermore, each part of the platform was tested and re-tested to assure its functionality. Furthermore, a detailed project plan was made for the greater project and information was sent out early to all administers/teachers within the course to give everyone time to adapt and prepare. Finally, to assure that the platform would be easy to use a manual, presentation, tutorial videos as well as personal introductions with the teachers were made. The process of designing and creating the platform began in the summer of 2010 and was completed in december 2010, when the final testing took place. Finally, one should notice that the planning for how to measure the main case took place already at the early construction of the platform. Below one can see two pictures from the platform.

3 comments

1 comment

1 comment

1 comment

1 comment

Tags

Asia Awards blizzard blue  
casual gaming development  
economic **facebook**  
game games gaming Group  
8b Higher Education Individual  
Assignments Industry  
Introduction lumosity  
marketing **mission**  
Module 1 Movies network  
ocean Rovio **social**  
stardoll  
steep  
turkey Tutorial virtual  
currency Virtual Worlds  
**vision** Wumart zynga

Login to Chat

Feb 18 2011

What do you think?

Case 2: Facebook

No Responses -

Hi!

Since we noticed that you are working with Facebook we decided to post some inspiration (the first is especially fun). Feel free to post or comment 😊

Interesting:

The Truth about Facebook!

The early days:

The Early Days

- 15 February 2011  
Focus group rescheduled to Wed, 23/02., 12:30h, (ca. 2hrs) - In an attempt to fit your classes. To join write a mail to ...
- 7 February 2011  
Watch and enjoy the Virtual World and Gaming Life Stream: <http://nordicworlds.net/world-and-gaming-live-stream-now/>
- 20 January 2011  
Slideshare presentations can now be embedded properly. More information in the presentation (uploaded under downloads) and in the blog post.

News

- Report: US regulators interested in Apple subscriptions - Macworld
- Steve Jobs has six

4 comments

3 comments

3 comments

3 comments

3 comments

Tags

Asia Awards blizzard blue  
Case 4 casual gaming  
development economic  
**facebook** game games  
gaming Group 8b Higher  
Education Individual  
Assignments Industry  
Inspiration Introduction  
lumosity marketing  
**mission** Module 1 Movies  
network ocean Random  
House Rovio **social**  
stardoll steep  
**strategy** turkey  
Tutorial virtual currency Virtual  
Worlds **vision** Wumart

Apr 03 2011

Guest lecture 2 -

Guest Lecture 2, No Category

The Importance of knowing the customer!

On Wednesday the 6th of April between 13.15-15.00 , senior CRM-consultant and SSE alumni, will visit the Media Management course. The lecture will be in room Ragnar.

has throughout his career helped companies to increase their profit by collecting and understanding customer data. On his record are some of the most well-known loyalty clubs in Sweden such as IKEA Family, SAS Eurobonus and ICA.

During his lecture he will talk about why it is necessary for all companies to know who their customers are and how data can be collected and analyzed to guide marketing actions.

In view of your group projects - this lecture is also an opportunity to ask questions of how to conduct reliable market research and present it to companies in a convincing way.

Do some research of your own about and CRM (Customer Relationship Management) and post two questions at this page before Tuesday morning.

Some useful links in Swedish and English:

<http://crmtoolbox.dubliera.se/varfoer-crm.html>

<http://www.loyaltymanagement.dk/pdf/crmic/Stop%20talking%20about%20technology.pdf>

Posted by at 12:55

41 Responses -

Search

Search

Important Information

- 20 March 2011  
Post questions to the guest lecturer from SVT on the platform! :-)
- 9 March 2011  
Change in schedule! Both Thursday lectures moved to Friday (11/03)! Group 1: 10:15h - 12h, Group 2: 13:15h-15h
- 15 February 2011  
Focus group rescheduled to Wed, 23/02., 12:30h, (ca. 2hrs) - In an attempt to fit your classes. To join write a mail to ...

News

- Apple Faces Class Action Lawsuit Over In-App Purchases - Macworld

Figure 2. Two pictures from the main case platform.

## 4. Theory, Models and Frameworks

*This chapter aims to provide the information necessary to understand the analysis as well as a general level of understanding relevant to the thesis. Since the thesis revolves around the experience, learning and technology acceptance these are the main areas of the chapter. Firstly, experience will be covered so that a better understanding regarding what it is and how it functions is achieved. Secondly, the chapter will cover various learning theories and models to give the reader a better understanding for how the learning process functions. Thirdly, due to the critical nature of technology acceptance the final section will present the utilized technology acceptance model as well as two areas of research which extends the understanding of technology acceptance. The chapter will then be summarized and the various areas will be connected in chapter 4.1 through the conceptual model.*

### 4.1 Experience

Experience is defined as “... direct observation of or participation in events as a basis of knowledge” (Merriam-Webster, accessed 2011). As is expected, the word can encapsulate so many different aspects of sensations that merely defining it at the broad level does not reveal its true complexities. As such, the following paragraphs will briefly introduce variables that clarify and give perspective on the concept of experience formation.

#### 4.1.1 The Experience from a Marketing Perspective

Pine & Gilmore (1998) coined the term the Experience Economy to illustrate the shift away from service based economies. The model of the Experience economy is based on the two factors: participation and connection. The combination of the two factors result in four broad experiences; Entertainment, Educational, Esthetic and Escapist. With broad classifications of experiences based on two factors, it is also beneficial to bring in a third factor to better understand experience formation, namely that of ‘context’. The above definition of ‘Experience’ being an observation or participation in events thereby needs to be viewed beyond intrinsic factors that make up the experience and include the extrinsic ones. Grindland (2008) clearly illustrated that changing the physical surroundings can have a direct impact on the experience, with other variables kept constant. Similarly, Kolb (1995) as well found that the social context in performing tasks can affect the experience, e.g. level of stress experienced attributed to cohesiveness of group.

Adding the fourth factor of ‘expectation’ allows for a further understanding of experience, as it expands the concept of ‘context’. Although, it can be said that expectations are part of the overall

experience in this instance they will be kept separate. Poynor (2010) points that exceeding customer expectation leads to a greater experience of satisfaction. Expectations can be formed by the context, e.g. providing consumer with greater choice increases expectations and vice versa. Furthermore, the act of customers stating their expectations prior can have significant effect on the experience outcome. The stating of expectations causes customers to pay more attention to negative aspects and to view performance characteristics more negatively, which in turn affects their experience (Simonson, 2007).

In relation to expectations is the degree to which the ‘distance’ between an individual and object, event etc, exists. Construal Level Theory dictates that the greater the distance, whether it be temporal, spatial or social, the greater the likelihood that events or objects will be represented abstractly (high-level construal) rather than concretely (low-level construal). Abstract construals tend to shift individuals attention toward desirability consideration, the value of an end state, e.g. why you want high grades in school. Concrete construals shifts attention towards feasibility considerations, the ease of reaching the end state, e.g. how you would get a high grade. In meeting the expectations the abstract construals would appear pose a greater challenge as their expectations are harder to quantify in comparison to the concrete construals. (Liberman & Wakslak, 2007)

#### **4.1.2 How ‘FLOW’ affects the Experience**

Although, creating an experience that is deemed ‘optimal’ for an individual can be an elusive task, as experience is *personal*, there are general guidelines for how this can be achieved. To begin with, an ‘optimal experience’ is defined as sense of exhilaration, a deep sense of enjoyment. To achieve this, the individual needs to be put under some form of stress, as the experiences are stronger when the individual is forced to exert themselves. The best moments for individuals usually occur when a person's body or mind is stretched to its limits in a *voluntary* effort to accomplish something *difficult* and *worthwhile*. A certain ‘flow’ is reached in the individuals mind when one’s skills are neither overmatched nor underutilized to meet a given challenge. (Csikszentmihalyi, 1990)

#### **4.1.3 The VECI Framework**

The VECI framework highlights key variables of E-learning activities and through this can expand upon one’s understanding for what that makes a good electronic learning experience. The framework consists of the following four variables: variety, engagement, collaboration and intensity. Variety refers to performing activities that are dissimilar to each other, allowing the individual to experience a wide array of different learning techniques. Engagement looks more into the context of learning, and how immersed the individual is into the learning experience. A common

way to make the individual engaged is to make sure that all the senses are utilized. Collaboration is about individuals coming together and collectively completing a task. The presence of different learning techniques, and individuals' affinity to either be analytical or creative, allows learners in groups to gain different perspectives and insights from working in heterogeneous groups. Finally, Intensity refers to whether the individual is allowed to reflect or 'be in the experience' by prompting the user to for feedback. The greater the intensity the quicker feedback is required and less reflection is possible. Having less reflection promotes the individual to temporarily avoid preconception therefore allowing more creative ideas to come forth. The overall assumption of the framework is that the higher the learning situation scores for each of the variables, the more likely an E-learning 2.0 solution would be beneficial. (Pre-study, 2010)

## **4.2 Learning Theory**

At the broadest level learning can be divided into three distinct domains; Cognitive, Behavioral and Affective. The cognitive domain refers to learning and recalling information. The behavioral or psychomotor domain describes actual behaviors and skills that are first practiced and then mastered by the student (Simpson, 1966). The affective domain is rooted in the emotional life of the student and reflects the students' beliefs, attitudes, impressions, desires, feelings, values, preferences, and interests. However, for this study, only cognitive and affective learning will be covered, due to the focus being the creation of knowledge<sup>2</sup> (Friedman, 2010).

### **4.2.1 Cognitive Learning and its Impact on Social Learning**

Information intake and processing can differ between individuals. Jung (1923) highlighted this fact and with continued research into the field of cognitive learning by Katharine C. Briggs and her daughter Isabel Briggs Myers led to the Myers Briggs Personality Type Indicator (MBTI). The MBTI is a world-renowned and frequently used self assessment test that clarifies an individual's learning preference. The MBTI is organized along four dimensions, Extraversion/Introversion, Sensing/Intuition, Thinking/Feeling and Judging/Perception. Extraversion/Introversion reflects an individual's preference in terms of them drawing energy from the outside world or internally. Extroverts seek a breath of knowledge and prefer frequent interaction, thereby gaining energy by being with others. Conversely, introverts are thought oriented, often engaging in reflection, and gain energy by being alone. They prefer to seek depth of knowledge and prefer substantial interaction (Lee, 2001). Information gathering can be performed either by sensing (using the five senses) or by

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<sup>2</sup> Since the psychomotor domain primarily concerns muscle memory it was deemed less relevant for the thesis.

intuition (using indirect attention to associations). How individuals evaluate gathered information is according to the framework either by feeling or thinking. Feeling emphasizes the use of our personal subjective values when evaluating information whereas thinking employs a more logical and analytical process. Finally, Judging/Perception refers to lifestyle. A judgment individual prefer to live in where they are, systematically planning, ordering, and organizing their world, deciding what needs to be done and controlling events. Perception individuals are more spontaneously, curiously awaiting events and adapting to them. When making decisions they focus on the adaptive process of decision making. (Lee, 2001) Learning that occurs within a group is affected by the cognitive styles and social interactions within the team. Social relationships within the group influence group cohesion, common understanding, cooperation, and the desire to remain a part of the team, e.g. intuitive learners initiate more social-emotional acts than analytic learners. Students in groups with divergent learning styles are more likely to have difficulty learning than students in groups with more homogeneous learning styles. However, there is also evidence that groups with a heterogeneous blend of cognitive styles can outperform groups with more homogeneous learning styles but with less satisfaction (Shipley et al. 2009). Furthermore, in a landmark study done by Light (2001), of the Harvard Graduate School of Education, he discovered that one of the strongest determinants of student's success in higher education was their ability to participate in small study groups

#### **4.2.2 Experiential Learning**

Experiential Learning theory (ELT) states that learning is the process whereby knowledge is created through the transformation of experience. Furthermore, ELT proposes that learning is best conceived as process, and not in terms of outcomes. In the process an individual's beliefs, knowledge and ideas, should be examined and retested so that when they are reintegrated they are increasingly refined. As part of refining one's beliefs, knowledge and ideas, the presence of conflict and disagreement are what drives a person's learning process. Finally ELT proposes a constructivist theory of learning whereby social knowledge is created and recreated into the personal knowledge of the learner. (Kolb, 2005)

#### **4.2.3 Affective Learning**

*“When basic mechanisms of emotion are missing in the brain, then intelligent functioning is hindered. These findings point to new advances in understanding the human brain not as a purely cognitive information processing system, but as a system in which affective functions and cognitive ones are inextricably integrated with one another”* (Picard, et al. 2004, p. 1)

#### **4.2.3.1 Introduction and The Big Five Model**

Scientific findings over the past decade have started to lay the foundation for a better understanding of the role of affect in learning. It has been proven that for example having a slight positive mood does not just make you feel a little better but also induces a different kind of thinking, with a tendency toward greater creativity and flexibility in problem solving. Minsky (2006) states that when we change what we call our ‘emotional states’, we are switching between different ways to think. However, as emotions are hard to measure and quantify the research lags behind that of cognitive learning (Picard, et al. 2004). However, similar to the MBTI model, the recent Big Five Model attempts to understand and quantify the characteristics that makes up a personality by dividing it up into five different traits; openness, conscientiousness, extraversion, agreeableness, and neuroticism (Mulyanegara, 2007). Description of the traits can be found in ‘9.2 Figures’.

#### **4.2.3.2 Russell’s Core Affect Framework**

The personality traits outlined by the ‘Big Five’ will in turn affect the emotions individuals feel, especially in a learning situation. Findings suggest that only the feelings of Boredom, Flow (Engagement) Confusion, Delight, Surprise and Frustration have a significant impact on learning. The aforementioned set of emotions, or affective states, can be situated within the Russell’s (2003) Core Affect framework. This perspective holds that an affective state is composed of two integrated components: ‘Valence’ (pleasure to displeasure) and ‘Arousal’ (activation to deactivation). Boredom is negatively correlated with learning, whereas confusion and flow are positively correlated with learning. When it comes to the subject of transitioning between affective states, transitions from confusion to flow and vice versa would be expected because of the individual’s skills being put under pressures. (D’Mello et al. 2007). However, it is important that the experience is *monitored* so that the individual does not shift towards frustration and ultimately boredom.

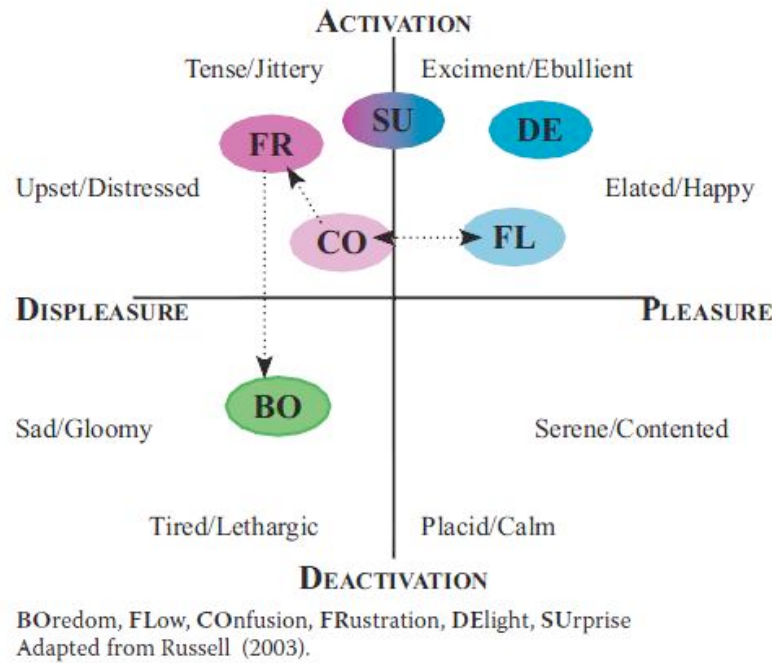


Figure 3. Russell's core affect framework (D'Mello et al. 2007).

### 4.3 Technology Acceptance

To be able to analyze the empirical data and answer the questions of this thesis, one needs to understand the individual's acceptance of technology and potential resistance to an innovation. Furthermore, one needs to understand how it is important to achieve acceptance among multiple people. This section will present the chosen model, cover the most important areas of innovation resistance as well as present the necessary information to understand how more people can affect the solution's value.

#### 4.3.1 The Choice of Model

The chosen technology acceptance model for this thesis is a model called the Technology Acceptance Model (TAM). It was chosen for a number of reasons. Firstly, it is widely used and has been proven on a number of occasions (Legris et al. 2001). Secondly, it is easy to apply, overview and understand, making it very suitable for this thesis due to its qualitative nature and need for clear grounds of analysis and discussion. Thirdly, it has been compared favorable to other technology acceptance models in various studies (Taylor & Todd, 2001; Venkatesh et al. 2003). Finally, it has already been applied multiple times to similar scenarios and proven to be adaptable, illustrating its usefulness. For example, Davis & Wong (2007) utilized the TAM as one of their two models to conceptualize and measure the optimal experience of an E-learning environment.



### 4.3.2 The Technology Acceptance Model (TAM)

TAM, originally a PhD thesis, was “... developed with two major objectives in mind. First, it should improve our understanding of user acceptance processes, providing new theoretical insights into the successful design and implementation of information systems. Second, TAM should provide the theoretical basis for a practical ‘user acceptance testing’ methodology that would enable system designers and implementors to evaluate proposed new systems prior to their implementation.” (Davis, 1986, p. 7)

TAM is based on the Theory of Reasoned Action (TER) developed by Fishbein and Ajzen (Davis, 1986). Fishbein and Ajzen’s model of reasoned action was tested in a meta-analysis of past research by Blair et al. (1988) and strong evidence for the model’s predictive utility was found. The model’s origin is from 1967 and was refined in 1975. It is defined by three equations (Davis, 1986) and can be seen as the figure below.

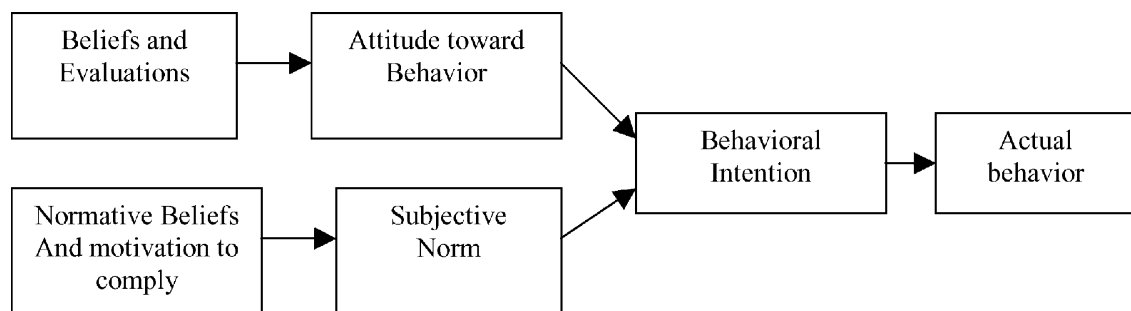


Figure 4. The theory of reasoned action (Legris et al. 2001, p. 192).

TAM thereby builds strongly upon TRA, but in its original form has no subjective norm (later to be added in TAM2, to be discussed later). The resulting model consists of four ‘areas’: Design features, cognitive response, affective response and behavioral response. The core of the model is that perceived usefulness and perceived ease of use affects the attitude towards using which in turn affects actual system use. Perceived usefulness is further influenced by perceived ease of use and both perceived usefulness and perceived ease of use are affected by various design features (Davis, 1986). The resulting model can be seen below:

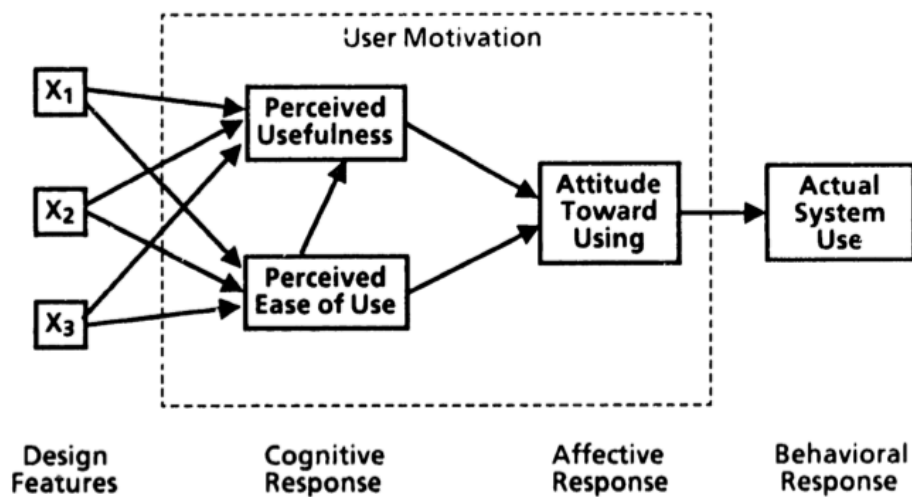


Figure 5. The TAM model, as primarily used in this thesis (Davis, 1986, p. 24).

Notice that the design features does not directly affect the attitude toward using. The reason is as Davis (1986) on page 24 - 25 states *"Since design features fall into the category of external variables within the Fishbein paradigm ... they are not theorized to have any direct effect on attitude or behavior; instead affecting these variables only indirectly through perceived usefulness and perceived ease of use."* Finally, notice that, within the model, Perceived usefulness is defined as *"... the degree to which a person believes that using a particular system would enhance his or her job performance"* (Davis, 1989, p. 320) and perceived ease of use is defined as *"... the degree to which a person believes that using a particular system would be free of effort"* (Davis, 1989, p. 320). Furthermore Attitude is defined as *"Individual's positive or negative feeling about performing the target behavior (e.g. using a system)"* (Vvenkatesh, accessed 2011)

### 4.3.3 Extending the TAM - the TAM2

For the quantitative part of the thesis, an extended model of the TAM will be proven useful since it allows for a deeper analysis. The most noticeable extension of the TAM was made with the TAM2 where, beyond trying to further explain perceived usefulness, the subjective norm was added.

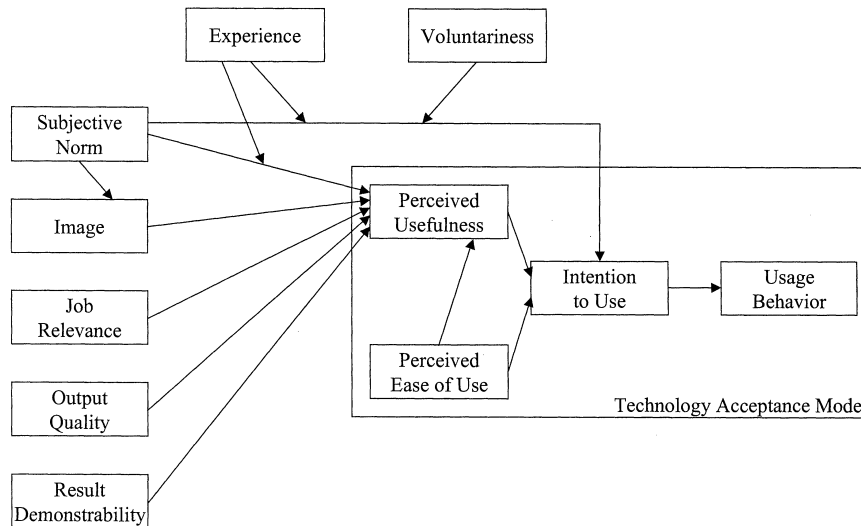


Figure 6. TAM2 extends upon the original TAM by adding the subjective norm and expanding upon the potential understanding for perceived usefulness. (Venkatesh & Davis, 2000, p. 188).

Two things are important to notice in regard to TAM2. Firstly, experience as seen in the model above does not hold the same meaning as experience in this thesis. In general when reading technology acceptance articles experience often mean that the user have actually experienced the system, in contrast to the broader definition utilized for this thesis. Secondly, notice how the extension of the original TAM does not change the relation between the original constructs, beyond the fact that attitude toward using has been replaced by its resulting construct, intention to use. Thereby, TAM2 can be used as a complement for TAM, in the quantitative analysis, without adding further complexity or unclarity to the qualitative analysis.

### 4.3.4 Innovation Resistance

Innovation resistance can occur since the innovation either creates a high degree of change and disrupt established routines or because it conflicts with the individual's belief structure. Innovation resistance can affect the time of adoption and varies in degree between individuals. The result can be that of inertia or active resistance, resulting in that the innovation does not get adopted or that adoption is postponed. It is important to realize that the resistance towards the innovation is becomes more likely the higher the created discontinuity is. Innovation resistance can either be of a functional or psychological nature. If the resistance is of a functional nature it is either because it

requires a change in how the individual work (Pervasiveness), because there is a problem in the value the user puts upon the innovation or that it takes time for the user to receive benefits from the innovation (Realization). Furthermore, the user can perceive the innovation to pose some form of physical, economic, performance related or social risk (Perceived Risk) or there is a difficulty in presenting the benefits to the users (Communicability). If the resistance is of a psychological nature it is either because the innovation conflict with the individual's traditions or image. Finally, if one would come across innovation resistance there are some key ways of handling it. To reduce innovation resistance regarding function one may want to consider mandatory usage, facilitate a trial or use testimonials. One can also ensure that the innovation can be tried in different stages (Divisibility) or that it can be modified to some extent to user preference (Amenability). Furthermore, psychological barriers can be dealt with by understanding and paying attention to traditions as well as utilizing change agents (Ram & Sheth, 1989; Ram, 1987).

#### **4.3.5 The Value of Numbers and Value Constellations**

The value of a social IS increases the more users it has due to two reasons. Firstly, the amount of users affect the total amount of connections exponentially, or put another way, *"...the value of  $N$  member net is proportional to  $2^N$ , because the total number of possible groups is of order of  $2^N$ "* which is known as Reed's law (Kilkki & Kalervo, accessed 2011). This scenario becomes even more interesting if one considers it from the perspective of a two sided market. A market where there are two sides and the value for one side is linked to the size of the other side (Eisenmann et al. 2006).

The second reason for why value increases the more that uses the solution is due to the offer becoming more dense and value constellations being formed. Dense is defined as *"... a measure of the amount of information, knowledge, and other resources that an economic actor has at hand at any moment in time to leverage his or her own value creation."* (Normann & Ramírez, 2000, p. 69) This results in three implications according to Normann & Ramírez (2000). Firstly, value is not created in value chains, but instead in value constellations, resulting in that value is realized when actors are engaged. Secondly, what is true for an individual offering will also be true for the entire value-creating system. Finally, the key to value creation becomes to consider the entire value-creation system and assure that it functions. These three implications may currently not seem to have much value, however please bear in mind the situation the platform is facing (to be further discussed in chapter '5.1.1 Experience, External variables and People'). At the end of their article

they write *“The secret of value creation is building better and better fit between relationships and knowledge”* (Normann & Ramírez, 2000, p. 77).

#### **4.4 Theory Summary**

Due to the nature of the thesis, theories, concepts and models relating to experience and learning is briefly outlined to give the reader an overview, perspective, as well as the understanding necessary for the analysis. The key takeaways are:

- Individuals can have a variety of learning styles. Each learning style requires different approaches in order to play to its strengths.
- Learning should be viewed as a process and not an outcome, thereby adding weight to experience’s role in learning. This realisation is important for the analysis and number of strategies to be suggested in chapter five.
- Theoretical aid is also necessary in relation to technology acceptance. A framework is thereby chosen for the thesis in the form of the TAM in order to add understanding and clarity.
- The key aspects to remember regarding the TAM is that external variables affect the perceived usefulness and ease of use which then in turn affect the attitude and thereby acceptance.
- To gain further depth in the understanding of social IS acceptance, the concept of innovation resistance has been outlined.
- Individuals’ motivation to accept the social IS is also partly explained by value of numbers/constellations.
- The combination of TAM, Innovation resistance and value of numbers/constellation will provide the necessary theoretical foundation in understanding the acceptance process of a social IS as outlined in chapter five.
- However, to further understand the supporting quantitative data in chapter six, the TAM2 will also be utilized for that specific part of the analysis.

## 5 Empirics and Analytics

*This chapter will answer the purpose of the thesis by presenting and analyzing the empirical data. It will do so in the order of the three questions presented in section '1.4 Research Questions'. Section 5.1 will illustrate how acceptance is in a continuous process with the social learning experience and external variables. Section 5.2 will then identify the main variables that drives technology acceptance utilizing the TAM as a framework. Finally, section 5.3 will then show strategies through which one can affect the technology acceptance variables and through this tie the chapter together. In other words, the chapter show how one can drive technology acceptance and thereby indirectly create a better learning experience.*

### 5.1 How Does Technology Acceptance Affect the Social Learning Experience

This section will create a three layered conceptual model which will answer the first question of the thesis. To achieve this, the section will firstly illustrate how the external variables are interlinked with the experience and how the amount of users in the system directly affects its value for the users. Secondly, empirical data and theory will build upon the previous conclusions and illustrate how technology acceptance of a social IS is a continuous process; thereby creating the first layer of the conceptual model. Thirdly, the importance of properly using a social IS and the potential for innovation resistance will be demonstrated; creating the second layer of the conceptual model. Finally, the critical nature of strategy and implementation for a social IS will be made clear; making up the final layer of the conceptual model. The core take away is that the technology acceptance of a social IS is a continuous process in which the social learning experience and the external variables are interrelated.

#### 5.1.1 Experience, External Variables and People

Even though this may already be clear due to the theory chapter, the authors wish to assure that the reader can see that the activity and system variables are interlinked with the experience. When doing the Pre-study (2010), the focus group (2011), the main case observations and reading up on theory it became clear that the system, the activity and resulting experience cannot be separated from each other. For example the VECI variables which indicate the four main identified factors of an E-learning 2.0 activity will directly affect the learning experience. For example, the addition of collaboration, which is the foundation for an E-learning 2.0 activity, is also supposed to result in a social experience. An additional example of this is the observations done during the main case, were people unused to the interface design experienced that the system was hard to use. This can also be

seen directly through theory. Within the experience economy by Pine & Gilmore (1998) certain types of activities will end up at different places in the experience matrix. Furthermore, another example of this interrelation would be through flow (Csikszentmihalyi, 1990), which as described above, relies upon a match between the participant and the activity to create a good learning experience. One can thereby conclude that the variables that make up the activities and the system are interlinked with the experience.

In addition, to have a social learning experience, and as a result value, on the social IS one needs people. For example, a key value element of the social IS is the sharing of information between participants which results in the possibility of being able to search for information one requires as demonstrated by the following quotes from Jonsson (2011) “... *we have come to realize, that we are actually selling search.*” and “*But, if you don’t have a lot of content about different stuff, then the search engine will fail ...*” This was also found in the interview with Hansson (2011) as can be seen in this quote “*But in the end what we saw, when he had a couple of clients up and running, for a couple of month or years or so we saw that the huge benefit, or the win, was the search.*” The view that sharing and searching of information was a critical value aspect was also found in the focus group (2011). Furthermore, one can also see how a social IS is dependent on people through theory. Red’s law show that as the amount of people in the system increases, the interlinkages goes up exponentially. This is naturally important for a system which is supposed to result in a social learning experience. Furthermore, Eisenmann et al. (2006) bring up the concept of two-sided markets. In the scenario with a social IS there will be people that share and people that only read as supported by Hansson (2011) who said that “*You will probably get an engagement level like 40 to 60 percent of people actually contributing. And contributing in my world is, creating, updating, commenting, micro sharing ...The rest will probably never contribute at all. But they will be for sure be lurkers and search for information, within the organization or within the solution.*” In other words from this viewpoint the system creates value even for less enthusiastic users as long as one can create a big enough ‘contribution side’. In addition, Normann & Ramírez (2000) theory of value constellations would result that it is critical to have all parties being active and that each offering provided on the platform affects the entire system. This was supported at the focus group (2011) where the lack of activity from teachers on the platform made students not want to utilize it since this lack of participation reduced the usefulness of the solution. Finally, without multiple people the ability to achieve the benefits of social constructivism (Sherman, 2009) is per definition unlikely.

One can thereby see that on a social IS, the amount of users will directly affect the value of the system and the activities and thereby the resulting social learning experience.

### **5.1.2 Acceptance of the Social IS - TAM and the Continuous Process**

To get people to use the IS, people must accept the IS. The TAM provides the fundamental framework for how technology acceptance happens. It pinpoints that perceived ease of use and usefulness are the key constructs that lead to acceptance and can be validated by both the qualitative and quantitative empirical data as will be demonstrated later in the analysis. However, the TAM does not successfully take into account the effect more people will have on the perceived usefulness and ease of use of a social IS. In other words, the TAM is relatively linear in its nature, with a start and an end, but the technology acceptance on a social IS can be seen as a continuous process as now will be illustrated

Firstly, as mentioned earlier the ability to search through information is a key element of a social IS (Focus group, 2011; Jonsson, 2011; Hansson, 2011). However, to create the will to share information that in turn can be searched for, the usefulness and ease of use has to be demonstrated which requires some form of already existent use of the system. For example, Jonsson (2011) said that *“Sometimes, when people come in early, so to speak, to the solution, when it is not filled with a lot of content, then expectations are not met ... That is a really hard thing to get over. Just the first thing, when you enter the tool, you have to get something out from it and maybe a new employee that comes in to one of our clients, which has been doing it for a while. Then that new employee could find lots of stuff to help their daily life because their colleagues have been sharing information for a while.”* This was also seen in the interview with Hansson (2011) who said that *“So when you get this information going or this contribution user generated environment going the end-user will probably, absolutely say that they experience that they find information more easily, both people and knowledge, and that suspicion that creates that is being removed.”* This was further indicated by the interviews at the Accounting firm (2011) and with Melke (2011). For example Melke (2011) said that *“... people see the benefit that other people share. You get in there and you find what you are looking for and then you see – AHA- it is good for me to share as well. There is also this threshold to get over and when you have a lot of information in there, then it is easier, you get the snowball kind of rolling. That is, what I think it is. And for some people it takes longer time. You have to accept that.”* Furthermore, Marketing Consultant (2011) said that *“... bulls eye of social media challenges. It is about exchange a lot more ... you need to trigger people, if they don't feel they learn from this tool they won't give anything back.”* In other words, one can see how



the acceptance among the population continuously improves and how this is particularly clear in the beginning, as was further illustrated by Jonsson (2011): *“We also see the hockey-stick effect. When people start to realize ‘Ok, that is a system where I can write anything I want and then ok.’ Then they contribute a lot. Then the curve even falls a bit. We do not see this massive effect. We have seen the actual effect on users as well because we have early adopters, then we have the huge mass of people and then we have the people who are always negative because they exist in every organization. The early adopters will adopt anything mostly, the big mass actually don’t care, but if they see value for them, then it is ok...”*

Furthermore, the opposite development was also observed. During the course platform case the initial activity was low, but existent. However, once no real response was given, the activity more or less went to zero. As highlighted earlier, during the focus group (2011), students pointed out the need of more teacher participation in the platform since it would be beneficial for the experience and thereby potentially lead them to want to be more active. Furthermore, during the interviews with Andersson (2011) and Sutton (2011) indications were also heard that if they would have been able to observe a certain beneficial activity to take place, their use of the platform might have been different. For example, once the description of different learning styles were brought up and a scenario was painted in front of them, they could see the value more easily. In addition both Strate (2011) and Steve (2011) warned that bad/unfitting activities can reduce one’s will to participate.

Moreover, the continuous process of technology acceptance was also seen through time statements. During the interviews with Jonsson (2011), Hansson (2011), the Accounting firm (2011) and the Melke (2011) the interviewees indicated that the process took time since acceptance was not a yes or no situation, but gradual. For example Jonsson (2011) said that *“But it takes time because the search engine does not work from the start so to speak, because the solution is empty, when we launch it. It is the users that fill it with content and information. So maybe after 6 months or one year, you start to see these effects.”* which was supported by Hansson (2011) who said that *“So from telling the whole organization, in the best case it took two month to reach 40 percent to 60 percent otherwise it will take approximately 8 to 9 months to reach this mass.”* Furthermore, the concept of acceleration, or critical mass, was also brought up by Jonsson (2011) further indicating according to the authors’ the importance of having enough people participating and how this could affect the will to accept the technology.

The empirical data seen above can also be supported by learning theory. According to the experiential learning theory by Kolb (2005) learning is best perceived as a process, in contrast to outcomes. Furthermore, in the Russel Core's framework, learners can have transitions between emotions when engaged in the learning experience and if learner transitions from flow into feeling of bored, the learner becomes deactivated. This thereby indicates that a process perspective would be more suitable compared to the linear and more absolute nature of the TAM.

In other words, external variables as well as the resulting experience does indeed affect the perception of ease of use and usefulness as one can predict by the TAM. Nevertheless, they, as discussed earlier, are affecting each other in an iterative process. The usefulness of the social system is partly tied to how many people that are in it, as discussed earlier. Thereby, the more people that accept the system, the higher the perceived usefulness. Furthermore, the more people that have accepted the social system and thereby can help each other to use it, the easier it is likely to be to use. In addition, the more people, the more can participate in activities and information sharing, thereby affecting in a very direct sense iterative process between the activities and experience. In other words, the variables, the experience and the system acceptance process are all part of a continuous process, where each construct affect the others.

Thereby, if the initial experience is bad, due to for example badly made activities or a system that is hard to use, one can see why users would want to not accept the solution, since its perceived usefulness and ease of use would be lower. This in turn would result in few people utilizing the system resulting in a weak value constellation and less dense offerings, thereby leading to a bad learning experience. This opens up for a final dimension in the process, namely time. For example if people start to reject the system, its value will be severely reduced, leading to potential further rejection. In other words, as can be seen in the quotes above, the continuous process can either propel itself towards acceptance and a better experience, or towards zero acceptance and a bad experience. In other words, the result of this logic is that the continuous process can either go towards an increasingly social learning experience where the value of the system continuously increases or vice versa, towards a system that no one accepts and wants to use.

### **5.1.3 The First Layer of the Conceptual Model**

The result of the logic and empirical data above is the first layer in the conceptual model as can be seen below. As stated, the activity and system variables interact with and affect the experience. The experience in turn affects the technology acceptance. However, due to the social nature of the

system, accepting the system will affect the variables, such as the collaboration itself, the information that is available and so on, which in turn affects technology acceptance of the social IS and then the experience which once again will interact with the variables. Another way to see the process is that one needs to get the ‘snowball’ of technology acceptance rolling, because the use of the system is tied to its acceptance due to the socially created experience. The result is a continuous process that can be depicted as a circle.

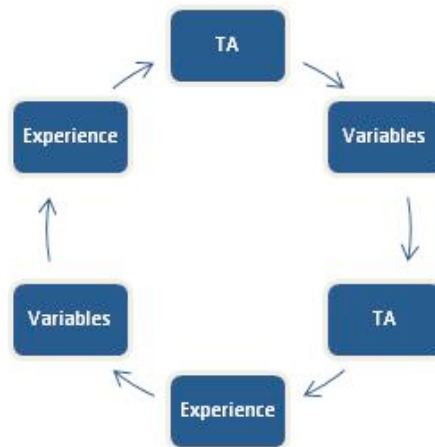


Figure 7. The circular depiction that illustrates technology acceptance and its interrelation throughout the continuous process ('TA' means technology acceptance and 'Variables' means activity and system variables).

#### 5.1.4 The Second Layer of the Conceptual Model - Innovation Resistance

The empirical data also gave multiple accounts indicating innovation resistance. For example, Jonsson (2011) said that *"Often in the sales department, they are unwilling to share, because their sharing of information means for them that someone else might get the reward."* and *"A lot of C-level management see these techniques as being stuff that their employees should not do on their working time. They see Facebook as private stuff, sharing about travels and so on."* as well as *"Then we have a small group of people who not adopt to a new system, but who will just complain. Those are really hard. Those have a really loud voice as well. These people are really hard to convince that the system is working and if they see that a colleague is using the system and getting advantages from it, then they will start to use it but that can take a lot of time – years."* Furthermore, Hansson (2011) said that *"If you look at a classic group of people, you have to the left you have negative people and those people, who don't like this, in the middle you have the people who do not care at all if we going to do this or this, and to the right you have the people who say sure we want to do this, the happy people."* Furthermore Strate (2011) said that *"I think, we have actually tried to involve social media, having the participants in different program to actually do things using Facebook, in this case. And the problem was I think was the group we directed it to."*

*They were spread in ages, which meant that we had a couple of young people, that really were, 'oh nice', and a couple of older people who said 'what's this.' They were really hesitant in getting involved."* and *"When I talk with the faculty here at IFL both I mean 95 percent are actually not working here, they are in the school or at some companies, but the program leaders. When we talk, when we talk web based education, when we talk other ways of education than having people in the classroom. They are really really, I mean, they cant see the the wood for all the trees. They don't see the possibilities, they don't understand the possibilities, and if you don't understand the possibilities you will actually just change color of your briefcase, it will be the same briefcase with the same content in the same way just in another media or rather format. Thats whats going to happen, I think we need to actually get people to gets eyes on it."* In addition, during the interview with Teigland (2011), Andersson (2011) and Sutton (2011) the problems of innovation resistance could also be identified. The teachers were unable to see how the platform could be properly utilized and its value even once this was presented to them, and had a tendency to revert back to their old behavior. For example, it became apparent during the interview with Teigland (2011) that the platform was utilized to link to the original site, instead of utilizing the presentation features inherent in the platform. Furthermore Sutton (2011) said that *"... I didn't really want to start a classroom discussion after it has been going on for five days amongst the group before I really get there. It would be very hard for me to be the one who is facilitating that. I don't see the point, in terms of how it ads to peoples' learning."* and also said that *"I think we should actually think a bit about why it was such a big hurdle for you to try us to use it and I think the reason is that the type of information flow, which it facilitates, is not my normal way of doing things. So, I don't naturally search for YouTube clips that have anything to do with what I am teaching. I don't use this as a source of information. So, to do that is a huge hurdle for me. It is an extra job. I have to watch it to see if it is suitable and that takes ten minutes to starring at it and to me that is not naturally, if I stumble over something then I would put it up but I don't troll YouTube."*

One can thereby see that there are multiple accounts of both functional (for example the fear that it will not add value) and psychological (for example habit) innovation resistance. This results in the need for a second layer in the conceptual model. The reason is that the TAM and the process of the first layer outline how acceptance takes place. In other words the basic parts of the individuals decision of how and when to use the technology. However due to the social and activity based nature E-learning 2.0 it is also critical that the 'correct' form of acceptance takes place. In other words, that the user decides to use the system according to the intended idea. This form of

acceptance is defined as proper acceptance (as can be seen in '9.1 Definitions'). Thereby, due to the innovative, social and activity bound nature of a social IS the TAM does not provide enough depth. To achieve this and thereby better understand the acceptance process there is a need to include the concept of innovation resistance which works well as a complement to the TAM and continuous process above. Innovation resistance can thereby be seen as a factor that affects the totality of the previously outlined continuous process. For example, a person may accept the IS, but not utilize it properly due to habit. This in turn can affect both the experience and the variables which in turn can affect other people's acceptance due to the resulting social learning experience. In addition, if strong innovation resistance is present, it could also in theory prevent acceptance due to active resistance towards the innovation. In other words, innovation resistance slows down or even destroys the 'snowball' of technology acceptance.

### **5.1.5 The Third Layer of the Conceptual Model - Strategy & Implementation**

The importance of having strategy and implementation as a part of the model became apparent early in the process of creating and implementing the platform in the course case scenario. For example, management support, scheduling issues, information issues as well as pedagogical issues of a strategic nature, such as getting enough time to demonstrate the platform, was the main reasons for why the E-learning 2.0 activities either did not take place at all or did not initially go as planned. This perspective was supported during the focus group (2011) and the interviews with Teigland (2011), Andersson (2011) and Sutton (2011). Furthermore, Hansson (2011) supports the importance of strategy and implementation through this quote *"You think that it is going to be play oneself, people want to create and share and you make a huge amount of content in no time. You do not have any respect for the amount of work to get this behavior implemented within the organization. You have to have a strategy, you have to do follow ups, you have to poke and peak during this implementation to make it happen."* Finally, the critical nature of a proper strategy and implementation is also supported by the learning theory, since, as seen in the theory summary there is a need to adapt the solution to its users. Thereby, beyond the two layers discussed earlier, there is a need for a layer of strategy and implementation. This is to symbolize the overlaying efforts that are done to affect the two circles within. Or in other words, how one makes the "snowball" rolling.

### **5.1.6 The Final Conceptual Model**

The answer to the first question of the thesis is that acceptance affect the creation of a social learning experience by either resulting in further or less acceptance through the direct and indirect interaction of external variables and the experience. This process is then further affected by

innovation resistance, which in turn can hamper acceptance, and no part of this process can be separated from strategy and implementation. This results in the final model:

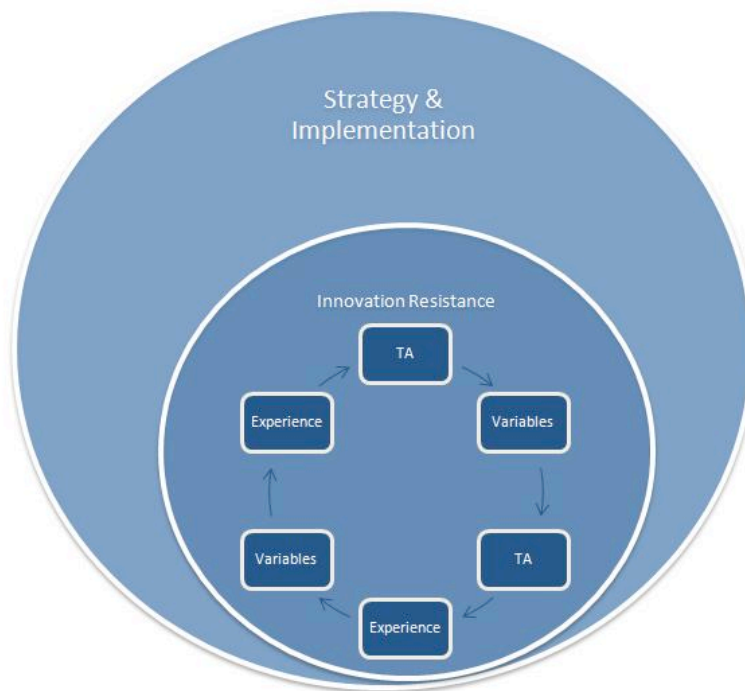


Figure 8. The final conceptual model.

It is important to notice that the model illustrated above is a way to view existing theory and models and how they tie together. The novelty is the focus on a continuous process.

## 5.2 Variables Affecting the Technology Acceptance

This section will identify the main variables that affects technology acceptance of a social IS; what that makes the ‘snowball’ of technology acceptance above rolling. In an attempt to clarify the variables that influence a user’s acceptance of a social IS, the identified variables have been categorized under different sections, primarily based on the TAM. Furthermore, please notice that the identified variables will not be sub-categorized as system/activity, since, as stated earlier, what is an activity and system variable (as well as an experience) is interrelated. For example, take a blog, which is a feature of a system but also an activity. The authors realize that there are overlaps and that the variables aren’t fully mutually exclusive. However, the authors believe that this system gives a more concrete understanding of what to consider when implementing a social IS.

### 5.2.1 Perceived Usefulness

Eight different variables could be identified primarily relating to perceived usefulness. This also demonstrates the importance of the construct in driving acceptance.

### 5.2.1.1 Level of Fit

The concept of 'fit' was prominently represented in the qualitative research. Although, the various parties expressed in different ways, the common theme however is that of ensuring that the activities performed in some manner can be performed or supported by using the social IS. Bueno (2011) highlights that the natural fit relates to the intuitiveness of using social media to support ones work activities and such users would then gradually seek it out. It is important to demonstrate this 'fit' as otherwise the users will not see the benefits and therefore not accept the system (Jonsson, 2011). Hansson (2011) tries to demonstrate the 'fit' by looking into the working days of the potential users and examines what can be transferred into the social IS, example "*... those sales report to those sales person, we say that, we should blog that instead of e-mailing it, you e-mail a lot of documents to a lot of recipients, we say you can move that into wiki world, so on and so forth.*" Similarly, Ping (2011) sees the possibility of having participation in an online space as part of the grading. However, as the interviewee at the Accounting firm (2011) experienced it can be difficult as some users just "*... couldn't see the point of sharing information and I tried like 'But you send a lot of e-mail to each other, you have communication all the time, so it is perfect really' but they were 'yeah, maybe but' it was a new way of communicate so for them it was like a step to go over.*" Certain activities of course have a better fit with the social IS than others and it was suggested that forming activates around group-work could increase usage (Strate, 2011). Similarly, Mahely (2011) brings forth the fit question when asked about social media and what motivates people to use it "*... that the topics and whatever the content is provided there is relevant, so there is relevance question.*" Strate (2011) continues that if there is not a fit and that the organization is using social IS for its own sake that it can easily backfire since individuals will not be able to grasp the value proposition. Therefore, as Josefsson (2011) points out "*... if you are going to implement social media you probably need to redesign the course.*" Looking at the main case at SSE, it was evident that the teachers had in some form accepted the social IS, but did not in anyway redesign the course to complement it. For example, Andersson (2011) highlight that the tasks and questions that they presented the students with did not have a natural inclination for students to use the social IS, as they were more adapted to the classical classroom format. Furthermore, as brought up earlier, Sutton (2011) felt that the social IS did not complement her style of working, and in order to adopt she felt it would be "*... an extra job...*" In particular, she highlights the information flow of the social IS as being cumbersome to deal with and gives an example of how she would have to sit through 'youtube' clips in order to see if they were relevant to her teaching. The authors believe that there is a natural tendency when introducing social IS for users to focus more on the new

possibilities and less on how it can reduce the workload. For example, in preparation for guest lecturers brief introduction were posted on SSE's social IS in the form of a blog post with students prompted to pose questions by using the comment function. The guest lecturer could easily browse the questions and prepare accordingly. Contrast this with the use of e-mail, where a teacher would first have to send out one e-mail with the introduction to all students and then compile all the individual e-mails sent in by students. Then finally, send an e-mail with the compiled question to the guest lecturer. The task at hand for the teacher is the same but the social IS clearly used to lighten the workload; not to explore new teaching possibilities. This mindset the authors believe causes innovation resistance in the form of pervasiveness as users think they need to change significantly to accommodate the social IS. If users shift focus from how they would have to change in order to accommodate to the social IS instead to possibilities that it can be used to streamline the working experience, the perceived fit will become increasingly apparent.

#### **5.2.1.2 Capability for Ground Level Information**

A key strength of a social IS is that it can provide everybody with the capability to generate and find information in close proximity to the user; information that will aid the users everyday working life. The search functions in internal information systems are traditionally seen as finding information that is on a 'high-level' meaning it relates to the organisation on a very broad level and less likely relevant to the day-to-day activities of the users (Jonsson, 2011). In effect social IS allows for the generation of content that is not high level information but more ground level information. When social media is coupled with an effective search engine the benefits can be immense. This combination is so significant that Jonsson (2011) considers it its main offering and states that *"You search through the official documents and you do not find anything relating to your everyday working life, so to speak. But in this more social software, you get a really broad picture of your company in terms of 'how is the coffee machine working', work related sales figures, who is sitting next to me, does he or she knows Spanish. That is the kind of questions, you can get answers from in these social software's."* The social IS's ground level information comes also with an additional perk, in that the users get 'closer' to each other (Melke, 2011). The authors believe that the user generated content is in many ways a reflection of the user, and by reading it the other users get a better understanding of the specific user. The users in many instances make up an organization and thus in order to understand the organization you need to understand the users. Jonsson (2011) gives the example of Zapus a shoe e-commerce site and how reading their internal blog gives a feel for company and *"... tone do I use here in the company."* The authors believe that if users are more on in tune with each other it would allow for a more efficient social learning environment. For



example, as outlined in the learning theory section, the characteristic of Introversion/Extroversion can significantly affect social learning environment. Furthermore, since learning is best perceived as a process, according to ELT, having ground level information is beneficial as it improves the process. This is because a process is ongoing and needs continuous inputs in order to be sustained, which ground level information facilitates as it enables more users to generate content.

### **5.2.1.3 Adaptability of User Patterns**

The ability for the social IS to match itself and be flexible in relation to the user patterns is important as otherwise the autonomy element dissipates. Strate (2011) points out that interaction online are not linear and that *“You jump from places from places. You have this discussion which leads to that one which leads to that one which leads to that one...”* As such a user patterns can be dynamic and unexpected, and trying to control this can significantly reduce the potential of social IS and is a mayor pitfall according to Marketing Consultant (2011). One of the prime intrinsic motivators to use the social IS is the autonomy element according to Mahaley (2011). Furthermore, Jonsson (2011) states that *“Often we see that maybe an idea is born in microblogs, really as the way to share your idea and then it makes some people that ‘yeah, we should have a meeting about this’ and take meeting notes from a wiki and over time they collaborate on these meeting notes, from the meeting notes someone writes a blog on the project and how the project is going, and then you see that it started from a small micro blog thing that someone in the organization just shared and then it came to a wiki and then maybe to a blog and then to a corporate ISO certified document.”* Nevertheless, the authors find the possibility that an organization will fear the existence of ‘noise’ if the social IS allows for journeys as the above. Noise in this context is defined as content generated that is not of *great* value to the organization, and its mere presence makes it harder to locate content of value. As the social IS is utilized according to the preferred user patterns, by providing autonomy, it subsequently broaden the field for usage and in which areas to use it, and the broader the field the greater potential for noise. However, as stated by Jonsson (2011) knowing what are correct user patterns in the social IS can be difficult as it may be used in different ways, e.g. wiki’s used to take notes instead of traditional use, and both add value to the user(s). Furthermore, the Pre-study (2010) examined British Telecom’s Dare2Share, as well as supported by Melke (2011) and Bueno (2011), and all indicate that having an open environment to share, innovate and experiment is overall the best solution for social learning.

#### **5.2.1.4 Feedback & Exchange**

Feedback is when a user receives some form of response after sharing or inputting something into the social IS. Exchange in turn is continuous feedback. Feedback can come in many forms, and not necessarily a written response. The interaction that occurs within the social IS is what drives users to become engaged in it (Melke, 2011). This where users really feel that they get something out of it according to Marketing Consultant (2011), if this ‘trade’ doesn’t occur then users won’t be motivated to engage in the social IS. Something simple as a ‘like’ function can be a form of feedback and can a big impact on individual’s motivation to engage in the social IS (Melke, 2011). Feedback as well gives individuals an indication of how well they are performing. As Bueno (2011) highlights *“You can have people giving feedback in forums in People Connect saying hey the feedback you gave to me was great, thanks to this or bad.”* When you have this frequent feedback between users an exchange occurs, as they both start drawing benefits from the social IS (Marketing Consultant, 2011). Temiz (2011) also highlights the fact that feedback has the ability to be asynchronous, meaning that a user can give feedback to an individual without the individual being present in the social IS. Furthermore Mahaley (2011) states that users can have busy schedules and being able to plan ahead, without interruptions, improves chances that the social IS will be utilized. The authors believe that this greatly improves the potential for acceptance as there is no need for the two parties to be on the social IS at the same time in order to interact and give feedback. In effect the ‘when’ variable of acceptance comes into hands of the user, not the social IS dictating when they should give feedback. Furthermore, the authors believe that the exchange and feedback is the fundamental building block for having socially constructed knowledge. Without social interaction, in the form of feedback & exchange, users can’t share knowledge, thus preventing the construction of social knowledge. Feedback & exchange also improve the learning outcome through the creation of for example blogs and wikis in the social IS. The creation of blogs and wikis is seen as a process where users interact and share knowledge and according to ELT by Kolb (2005), as stated earlier, conflicts and disagreements can be seen as what drives the learning process since it examines and tests the individual’s beliefs, knowledge and ideas. Having the option for feedback to be synchronous or asynchronous should thereby according to the authors be beneficial when you have users with different learning styles. For example, introverts prefer to engage in reflection and therefore synchronized communication would not be beneficial, as they do not want to interact frequently. Extroverts prefer frequent interaction and therefore synchronous communication would be preferred.

#### **5.2.1.5 Connection Between Users**

The social IS should facilitate the linkages between users. Mahely (2011) believes that if interaction is to occur that it's important to *"... take an active role to ensure that the connections happen that people are seeking."* The social IS can help in taking away the perception of organizational hierarchies which in turn aids in the connection and interaction of users (Accounting firm, 2011; Temiz, 2011). Temiz (2011) & pre-study (2010) also point to digital spaces having a certain level of abstraction to them, which further promotes interaction, as the social boundaries becomes less prevalent. Social IS also allows for interaction unrestricted by distance (Bueno, 2011). Furthermore, as previously mentioned interaction doesn't have to be synchronous. As a social IS represents a space where users can meet and interact through forums, blogs, wikis etc. Taking the example of building a wiki on particular subject, if multiple users are present in building it, they are indirectly communicating with each other, by adding and editing the content of the wiki. However, as the benefits of social learning using the social IS is largely determined between the interactions between users, the authors believe that establishing connections between users should be as intuitive and straightforward as possible.

#### **5.2.1.6 The Value Threshold - The Binary Variable**

As outlined in section 5.1.2. the acceptance process gains greater momentum once you pass a threshold, i.e. reaching critical mass. This indicates the existence of a binary, value related, variable. At its inception, the social IS has little value to the users as there is little to no content present (Melke, 2011). The social IS is a channel in which socially constructed knowledge can be created and stored, which entails users interacting with each other. However, in the beginning no interaction has occurred, so the user is then met with an empty space and therefore the usefulness is not fully apparent. It is critical to transition past this stage as Jonsson (2011) believes *"... when it is not filled with a lot of content, then expectations are not met. 'I cannot find anything on this new internet, I don't find anything here, ' . You don't, but please contribute with your knowledge and start to share stuff with others. That is a really hard thing to get over."* Both Jonsson (2011) and Melke (2011) highlight that the 'when' variable of acceptance is clearly influenced by overcoming the threshold, as 'when' the users will participate in the social IS is when the benefits are clearly demonstrated. As Melke (2011) states *"You have to get over this threshold. You don't see the benefit first so it is hard to get people to use it."* Jonsson (2011), Marketing Consultant (2011) and Melke (2011) recognizes the time issue of overcoming the threshold and displaying the benefits, and believe that generally it is possible after about six months after its inception. The authors thereby thinks this issue especially

links to the theme of ‘realization’ in innovation resistance, as the longer the time it takes to realize the benefits the higher the resistance will be.

#### **5.2.1.7 Image of Social Media**

Marketing Consultant (2011) defines social media as the behavior of sharing and interacting taking place in the digital domain, as such social media is not solely defined by the technology behind it but also how the technology is used. Despite social media being defined by sharing and interaction it is often associated as being a leisure activity. Hansson (2011), Jonsson (2011), Melke (2011), Accounting firm (2011), Söderberg (2011), Josefsson (2011) and the Pre-study (2010) all have come to similar conclusions that the image of social media, which affects the social IS, as a leisure activity can significantly hamper the acceptance process. In particular the ‘when’ variable of acceptance is affected as the social IS can be seen as something not to be used during office hours. This association also hinders the user from seeing the true potential of what social media can bring, in terms of creating a social learning experience. Jonsson (2011) noticed that when users “... *get over...*” that a certain feature is called for example ‘wiki’ that usage increases. This illustrates how the ‘how’ variable of acceptance is influenced by the image of social media. Users do not realize initially how they can use the various features of the social IS to aid in their work. When users do realize ‘how’ to utilize the strengths of the social IS, they get past the image and learn to accept the social IS into their daily routine (Jonsson, 2011). However, it can be extremely hard to convince potential users of the value of social IS when they have a predefined notion of how and when it should be used (Accounting firm, 2011). Finally, the authors believe that the problems associated with the image of social media can be seen as a potential form of innovation resistance since it can result in resistance from the users due to their disbelief in the functional value of the social IS.

#### **5.2.1.8 Readiness Levels - Digital Natives vs. Digital Immigrants**

People who are born in today’s digital information dominated environment have a natural tendency to adopt the behaviors and attitudes required to utilize digital technology such as social media, i.e. Digital Natives. However, other people, most likely older, who do not grew up in this environment have a harder time adapting to the digital technology, i.e. digital immigrants. Most of the interviews covered believe that the readiness of the user to accept the social IS is determined largely by age, with Hansson (2011), Jonsson (2011), Melke (2011), Accounting firm (2011), Marketing Consultant (2011), Söderberg (2011), Temiz (2011) and Strate (2011) believing in this. Furthermore, Marketing Consultant (2011) defines this gap as a demographic apartheid and it is important to quickly identify those who can easily adapt to new technology and those who have difficulties. Accounting

firm (2011) expands upon this statement by saying that being a digital native is though clearly indicative of using the social IS as intended, but by no means a guarantee, as they are more likely to see the *meaning* in accepting it, and using the social IS as intended, as opposed to the digital immigrants. Digital immigrants are as Marketing Consultant (2011) points out “... *people above 40, 50 etc, they are not going to feel comfortable using a training tool that is similar to social media.*” Furthermore, If the digital immigrants are not focused on, they will according to Strate (2011) become “... *really hesitant in getting involved.*” Josefsson (2011) seems to also support the variable of ‘readiness levels’, however believes that age is mainly interesting from the perspective of the amount of time spent with social media/Internet. In other words that the digital natives and digital immigrants is a simplification of reality. On a similar note, the authors wants to caution that just because a user is a digital native doesn’t necessarily mean that the user will use the social IS as intended. Nevertheless, it is important to introduce efforts aimed specifically at digital immigrants as the value of the social IS increases the more interaction occurs on it, as discussed in section ‘4.3.5 The Value of Numbers and Value Constellations’. In addition, it is important to keep users with a low readiness level in mind in general since they are prone to innovation resistance due to for example ‘pervasiveness’.

### **5.2.2 Perceived Ease of Use**

Only two of the found variables primarily relates to perceived ease of use, potentially explained by that ease of use itself is a variable affecting perceived usefulness.

#### ***5.2.2.1 Level of Complexity - The First Step***

The straightforward nature of a social IS and its barriers to entry are considered to be important for acceptance (Rosenqvist, 2011 & Marketing Consultant, 2011). Hansson (2011) and Melke (2011) try to employ simple and intuitive design in their social IS’s. Hansson (2011) states that “...*we focus on is simplicity, a lot of solutions tend to have 30 buttons to do a simple task, so we focus on one button.*” Furthermore, no matter how insignificant the first interaction a user has with a solution it is the most important one and as Jonsson (2011) states “*You have to lower this first step. The first step to take it. The first step is actually rating something or pressing a ‘I like’ button. That is really an easy step to take and to lower this first step is really key to us.*” Therefore, taking measures to make the first step simple, and not complex, is critical as Marketing Consultant (2011) states “...*you only have a few seconds to win the interest.*” One of the barriers that Söderberg (2011) sees with the social IS is that it tends to be open to everybody, meaning that the first step taken can potentially be seen by everybody, which can be daunting. The authors think it is worth noting that

having the user get brief glimpse of how the social IS works they immediately provide them an inside perspective, instead of viewing the solution exclusively from the outside. The inside perspective allows them to close the ‘distance’ between the users and the social IS, as outlined by Construal Level theory by Liberman & Wakslak, 2007 in the section ‘4.1.1 The Experience from a Marketing Perspective’. The smaller the ‘distance’ the more the user views the solution from a concrete perspective instead of an abstract perspective. Having concrete mental construals induces the user to focus more on the ‘how’ they would use the solution instead of ‘why’. The author’s wants to argue that this shift increases the perceived ease of use, as the user starts thinking concretely on how to use the social IS. Furthermore, having a low level of complexity can be seen as a way to reduce innovation resistance due to firstly, potentially avoiding pervasiveness since the user is more likely to see how the social IS can be used but also through affecting the perceived risk by making the social IS appear less threatening.

#### **5.2.2.2 Language Formality**

When interacting in social media users can employ different degrees of formality relating to how they conduct themselves. The most obvious way that this manifests itself is the tone of the language used when interacting, i.e. formal or informal. Melke (2011) and Accounting firm (2011) promotes the use of informal language in their social IS as they want the interaction to closely as possible resemble that of a typical discussion. They believe this takes away the hurdles and makes it easy to use. Hanson (2011) is as well a firm believer in the use of informal language to the extent that they intentionally place spelling errors in the social IS in order for the potential users to be “... *less scared...* ” of it, and subsequently feel more comfortable with it. Bueno (2011) believes that their social IS leans slightly more towards using formal language when communicating internally, but states that it is “... *not as formal as an e-mail or paper or word document that you want to share with your mates.*” Even though the two vary in degrees to how formal the language should be, they both seem to see benefits in allowing language to be not strictly formal when communicating in the social IS. The authors believe that this makes the solution easier to use, as one does not need to fully consider the formality of the language used. This in turn makes the user more likely to accept the social IS as the difficulty in ‘how’ they would use it is reduced.

#### **5.2.3 Other Motivational Variables - The Nature of Social Media**

Three variables could be identified that does not directly relate to the two constructs depicted in the TAM. These variables are indirectly related to the perceived usefulness but do not qualify as such

due to their partly/fully non-work related nature. However, they are still important to assure technology acceptance due to the nature of social media.

#### **5.2.3.1 Engagement to Share**

Without sharing information social media can not exist since, as previously mentioned, it is a behavioral phenomenon where users share information in the digital domain. However, information has value and limiting the access to information can increase its value, or more precisely the value of the person holding the information. Melke (2011) believes this is a hindrance, but also sees the gains, to sharing as *“Knowledge within people is their intellectual property. When that information is shared or documented it becomes diluted in individual worth, however with the social media solution’s openness and availability it ensures that this knowledge increases in value in a bigger perspective.”* Zhang Yue (2011) & Ping (2011) both highlight that you can not depend on the goodwill of users to engage in sharing, especially as there are certain institutional mechanisms that discourages this, in particular that grades are distributed according to the theory of normal distribution. Furthermore, Zhang Yue (2011) believes that also teachers, and not just students, need to have incentives for engaging in the social IS. Examining the corporate settings as well as Jonsson (2011) points out with *“... sales department, they are unwilling to share, because their sharing of information means for them that someone else might get the reward.”* Marketing Consultant (2011) believes that sharing is achieved through an active exchange, were the user gets something back of value when sharing. Jonsson (2011) suggests systems where *“If you share these contacts, which you have in some company, you get contacts back from another sales man or from another department in China or in France.”* Thereby, the authors believe that if users share continuously without getting anything in return, it risks de-motivating them naturally so the social IS needs to facilitate this behavior.

#### **5.2.3.2 Personal Visibility - Gameification and Bragging Rights**

It is easy to forget that social media is not just about sharing and interaction but also a place where the users present themselves digitally. This is also known as the online identity as brought up by Mahaley (2011) and is believed to influence the different social media that will be used. In that sense Strate (2011) and Marketing Consultant (2011) believes that social media is a place where you can show off and have bragging rights. The mentioned trend leads into the idea of building a competitive element into the social IS. Jonsson (2011) gives the example of their clients having top contributor lists which facilitates competition and according to them *“... they really have been competitive about being at this top list and they actually told each other, yeah I’m up on this list*

*now, come on write more.*” So in this example one can see that adding a competitive element can spur users to engage more in the social IS. Strate (2011) confirms this trend for engaging users and believes that everybody has a certain element of competition within themselves.

### **5.2.3.3 Culture of Sharing**

Users’ willingness to engage in exchange and feedback behavior can come from within but also important to consider is the environment, i.e. the culture. Bueno (2011) highlights that *“People here tend to share a lot because it is a ... one way you are rewarded is also by sharing things and when people reapply, things you have done you get your credits on this ... It is about our culture.”* In order to foster in this corporate culture of sharing Marketing Consultant (2011) believes that it is important that the digital domain feels like an ‘open environment’. How this can be achieved is by promoting learning opportunities through every exchange, that you can learn for instance through worst practices examples. By having a culture that is willing to share such information, exchange is promoted as nothing is seen as unwarranted of sharing. Also Melke (2011) highlights the need for users to feel a sense of responsibility to interact as for example *“... everything that is in wiki articles, it is our shared responsibility to keep that information updated all the time. So if you see something that is not updated or wrong or anything, you should change it, even though you have not created... It is your responsibility to change that. And if you see someone changing something in your article, go and thank them.”* The authors believe that fostering a culture of sharing is one of the most powerful ways of achieving proper acceptance, as it affects the whole organization and has a tendency to reinforce itself by having users ‘pushing’ each other forward.

### **5.2.4 Summary of Variables Affecting Technology Acceptance**

The table below displays the identified variables the authors’ believe to have a significant impact on user’s acceptance of a social IS. As is evident, perceived usefulness is seen to have the biggest impact on acceptance, as most of the identified variables primarily affect this construct. Furthermore, it was also found that only one variable of the 13 was binary in nature: ‘The Value Threshold’. It is the only variable with a somewhat clear start and end state, and it’s the only variable mentioned as having a apparent timeframe for how long it would take to resolve it, i.e. around six months (Jonsson, 2011; Marketing Consultant, 2011; Melke, 2011) The other variables are more ongoing in their nature, as for example ‘Adaptability to User Patterns’ and ‘Language Formality’ will be of continuous importance to the social IS, whereas ‘The Value Threshold’ will gradually loose its importance once the ‘snowball’ gets rolling. However, it’s worth noting that ‘The Value Threshold’ is extremely important in the short-run.



Perceived Usefulness	Perceived Ease of Use	Other Motivational Variables
Level of Fit	Level of Complexity	Engagement to Share
Capability for Ground Level Information	Language Formality	Personal Visibility
Adaptability to User Patterns		Culture of Sharing
Feedback & Exchange		
Connection Between Users		
The Value Threshold		
Image of Social Media		
Readiness Levels		

Table 3. The variables affecting technology acceptance of the social IS.

### 5.3 Strategies for the Technology Acceptance Variables

This section will extend upon the previous two by illustrating how one can improve technology acceptance through the previously identified variables; thereby tying the chapter together. Another way to see this is that this chapter will provide the tools to actually make the ‘snowball’ of acceptance rolling by showing how different strategies affect the previously identified variables. The implementation strategies are divided into three aspects; managerial, social and technical. The managerial aspect concerns what the top level management can carry out to aid in the implementation. The social aspect relates more to efforts in creating an environment that promotes sharing and social learning. Finally, the technical aspect is about the design of the social IS and how it best can enable people to use it.

#### 5.3.1 Managerial Aspect

Three managerial strategies could be identified, covering a large share of the acceptance variables.

##### 5.3.1.1 Set Policies & Guidelines - Guiding But not Dictating

Whenever interacting in the company or performing tasks it is reassuring for the employees to know that what they are doing is within the framework of a company’s policies & guidelines. Melke (2011) and Bueno (2011) says that they do not have official policies on how to use the social IS, and there are benefits to it, as users can feel a certain degree of freedom. However, the Accounting firm (2011) highlights that *“If you knew the rules for how you should communicate you can be safe when you communicate.”* Furthermore, Söderberg (2011) says that their internal guidelines consists of *“... easy rules, we have really short, 2 pages, we don’t call it policy, because we have our policy in our code of conduct and such things, but social media guidelines are more to help you ‘how should I think, if I’m on Facebook, I’m also an IFS employee when I’m on Facebook, so I shouldn’t do things I’m not allowed to do’... That kind of rules and I think that has helped many people who before thought ‘oh, I can’t be on Facebook on my working time’.”* The authors thereby believe that having policies & guidelines can help change the image of social media within the organization

when there is an official document recognizing it. It as well provides guidance on how to use the social IS which helps users see how it fit into the organization and helps users in taking ‘the first step’. Policies & guidelines can also promote users to share if they contain directives for how sharing information, especially critical one, should be compensated. Söderberg (2011), Sutton (2011) and Zhang Yue (2011) suggest that having appraisals based partially on the quality of sharing could be an option to engage users. This in turn could naturally promote the generation of ground level information. Finally, the authors believe that policies & guidelines can help ensure that user’s feel comfortable in their usage patterns and the casual language they use, due to giving a sense of official “confirmation” on the behavior.

<b>Policies &amp; Guidelines</b>
Branding of social media
Demonstrates level of fit
Promotes the first step
Provides incentive for engagement to share
Increases will to share ground level information
Makes users comfortable in their usage patterns
Provides reassurance that a casual language is acceptable

*Table 4. The strategy’s affect on the technology acceptance variables.*

### **5.3.1.2 Temporary Forced Participation**

Mahaley (2011) believes that “... *it isn’t enough to provide social media environment and leave it to chance that people will interact with each other*”, and that one way to achieve this is by having schedule live events. Live events in this sense represent a temporary obligation, which can help inspire users as long as their long-term usage is not obligatory. Furthermore, the findings from the focus group (2011) also point to having mandatory participation as a means of promoting activity on the platform. It was also suggested that activities during the live event be tailored to specific features of the social IS and how it can aid in learning, to show the ‘fit’ of the social IS. The authors thereby believe that temporary force participation can work as catalysts for users to see the benefit of the solution and having it on a scheduled day provides the benefit of allowing users to plan ahead. Having such events also promotes users in taking ‘the first step’ as well as facilitating interaction between users. Since users will be online at the same time it will allow for direct interaction between users, and hopefully allow the user to stay connected long-term. This form of mandatory usage can also be linked to two of the mentioned ways of handling innovation resistance since it is mandatory (reduces pervasiveness) but also a form of risk free trial (perceived risk).

Temporary Forced Participation
Helps change the image of social media
Pushes users in taking the first step
Aids facilitation of connection of users
Demonstrates level of fit

Table 5. The strategy's affect on the technology acceptance variables.

### 5.3.1.3 Gain Broad Top Management Support

When social media features are enabled into the internal communication system it is important to consider top management support as a means to motivate users to become engaged. Bueno (2011) gives the example of “... when you have senior management going into these tools and going their feedback there. Hey, my message is getting to them through this kind of. Then people start joining, and you have more and more information being posted there”, so it helps promoting ‘the first step’ and provides the ‘engagement to share’. However, as Jonsson (2011) points out that many times people in C-Level management do not see the value of these tools and this can have an impact on the users. If the superiors do not see the value of what the user is doing then it will work as a demotivating factor and therefore “... the real challenge is to get C-Level management see the value in this” (Jonsson, 2011). This view was further supported by Rosenqvist (2011) who recognized the importance of getting teachers involved in the social IS. Top management is also important when overcoming the threshold as “... if you don't have them on board from the beginning the project will probably be stopped at a later moment” (Hansson, 2011). Furthermore, Zhang Yue (2011) believes that top institutional change in the form of how they view social media is required for it to gain legitimacy as a learning tool, i.e. help change the image of social media. In addition, the authors believe based on Bueno (2011) and the focus group (2011) that top management can also help promote a culture of sharing, as they can lead by example and reward those who share. Finally, based on the focus group (2011) the authors believe that the top management can make the users feel more comfortable in their usage patterns and show that a casual language is acceptable.

Top Management Support
Helps promote the first step
Provides incentives for engagement to share
Demonstrates the level fit
Provides support in overcoming the value threshold
Help change Image of social media
Fosters a culture of sharing
Making users comfortable in their usage patterns
Provides a casual language

Table 6. The strategy's affect on the technology acceptance variables.

### 5.3.2 Social Aspect

Four social strategies could be identified, in which the identified strategies relate directly to the nature of a social IS and its process of acceptance as outlined before.

#### 5.3.2.1 Focus on Digital Immigrants

Marketing Consultant (2011) states, when discussing implementation of a social IS, that “... *the common mistake there is that you usually take all the enthusiasts into them, but what you really should is to take some backlaggers and listen to them.*” ‘Backlaggers’ Marketing Consultant (2011) believes can bring out the ‘negatives’ of the social IS and by doing so brings it to attention and subsequently can be resolved. Thus, the authors think that by resolving the ‘negatives’ it makes it more likely that the digital immigrants will accept the social IS, and thus the readiness gap is reduced.

Focusing on Digital Immigrants
Improves the readiness levels

Table 7. The strategy’s affect on the technology acceptance variables.

#### 5.3.2.2 Designate Community Managers

Mahaley (2011) defines community managers as “... *people who are sort of the host of the [online] environment. So its like you walked into these new room and there is someone who’s job it is to say hello, and what are you looking for, can I connect you to this group or that group or another group.*” Community managers can therefore, according to the authors, help in facilitating connections between users, increasing the interaction the user experiences. Also Mahaley (2011) believes it can be daunting for new users when you introduce the solution and that “... *people feel like their let loose in a big empty room and they don’t know what to do.*” The authors thereby believe that Community Managers can also be there to aid users in taking their ‘first step’, as they can provide any answer to queries they might have and as well generally improves the ease of use.

Community Managers
Helps facilitate connections between users
Promotes the first step

Table 8. The strategy’s affect on the technology acceptance variables.

#### 5.3.2.3 Identify Ambassadors / Marquee Users

Melke (2011) view ambassadors as individuals who see the benefits of accepting the social IS and according to Hansson (2011) inspire others to accept it through their usage. They do not have to be persuaded of the benefits as they can clearly see them (Jonsson, 2011). Hansson (2011) sees them as “... *the driving souls within this project, people who make a change, and that is not based on what the title of the business card is, it is more, that they have the confidence to stick out, have their own*

*opinions and tell them.*” As the purpose of the social IS is about socially constructed content, e.g. wiki’s, it should be the focus of ambassadors. As the ambassadors start drawing benefits from using the solution they can start to promote it informally to others. Marquee users are individuals who help inspire others to use the system by displaying that they use the system. A marquee user can be an ambassador as well, but by no means is guaranteed, but can help in promoting the benefits but the main priority is however promoting the fact that he or she is actually using it, (Eisenmann et al. 2006). An example of a marquee user would be a teacher, and through his or hers participation in the social IS would induce students to become engaged in the social IS (Focus group, 2011). The authors believe that ambassadors & marquee users are crucial to get through the threshold phase, where the benefits of the solutions are not apparent. This is believed in turn will also help change the image of social as solely a leisure activity as the business value is actively being demonstrated by the ambassadors and marquee users, as well as promote a culture of sharing. The usage of the social IS by the ambassadors & marquee users as well makes potential users see how it fits into the organization, and their promotion of the social IS can help promote the first step and show that a casual language is acceptable. In addition, due to their passion they are likely to have an exchange heavy behavior that in turn also can result in stimulating an engagement to share. Finally, the authors believe that in the context of innovation resistance, ambassadors & marquee users can work as ‘change agents’ and in turn aid in communicating the benefits of the social IS and sharing in general, and the more successful they are the lower the resistance will be.

<b>Ambassadors / Marquee Users</b>
Overcoming the threshold phase
Branding of social media
Demonstrates the level of fit
Promotes the first step
Shows that casual language is acceptable
Increases exchange
Stimulates the engagement to share
Culture of Sharing

*Table 9. The strategy’s affect on the technology acceptance variables.*

#### **5.3.2.4 Form Communities**

Online communities can be seen as group of members, with a dedicated online space, in which each member share a common theme that makes up the community. The common theme can for example be; interest in a topic, job function etc. Whatever the theme may be the benefit of the community is that it brings together users who have some form of common ground as Accounting firm (2011) points out “... *we have like communities for example corporate responsibility, we have quite a lot of people here that are very interested in these things so they are a part of this community and get the*

latest information about different projects and seminars and things like that so you have some early adopters that goes.” Also it provides guidance for users who are looking for other users who are similar in some way to them, and in that sense helps facilitate exchange and connections between users. Söderberg (2011) talks about their online community and that “*You share experience and the quick solutions that you found, and ask for quick help. And that is very popular and we have gotten very good activity, and also in the discussion forum we have an internal part, for internal discussions, for...what the customers do not need to see. Things that are in R’n’D for example, but also things like sales and marketing, sharing competitor information internally. And we share.*” Mahaley (2011) also believes that “*...from a learning and development standpoint what is the best way to structure social media tools towards learning and development, and that is where I think creating this communities around common issues is really strong.*” According to the authors, since the users are sharing information with other users within the community, it allows also for greater control of how one uses the information. Also since communities are based on users having some consistent common factor, it increases the likelihood that they would have something useful to share to the user they are exchanging information from, thus increasing engagement to share. The setup of communities as well promotes the generation of ground level information, as it brings together users that can share and comment on information. Furthermore, by helping users learn, through community interaction, it promotes ‘the first step’ as well and also fostering a culture of sharing, as users can be there to aid and ‘push’ each other. Also, as previously mentioned, one of the major determinants of student success in higher education was their ability to participate in study groups (Light, 2001). Communities can be seen as an extension of the study groups, and allows for participation not limited by space or distance. Furthermore, as participation can be synchronous or asynchronous it allows for different forms of participation thus accommodating different learning styles, which may exists in the group.

Forming Communities
Facilitates connections between users
Aids in receiving feedback
Provides incentive for engagement in sharing
Helps generate ground level information
Promotes the first step
Fosters a culture of sharing

Table 10. The strategy's affect on the technology acceptance variables.

### 5.3.3 Technical Aspect

A total of seven technical strategies could be identified. However, the greater number of strategies identified does not mean that the technical aspect is more important than the previous aspects.

### 5.3.3.1 Add Entertaining Elements

Melke (2011) says they have some fun ‘widgets’ in their social IS that are used to make it less formal. Having such features Hansson (2011) believes is up to their clients preference but “... *advise them to have some consumer based services, or some more entertainment based services because what we achieve then probably is, the start page within the organization or the intranet that the employees actually wants to have such a start page because they find everything there.*” The authors believe it is a small tradeoff to include entertainment features if it induces the user to make the social IS their startpage, as it leads to a more natural acceptance of the social IS. Temiz (2011) gives the example of mothers who play simpler games like Farmville and gradually adopt more sophisticated solutions such as SecondLife. Therefore, the authors conclude that having entertainment features can help with taking the first step.

Entertainment
Promotes the first step

Table 11. The strategy’s affect on the technology acceptance variables.

### 5.3.3.2 Have an Eye-Opener

In the Pre-study (2010) it was found that in order to ‘prime’ a user that is about to engage in an E-learning program to become more susceptible to the content and therefore improve the learning outcome, eye-openers are introduced. They work by having the E-learning program perform diagnostics tests or surveys specifically aimed at illustrating a user’s lack of knowledge in the particular field. This tends to encourages user to work hard as they know they lack knowledge that is expected of them. In the context of a social IS when the user is presented with information about their apparent lack of knowledge, it should be linked to other users who can provide help in filling the knowledge gap, thus according to the authors facilitates connections between users. Furthermore, the authors believe that the presented lack of knowledge will induce the users to use the social IS, and thus promotes the first step.

Eye-opener
Promotes the first step
Facilitates connections between people

Table 12. The strategy’s affect on the technology acceptance variables.

### 5.3.3.3 Have Personal Profiles

Mahaley (2011) views personal profiles as spaces where users can input information about themselves and he states that there two things that are important to include in personal profiles: a statement of what the user is good at and what they want to learn more about. The idea with the statement is that they will include key terms that will be searchable. As soon will be seen, when

combined with a search function it can drastically improve the ability of users to connect with each other and find common grounds. Furthermore, Mahaley (2011) thinks that personal profiles are one of the ways users can create their online identities. Users can connect strongly with their online counterpart and can affect them emotionally and socially (Temiz, 2011). If users become engaged in their online identity they tend to want to make their online identity stand out, as it is a presentation of them. This in turn leads onto the theme of ‘Personal Visibility’. In order to for users to become motivated by implementing competitive elements into social media, they need to have digital space, i.e. personal profile, that is solely designated to them, and which ‘grows’ through their active participation. Jonsson (2011) gives the example introducing a positioning system called ‘4Square’ where users gets badges and other forms of digital recognitions for actively participating in the system, as well as top contributor’ lists which encourages the users to be more active. As Strate (2011) says *“The big issue with social media is, you are getting recognized.”* The authors believe that personal profiles can as well be used to identify different learning styles and readiness levels of users. In the initially stages the authors believe that it might be beneficial to group users with homogeneous learning styles as they will tend to get along better, as outlined in the learning theory section. The authors believe that this has the potential for a positive spillover effect on the acceptance of the social IS, as the user is surrounded by individuals they feel more comfortable with, which in turn creates a more comfortable learning experience, i.e. better cohesiveness of group. However, once broad acceptance is achieved of the social IS, it can be beneficial to identity and group users of heterogeneous learning styles as such groups tend to outperform homogeneous ones.

Personal Profiles
Improves facilitation of feedback and exchange
Improves the ability to connect people
Identifying different readiness levels
Fundamental building block of personal visibility

Table 13. The strategy’s affect on the technology acceptance variables.

#### 5.3.3.4 Provide a Search Function

Search functions implemented into solutions are a means of helping users more easily identify and access information. As previously mentioned, a social IS allows for the generation of ground level information. Melke (2011) states that in their solution *“We have a search box, where you can find things and we also see what other people are working with. You have this kind of microblogging thing and people can share what they do, not only the knowledge.”* Mahaley (2011) and Melke (2011) believes that being able to easily search the social media content produced on a daily basis allows for a better understanding of what is happening on the ground level. Thus, users will be able



to save time as they will be able to search for information that is more relevant to them, as work often requires interaction with other user. Having users generate content along with making it searchable thus allows for time saving, and Hansson (2011) estimates that users become ten percent more effective from using their social IS.

When implementing the solution it is also important that users have their own personal profile and as Mahaley (2011) states has “... *information that is searchable...*”. This allows for a match between users to be more easily attained as a scenario Marketing Consultant (2011) brings up “*I’m a great sales person, I can really share how win my customers, how I get closure, but perhaps I’m not very good at using powerpoint or something’, so I would go to the marketing team about that.*” Therefore, the authors believe that having a search function and searchable personal profiles allows for increased facilitating between users. Finally, based on the focus group (2011), and since a search function should make the social IS more straightforward, it could also reduce the perceived complexity of the social IS.

Search
<p>Critical for the IS ground level information capability due to accessibility</p> <p>Facilitates connection between users</p> <p>Reduces complexity</p>

Table 14. The strategy’s affect on the technology acceptance variables.

#### 5.3.3.5 Use Notification Systems

The practical matter of alerting the individual that someone has responded to their action can be seen in Bueno (2011), Jonsson (2011) and Mahaley (2011) use traditional e-mail notification systems akin to Facebook in their respective social IS’s. This allows individuals to track progress occurring in the solution. Mahaley (2011) gives the example of “... *that someone from within the space is posing questions to me. In a similar way there is a particular forum I’m a member of and I’m tracking an conversation that continues to unfold I can set my email notifications to let me now when new posts are added.*” The Marketing Consultant (2011) also highlights the importance that social media is happening “...*in real time...*” and the biggest pitfall in trying to harness social media’s potential is not realizing this. Individuals need to feel they get something back from participating and having swift feedback is an integral part of it. The authors therefore believe that notification systems can make the solution both more useful and easier to use as it alerts what is happening and in which *context* it is happening. Thereby providing useful information and also making the solution more inviting for a new user. Finally, as outlined previously, learning is best

perceived as a process and therefore being able to track the process efficiently and effortlessly can improve learning.

Notification Systems
Aids in feedback & exchange
Facilitates connections between users
Promotes the first step and reduces general complexity

Table 15. The strategy's affect on the technology acceptance variables.

#### 5.3.3.6 Provide an Anonymity Option

Although, the benefits with having personal profiles are clear, there is something to be said about the benefits of being anonymous. The Accounting firm (2011) states “... when you put your name, when it comes your name, you get a bit shy maybe or embarrassed about your question or maybe you are afraid that people think you write that to be visible in the organization.” In this regards, the authors believe that providing an anonymity option can help users ease into the solution, not creating personal profiles immediately and thus promoting ‘the first step’. It can also help reduced the perceived (social) risk associated to innovation resistance.

Anonymity Option
Promotes the first step

Table 16. The strategy's affect on the technology acceptance variables.

#### 5.3.3.7 Aggregate & Integrate the Social IS

Although, social media is a frequently used term, it represents in itself a wide array of tools, e.g. wiki's, blogs, twitter, and all with different characteristics, e.g. synchronous or asynchronous communication (for a broad overview of the different forms of social media please see ‘9.2 Figures). However, it is beneficial to have all the interaction from the various social media tools to be situated, or aggregated, into a single space. Having a common platform working as aggregator for various social media tools creates synergetic effects and as Jonsson (2011) puts it “... the real value, from my point of view, is when you build these [social media] techniques together.” The theme of mixing social media tools will as Mahaley (2011) puts it “... where the really innovators will continue to be, looking at the interesting and effective blend of different social media tools to.” As mentioned in section ‘4.2.1 Cognitive Learning and Affective Learning’ users can learn differently from each other. Therefore, according to the authors, providing various ways for the users to interact using different forms of social media can help engage the majority of the target group. When the majority is engaged the perceived usefulness is as well increased. The benefit of having different forms of social media in social IS can also help appease the different readiness levels of users might have, e.g. Digital Natives and immigrants. It also promotes the first step as the social IS can more easily match the capabilities of the user. From having simple ‘like’ functions to

more advanced solutions, e.g. Wiki's. Having the solution integrated with the organizations current intranet is also important to make people transcend easier to the new functions and thereby further lowering the first step. Furthermore, the authors believe that since more users will be using the solution it as well means that it will help facilitate more user interaction, as the solution does not only target one group of users. The authors conclude that aggregation also helps counter innovation resistance. As aggregation allows for 'smaller' and 'bigger' forms of social media it gives the user the option to try the social IS in steps, improving divisibility. This was also an important factor brought up during the focus group (2011). Also in relation to innovation resistance, according to the authors, by having a platform where social media is aggregated makes it easier to modify, thus improving amenability. With divisibility and amenability improved through aggregation the innovation resistance can be reduced.

<b>Aggregation &amp; Integration of Social Media</b>
Helps users with different readiness levels
Promotes the first step
Facilitates connections between users

*Table 17. The strategy's affect on the technology acceptance variables.*

#### **5.3.4 Framework of the Overall Implementation Strategy – Holistic Approach**

It is evident from examining the figure below that strategy for a social IS needs to be approached from a holistic point of view. The framework illustrates how the various technological acceptance variables are primarily interlinked, in accordance with the empirical data, to the three different strategy aspects: managerial (red box), social (blue box) and technical (yellow box). However, Ambassadors and Top Management Support are clearly the most critical specific strategies as they affect most of the technology acceptance variables, and this echoes the views of Jonsson (2011) and Hansson (2011). This also suggests that planning is crucial. In other words, the strategies outlined above should be combined into an overall strategy when doing the implementation. This is because the acceptance of the social IS is influenced by all the acceptance variables, and you appear to need a minimum level of proper acceptance in order to successfully initiate the social IS. The holistic approach thereby reflects the continuous and interlinked nature of the conceptual model. Therefore, as the variable related strategies feed into each other, as multiple can affect single variables, the effectiveness of the overall implementation strategy is likely to be improved since the chance of reaching critical mass and starting and upwards 'spiraling' process of acceptance should increase.



## 6 Quantitative Support

*Analyzing the quantitative data associated with the main case provides support for the qualitative analysis above by supporting the TAM and the interrelation between activity variables, experience and technology acceptance. It also provides indications of why it is important to take a strategic perspective of a social IS. See '9.6 Statistical Data' for tables.*

### 6.1 The TAM

Following from the qualitative analysis one should be able to expect that the TAM is supported by the qualitative data. These results are also primarily found. For the third hand-out positive correlations exist between perceived ease of use and usefulness that are significant at the 0.01 level. Furthermore, the attitude towards using and the intention to use are both positively correlated with perceived ease of use and usefulness at the 0.05 level. Finally, the attitude towards using and the intention to use are both positively correlated with each other at the 0.05 level. In addition, due to having a relatively large share of the population and above 30 respondents linear regression was performed which provides additional support of the TAM. Perceived ease of use and usefulness explain 63.9 percent of the variance in the attitude towards using and attitude towards using in turn explains 54.1 percent of the variance in intention to use. This provides strong support for the TAM as a framework for the previous analysis. It also demonstrates the power of the constructs within the TAM. However, one should notice that for the second hand-out only perceived usefulness and the attitude toward using correlates positively at the 0.05 level. This is in contrast to the hand-out three analysis but not surprising. As clearly can be seen in the qualitative analysis perceived usefulness can be identified to have a more noticeable effect on acceptance than perceived ease of use. Furthermore, one should notice that 40 to 50 percent of the variance still could not be explained by the quantitative questions. This supports the need for a deeper, qualitative, analysis as done above.

Moreover, during the third hand-out the TAM2 model was added to complement the questionnaire. Linear regression shows that the subjective norm and voluntariness has some effect on the intention to use, since perceived usefulness and ease of use explains 61.6 percent of the variation for intention to use and adding the subjective norm as well as voluntariness changes this to 75.6 percent. Furthermore, linear regression gives that the variables supposed to explain perceived usefulness manages to explain 55 percent of the variance. Further analysis reveals that the subjective norm, the image and result demonstrability constructs does not correlate with perceived usefulness. This is further supported by a linear regression which gives that job relevance, output

quality and perceived ease of use explains 50.2 percent of the variance in perceived usefulness (adjusted R square is practically unchanged: 44.6 vs. 45). This can be seen in the qualitative data as well. Firstly, that the subjective norm and the image would not be a critical factor for the perceived usefulness could have been predicted from the qualitative analysis, since personal image appears to not be directly related to perceived usefulness and since more tangible value is of importance. This is also seen since the job relevance and output quality is highlighted as important variables. One may then wonder why the result demonstrability construct did not correlate. However, the result demonstrations utilizing the platform in the course were very narrow, pre-planned and ‘studentweb’ like, likely leading the students to not perceive this as a part of the platforms main usefulness.

Finally, a key question is if the attitude towards the platform and/or the intention to use reflects back into actual use. In other words, that the theory and modeling results in an actual outcome. Since attitude and intention should correlate positively it was tested using a 1-tailed Pearson correlation. The link between theory and the real world is also found, since the attitude towards the platform correlates at the 0.05 level or better with both times per week and hours of use of the platform for both hand-out two and three. For the third hand-out the intention to use correlates at the level of 0.05 with the hours of use, however, not with the times per week (Sig. = 0.078). One can thereby conclude that the TAM and TAM2 manages to explain the quantitative data well, but that there are clear gaps which needs to be filled. The TAM is thereby supported as a framework for the qualitative analysis and also to some extent confirms the previous analysis.

## **6.2 The Continuous Process**

Analyzing the correlation between the VECI variables and the perception of how the platform aided the students learning and experience gives supporting results, with all variables correlating positively with each other at or beyond the 0.05 level of significance. This could be predicted from the qualitative analysis above since it early is made clear, both through logic and empirics, that the activity and system variables interact with the social learning experience. However, a word of caution should be raised regarding this part of the analysis. As brought up during a discussion with professor Magnus Söderlund at SSE for the methodology of the thesis, people often have problems separating variables when answering questionnaires. Thereby, the correlation between the VECI and the perception of how the platform aided the experience should not be seen as proof but only an indication.

Furthermore, in the course the utilization of the platform was different during module one (second hand-out) and module two (third hand-out). During module one the platform was constantly utilized within the course, however, during module two the activity was considerably lower. If the continuous process depicted earlier is correct, one should be able to see that during both of these occurrences the students' perception of the platform during the module/course correlates positively with their attitude towards the technology. In other words, the variables and experience should relate to the acceptance and the acceptance in turn relate back to the variables and experience. This is a direct result from the continuous process since the activities and experiences should relate back to the technology acceptance. This is also supported by the quantitative data significant to the 0.01 level (one-tailed). Both after module one and two all platform related variables (Question 7 in the questionnaire '9.4 Final Questionnaire') correlates with the attitude towards using the technology. These findings thereby further support the process depicted earlier and the connection between the variables, the experience and technology acceptance.

### **6.3 Other Findings**

Finally, when comparing differences between groups/splits in the quantitative data a key finding through T-tests is the significant difference, to the 0.05 level, between SSE and KTH students in regard to TAM attitude, usefulness and ease of use. This difference was also found for the will to recommend the course, where the difference was significant beyond the 0.001 level. KTH students were more positive than SSE students in relation to the four variables. Please do notice that to do this analysis hand-out two and three was combined to reach a high enough number of participants. Furthermore, when comparing various groups and splits no other significant differences could be found, including across time between the hand-outs, age and computer skills.

The findings thereby indicate that there is a difference between the two types of students. Why this difference exists is beyond the scope of the thesis, however, one possible explanation, is expectations, as mentioned in section '4.1.1 The Experience from a Marketing Perspective', since this can affect the perception of the experience and hence the course. The difference could also be because of personality differences. Another possibility, as highlighted by the assessment each student of the course filled in for the teachers, is that the SSE students seems to have perceived module one as too much of the old while everything was new to the KTH students. Nonetheless, this finding clearly show the importance of thinking and planning before implementing since there does not seem to be a 'one fits all' solution.

## 7 Conclusion and Discussion

*This chapter will summarize and discuss the findings of the thesis. It will start by answering the purpose of the thesis on an overall basis and the generalizability of the findings. A discussion will then follow on key issues that the authors want to raise. These key issues concern the nature of the TAM, the paradox of innovation resistance, the possibilities of open innovation, the creation of knowledge markets and a contrast to previous studies. Managerial implications will then follow and the chapter will end by bringing up weaknesses in the study and highlighting areas for further research.*

### 7.1 Conclusion

To create a social learning experience one must have proper acceptance of the social IS. The reason is that acceptance of the social IS provides the foundation for everything that one can see as value within the system. In other words, without people in the system, the value networks will equal zero. Furthermore, without the proper acceptance, value creating social behavior may be unlikely due to the social IS being utilized in a non social way, e.g. for example just using it to link. In other words, the more people that properly accept the technology, the bigger the value networks and the denser the offerings will become as the connections between the various social actors increase. Furthermore, the various activities on the platform are also likely to be affected, since the more people that are active the more people are likely to share their knowledge and participate in other learning related activities. Thereby, the more that adopt the IS, the better the social learning experience is likely to be. This process can be seen as a continuous process and depicted as a circle overshadowed by a circle of potential innovation resistance, as illustrated earlier. The first question of the thesis is: *How does technology acceptance affect the creation of a social learning experience, when implementing a social media based E-learning 2.0 solution for formal learning?* The answer is thereby that technology acceptance affect the creation of a social learning experience by either resulting in further or less acceptance through the direct and indirect interaction of external variables as well as the actual experience. This is a process that is continuous and can thereby either ‘spiral’ upwards or downwards.

The key to create technology acceptance and a good social learning experience thereby seems to lie in making this acceptance process ‘spiral upwards’, or put another way, make the ‘snowball’ of acceptance rolling. The authors managed to identify a number of variables that drives the acceptance of a social IS, within the areas of increasing the perceived usefulness, ease of use as well



as motivational variables relating to the nature of social media; with perceived usefulness having especial importance. These variables were then further analyzed resulting in strategies for how to affect them; belonging to three different aspects (management, social and technical). The second question of the thesis is: *What are the main variables affecting technology acceptance, when implementing a social media based E-learning 2.0 solution for formal learning?* In relation to the second question of the thesis one can thereby identify 13 variables that affect acceptance belonging to perceived usefulness, perceived ease of use and the nature of social media. Furthermore, the third question of the thesis is *What are the main strategies that can be used to affect the identified technology acceptance variables, when implementing a social media based E-learning 2.0 solution for formal learning?* In relation to the third question 15 variable related strategies belonging to the three aspects of management, social and technical could be identified. These variables and strategies can be found in ‘figure 9’. In addition, in further relation to the purpose of the thesis, these 15 strategies can in turn be combined into an overall implementation strategy that affects the likelihood of social IS acceptance through the effect on 13 identified variables affecting acceptance. This in turn improves the probability of a better social learning experience since affecting these 13 variables should make the continuous process of acceptance ‘spiral’ upwards.

Regarding generalizability the authors believe that the main findings of the study are applicable to formal learning scenarios within cultures similar to Sweden’s, since the thesis is based on 17 interviews with both experts and practitioners, a focus group, quantitative support, implementation experience, as well as a pre-study (20 interviews if one includes the focus group), primarily from Sweden. However, the conceptual model may be applicable even further, nevertheless, the authors want to avoid making such bold statements without further international data. The reason for this possibility is that the conceptual model also can be to a large extent derived from theory, that appears to have a limited connection to specific cultures.

## **7.2 Discussion**

The findings within the thesis results in multiple topics that should be discussed. Firstly, TAM was both supported and questioned by the findings. Secondly, there seems to be a paradox within the concept of innovation resistance. Thirdly, the findings indicate a possibility for open innovation in learning. Fourthly, the concept of knowledge markets leads to a new view of the insights. Finally, there is a need for a discussion that contrast the findings with previous studies.

### **7.2.1 TAM as a Framework**

The thesis provides both support and critique for the TAM. It supports its constructs, since they indeed measure a substantial part of the reasons for technology acceptance. It also supports its internal logic, since indeed the constructs do lead to acceptance which in turn seem to lead to a form of utilization. From this perspective, the TAM thereby offers tremendous value for the analysis of social IS and a good foundation for future research.

However, the thesis also manages to illustrate that the linear approach TAM has in relation to technology acceptance is problematic. After a short discussion with Per Andersson, this may be due to the TAM being designed to be quantifiable. This seems like a reasonable conclusion to its linear nature. Furthermore, the TAM was designed for IS that were likely to be less social in their nature. Thereby, when utilized for social IS, the TAM's linear nature becomes a distinct problem since and should be addressed (please see 7.5 'Suggestions for Further Research'). This leads to that its ability to function as a guide becomes reduced and likely to that its predictive power also becomes reduced, since after a user accepts a social IS, the acceptance changes the value of the IS and thereby its perceived usefulness and ease of use. Finally, the TAM's definition of acceptance is clear enough to make the model relevant to a broad spectrum of IS. However, as became obvious during the process of writing this thesis the acceptance definition is too vague to provide clear guidance. In other words, if you measure acceptance quantitatively through the TAM, what resulting level of acceptance do you measure (a critical part of a social IS is to reach a proper level of acceptance)? In accordance to this problem the TAM provides little guidance and the authors decided to add innovation resistance to the framework to tackle some of the analytical problems that was caused due to the problems above.

### **7.2.2 The Paradox of Innovation Resistance**

The resulting conceptual model as well as the empirical observations, can lead one to wonder about the nature of innovation resistance. Before the thesis started the authors knew that there could be innovation resistance to the social IS. There was also an understanding that there seem to be a worry for the existence of innovation resistance. However, as the thesis can demonstrate, innovation resistance is both completely founded and unfounded. To put it another way, if one manages to make people accept the IS and create good experiences, the result will be a process that, if maintained properly, will be likely to spiral upwards. However, if one fails to do this, the process will spiral downwards. In other words, if one believes in innovation resistance and that it will cripple the social IS, one is likely to see its usefulness as lower, thereby being less likely to accept

it. This in turn will result in an actual decrease in its usefulness reducing the will for other participants to join in, due to a smaller network of participators and thereby less dense offerings. The result is the downwards spiraling cycle. One can thereby conclude from this logic that a key aspect of implementing a social IS seems to be the management of expectations. If they are positive, and people believe in that other people will see the use, they themselves should be likely to join. In other words, the belief and fear of innovation resistance can be self fulfilling.

### **7.2.3 Open Innovation - Likely Effective Due to the Nature of Acceptance and Experience**

A popular phenomenon today is open innovation. The continuous process that could be identified would result in that open innovation could have a very positive effect for the acceptance process. By taking in continuous input and adapting the solution the usefulness and ease of use could be improved, better activities created and the general experience could be increased. In fact, one can argue if open innovation in a sense is not a part of E-learning 2.0 in general. After all, E-learning 2.0 focuses on the social construction of knowledge, which in itself can be seen as a form of open innovation if the process of construction remains relatively open.

Furthermore, the strategies identified to approach the technology acceptance variables are by no means collectively exhaustive. The authors are confident that there are other strategies present that are waiting to be discovered. Online social interaction occurs predominately in the open environment, not in restricted intranets, and comes in various forms, e.g. blogs, forums. This predisposition gravitates towards strategies being organically developed in the open online environment, as many of the issues found in open environments can be similar to those found in more closed systems, e.g. lack of activity. Allowing for outside input can therefore be greatly beneficial and maybe in some instances critical.

### **7.2.4 Creation of Knowledge Markets**

Implementing social media for E-learning 2.0 purposes can be seen as the creation of a knowledge market, where knowledge is created, exchanged, discussed and which in turn facilitates learning in general. During the process of making the thesis, multiple aspects relating to marketing theory was found valid. For example, the need for trade of services relating to knowledge exchange and the importance of connecting parties within the market (search). Furthermore, one can utilize the concept of a two sided market to gain further insight into the market related structure of social media in an E-learning 2.0 context. One can then notice how there clearly are two sides, an information side and a reader side, in which actors during certain moments of time positions

themselves as one of the two. Thereby, the more information provided by the ‘information side’ the higher the value will be for the ‘reader side’; i.e. network effects and increased value by numbers.

Due to this, the continuous process and multiple of the identified drivers of acceptance in the thesis should be true for informal situations as well. For example, if one wants to create a new informal wiki it would seem likely that the development should follow a similar process since one still needs to create a knowledge market. The authors does however want to make it clear that this is only a subject for discussion and not an attempt to generalize the findings outside the scope of the thesis.

### **7.2.5 Contrast to Previous Studies**

Previous studies within the field seems to too often have had a technical focus and have often partly or fully ignored the social dimension of E-learning. The authors believe that this is because the studies on technology acceptance were conducted when teaching pedagogy was in its first and second generation, as outlined in the literature overview. As the third generation of teaching pedagogy emerges in the form of social constructivism, the previous studies on E-learning acceptance tend to lose their explanatory power as the social aspect becomes increasingly prevalent.

Also the previous studies on technology acceptance seem to in general have looked at acceptance as a relatively static outcome. In this study the authors have shifted focus of acceptance as a relatively static outcome to acceptance being a certain level reached in a continuous process. As such acceptance is not viewed as static but as dynamic.

The level of the strategic implementation advice for social media based E-learning 2.0 solutions is something the authors believe to be rare. Concrete strategies to actually approach technology acceptance variables are limited, beyond that of broad generalization. The authors’ implementation strategy is grounded in empirics and theory, and as well provides clear links between the strategies and how they affect the technology acceptance variables.

## **7.3 Managerial Implications**

The thesis identifies acceptance as a key component to creating a social learning experience. If one thereby wants to harness the advantages of a social IS one will need to create proper acceptance among the targeted population. The thesis highlights multiple ways that this can be achieved as well as corresponding strategic recommendations, with perceived usefulness being the most prominent area for acceptance (for an example of an implementation plan, please see ‘9.5 Implementation Plan’).

However, four areas are particularly important for managers to take notice of. Firstly, social media is designed to facilitate communication and as has become apparent throughout the thesis, the ease of use offered by current social media is incredibly important to facilitate acceptance and thereby a good social learning experience. The authors thereby want to make it clear that when designing a social IS inspiration should be taken from current social media and that one focuses on making the system ease to use instead of advanced functions. Secondly, the study highlights the need to allow for a proper time for acceptance. Implementing a social IS will take time since you need to go through multiple cycles of acceptance. Throughout this process the material that allows for learning and time saving will be created and people will learn to utilize the system. To ignore this insight means that one risks putting the system up for a ‘downward spiraling’ process due to prolonged forced ‘acceptance’, miss-use of the system as well as among others bad activities and the result will be a low perceived ease of use and usefulness. Thirdly, throughout this process it is critical to provide proper management support. The introduction of a social IS can change the way key actors, that are critical for the offers’s density, spend their time. Hence one needs to be aware of this and provide the proper support. Finally, it is important to set the correct policies and guidelines so that people can relate to the information and see how it benefits them. For example, policies and guidelines need to acknowledge the nature of the social IS so that sharing information is rewarded and not punished.

In addition, the thesis provides interesting possibilities for actors within social media consulting as well as E-learning. Implementing a social IS, as should be apparent by now, can be seen as creating an internal market for knowledge sharing and learning. As such it requires that the market is properly designed and supported. For example, implementing social media for formal learning purposes can provoke change in an organization due to the time it takes to properly implement as well as the potential resistance towards it. Furthermore, the created spiraling process can be seen as somewhat self propelling, increasing the importance of getting things right from the start. The authors thereby believe that a third party, with experience from multiple social IS implementations can provide good support for the implementation. This third party could thereby work as a change agent for the organization.

Finally, even though social IS offers great opportunities to create value for an organization, as a manager one must ask if one is ready to dedicate the resources it will require to be created. However, the authors are convinced that if one decides to implement a social IS properly, the value created from for example the time saved searching for information and the ties created across the

organization, should be well worth the effort. This should in the authors' opinion be particularly true for large and global organizations. Since their size and distance would allow them to take the greatest advantages of an internal market of learning and the resulting social ties. After all, the greatest capital an organization has is its talented employees, and a social IS is all about enhancing the human capital through knowledge.

#### **7.4 Weaknesses of the Study**

Firstly, the study's primary quantitative data is very focused, due to resulting out of a single case situation. This means that the data can not be generalized to the population at large. Secondly, the conceptual model and the following analysis results from the same source of data. In an optimal situation, two different sets of data would have been utilized. However, due to the scope and the primarily explorative nature of the thesis this was not possible nor seen as necessary. It does however weaken the current reliability of the presented conceptual framework and the authors thereby wish to make it clear that it needs further testing before being applied to critical situations. However, the existing conceptual model also holds great promise since the authors could not find an existing model that could explain the empirical data. As a paradox however, this also means that the theory utilized in the thesis have not been directly optimized for the scenario. Nevertheless, the fields the theory is from are either closely related or have been previously tested in similar scenarios. Thirdly, despite having the conclusions as well as the empirical data validated by a fellow researcher, there could still be misinterpretations, as is the case with all studies; especially qualitative. Finally, the results of the thesis can not without modification be generalized to all learning situations. This was not within the scope nor purpose of the thesis, but should still be highlighted.

#### **7.5 Suggestions for Further Research**

Firstly, there is a clear need to continue to explore the nature and acceptance of IS and the resulting processes, especially regarding if they are continuous in contrast to linear. Secondly, E-learning 2.0 is a relatively new phenomenon. The authors thereby want to highlight this area for future research. As a result of the previous two suggestions, the authors also recommend further research regarding social media being utilized for learning since social media holds many qualities that can make it low cost and effective as an E-learning tool. In addition, even deeper knowledge regarding social IS implementation is necessary by going to the level beyond strategy: tactics. Finally, as the world becomes ever more connected and social media and learning keeps growing there will likely be an increasing need to better understand the role value constellations play in learning scenarios.

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## 9 Appendix

### 9.1 Definitions

**Acceptance:** Based on Davis (1989) acceptance is defined as the user's decision regarding 'how' and 'when' he/she will use the technology.

**Attitude:** *"Individual's positive or negative feeling about performing the target behavior (e.g., using a system)."* (Vvenkatesh, accessed 2011)

**Behavioral intention:** *"The degree to which a person has formulated conscious plans to perform or not perform some specified future behavior."* (Vvenkatesh, accessed 2011)

**E-learning 1.0:** *"E-learning that mainly constitutes a way to represent and teach material through electronic means. An example would be an instruction package that the user receives via the internet where the process is about individually reading and completing assignments that then is evaluated by a teacher."* (Pre-study, 2010)

**E-learning 2.0:** *"The key characteristic of E-learning 2.0 is the social construction of knowledge that may for example happen in a virtual environment (Brown & Adler, 2008). Furthermore, E-learning 2.0 may also constitute a more involving learning environment where for example inspiration can be found in games. For our definition we mean the broader meaning of E-learning 2.0. In other words, an electronic way of teaching through the social construction of knowledge while at the same time exploring ways to make learning more involving."* (Pre-study, 2010)

**Experience:** Is defined as *"... direct observation of or participation in events as a basis of knowledge"* (Merriam-Webster, accessed 2011)

**Formal learning:** A focused/goal oriented learning situation within an organization. For example, social media based E-learning 2.0 for formal learning, means that you utilize social media, for the purpose of social construction of knowledge and learning, within an organization.

**Image:** *"The degree to which use of an innovation is perceived to enhance one's status in one's social system."* (Vvenkatesh, accessed 2011)

**Job relevance:** *"Individual's perception regarding the degree to which the target system is relevant to his or her job."* (Vvenkatesh, accessed 2011)

**MBTI:** Myers Briggs Personality Type Indicator.

**Output quality:** *“The degree to which an individual believes that the system performs his or her job tasks well.”* (Vvenkatesh, accessed 2011)

**Proper Acceptance:** Acceptance is a broad concept. Proper acceptance means the same as acceptance except that one additional requirement has been added, namely that the actual use of the technology is according to the intended idea. In other words, the ‘correct’ how and when.

**Perceived ease of use:** Is defined as *“... the degree to which a person believes that using a particular system would be free of effort.”* (Davis, 1989, p. 320)

**Perceived usefulness:** Is defined as *“... the degree to which a person believes that using a particular system would enhance his or her job performance.”* (Davis, 1989, p. 320).

**Result demonstrability:** *“Tangibility of the results of using the innovation.”* (Vvenkatesh, accessed 2011)

**Social information system (social IS):** Social media based E-learning 2.0 solution for formal learning.

**Social media:** Social media is a part of Web 2.0 and is according to Marketing Consultant (2011) the behavior of sharing and interacting taking place in the digital domain. As such, social media is not solely defined by the technology behind it but also how the technology is used.

**Subjective norm:** *“Person's perception that most people who are important to him think he should or should not perform the behavior in question.”* (Vvenkatesh, accessed 2011)

**TAM:** Technology Acceptance Model.

**Voluntariness:** *“The extent to which potential adopters perceive the adoption decision to be non-mandatory.”* (Vvenkatesh, accessed 2011)

**Web 2.0:** *“The term Web 2.0 is associated with web applications that facilitate participatory information sharing, interoperability, user-centered design,[1] and collaboration on the World Wide Web.”* (Wikipedia, accessed 2011). Social media is thereby a form of Web 2.0.



## 9.2 Figures

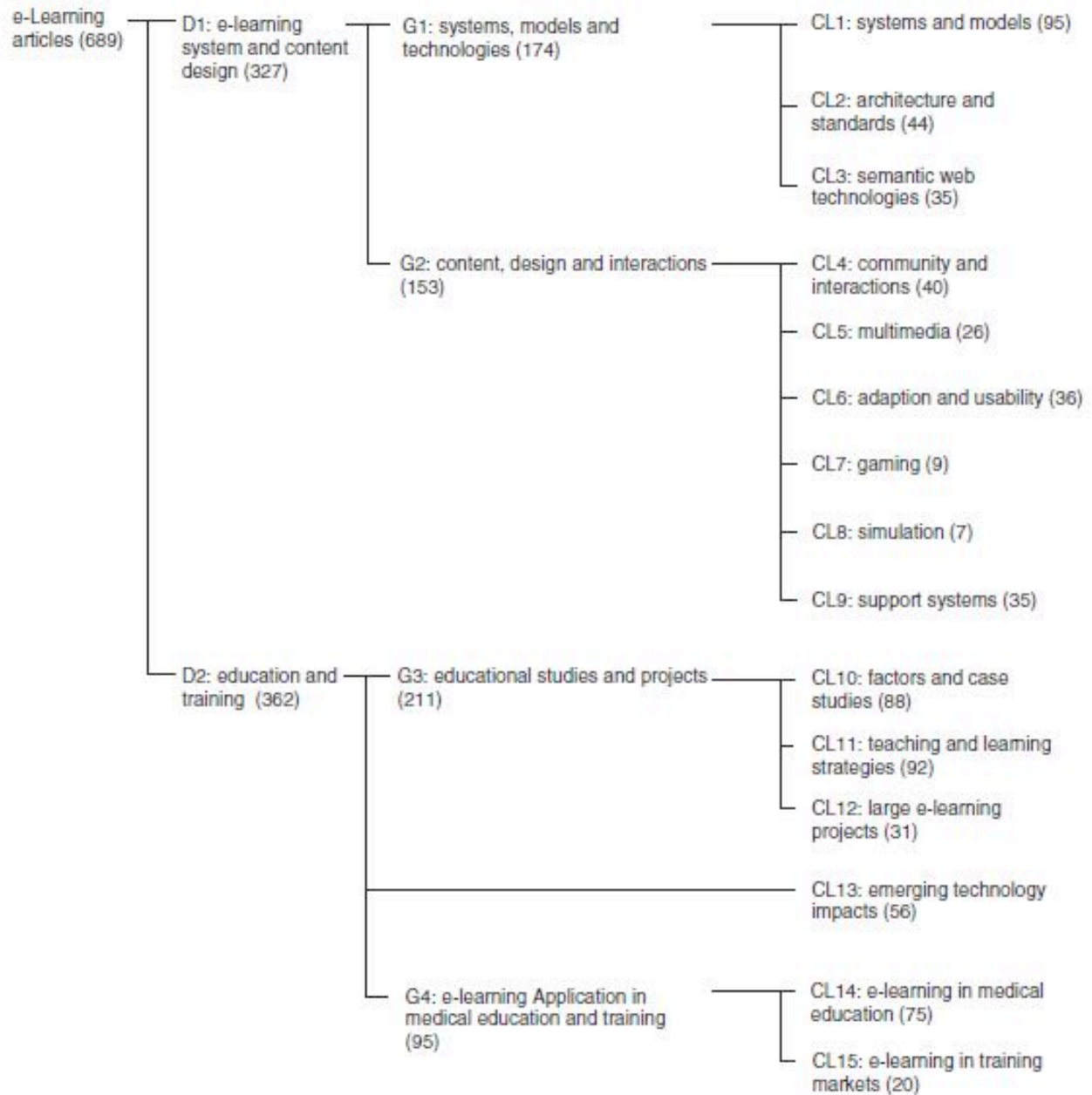


Figure 10. An overview of the current E-learning research (Hung, 2010).

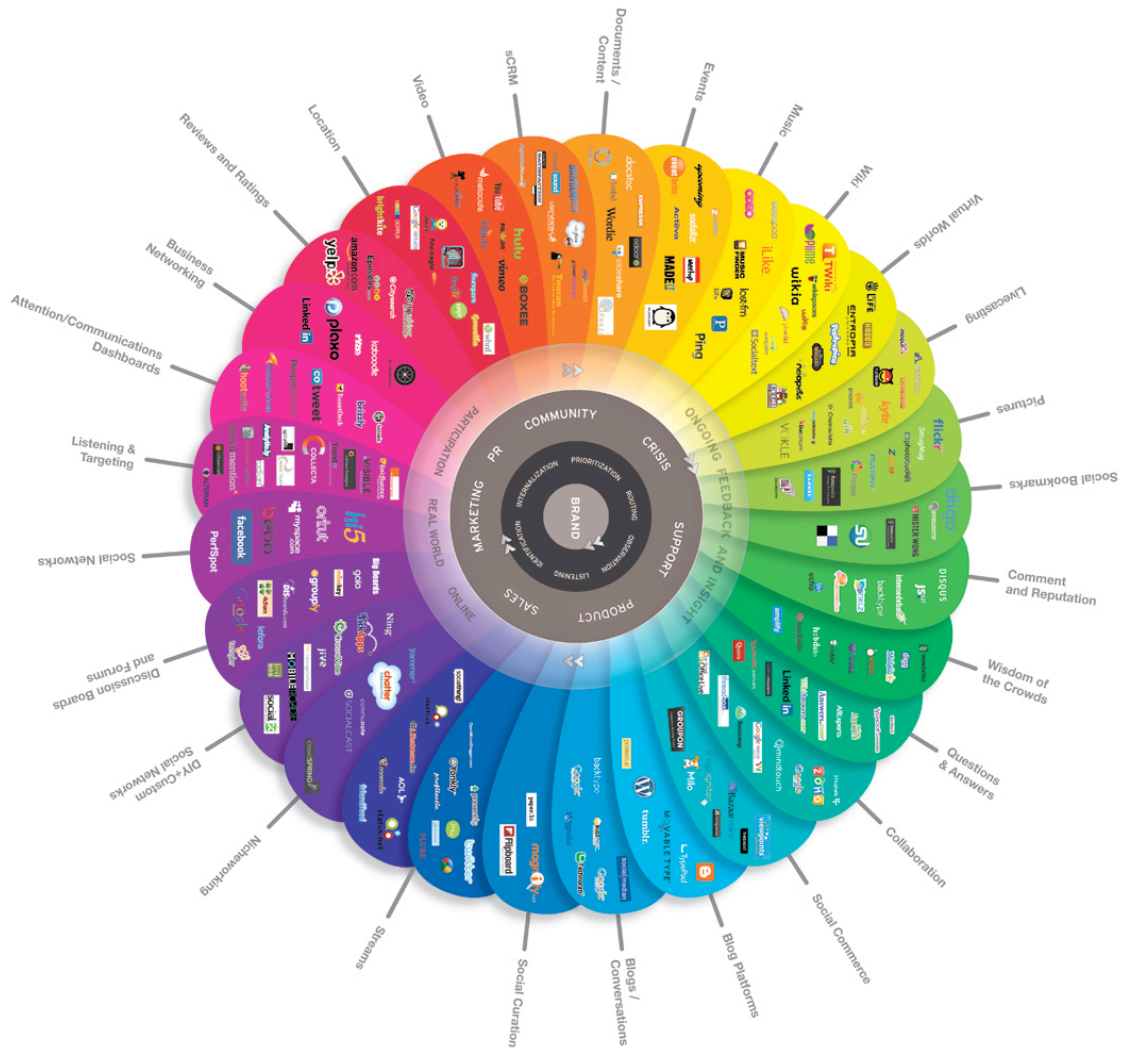
The Big Five model

Traits (low score)	Global domain scales	Traits (high score)
<b>Neuroticism (N)</b> Calm, relaxed, unemotional, hardy, secure and self-satisfied	Assesses adjustment versus emotional instability. Identifies individuals prone to psychological distress, unrealistic ideas, excessive cravings or urges and maladaptive coping responses.	Worrying, nervous, emotional, insecure, inadequate and hypochondriacal
<b>Extroversion (E)</b> Reserved, sober, aloof, task-oriented, retiring and quiet	Assesses quantity and intensity of interpersonal interaction, activity level, need for stimulation and capacity for joy.	Sociable, active, talkative, person-oriented, optimistic, fun-loving and affectionate
<b>Openness (O)</b> Conventional, down to earth, narrow interests, unartistic and unanalytical	Assesses proactive seeking and appreciation of experience for its own sake; toleration for and exploration of the unfamiliar.	Curious, broad interests, creative, original, imaginative and untraditional
<b>Agreeableness (A)</b> Cynical, rude, suspicious, uncooperative, vengeful, ruthless, irritable and manipulative	Assesses the quality of one's interpersonal orientation along a continuum from compassion to antagonism in thoughts, feelings and actions.	Soft-hearted, good-natured, trusting, helpful, forgiving, gullible and straightforward
<b>Conscientiousness (C)</b> Aimless, unreliable, lazy, careless, lax, negligent, weak-willed and hedonistic	Assesses the individual's degree of organisation, persistence and motivation in goal-directed behaviour. Contrasts dependable, fastidious people with those who are lackadaisical and sloppy.	Organised, reliable, hard-working, self-disciplined, punctual, scrupulous, neat, ambitious and persevering

Figure 11. The big five model (Mulyanegara et al. 2007).

# THE CONVERSATION PRISM

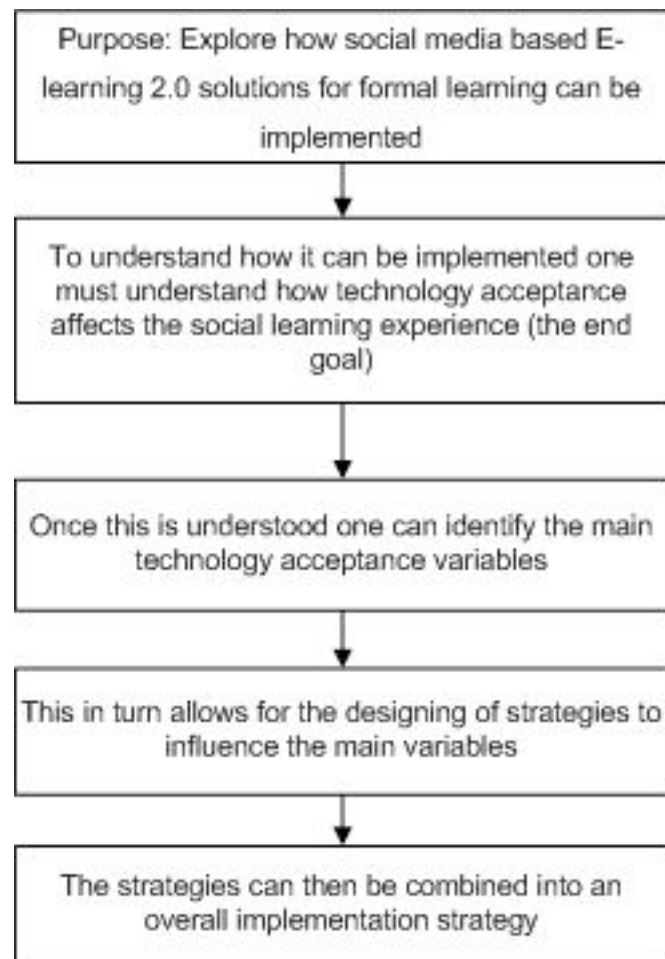
Brought to you by Brian Solis & JESS3



For more information  
check out [theconversationprism.com](http://theconversationprism.com)

Figure 12. "The Conversation Prism gives you a whole view of the social media universe, categorized and also organized by how people use each network." (Solis & Thomas, 2008).

### 9.3 Analysis Overview Tree



*Figure 13. A simplified logic behind the analysis to make it easier to overview.*

## 9.4 Final Questionnaire

Thank you for participating in this research study

This research is part of a learning experience and innovation project at Stockholm School of Economics. Please notice that it is very important that you read the questions/statements carefully and answer them to your best ability. Please respond to all questions and do only give one answer to each question/statement

Your answer will be completely anonymous



1.) What is your attitude to the brand above?

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
Bad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do not like	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Negative Impressions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.) How do you perceive that the following associations correspond to the brand above?

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
Risky	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Modern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.) How do you respond to the following statements:

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
I prefer structure and order	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer to have made a decision, than keeping it open	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I value imagination over realism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I emphasize theory over practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I value objective information above subjective opinions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
I value being fair over being compassionate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I receive energy from socializing compared to being by myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer to express my ideas and thoughts in writing, as opposed to oral expression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I understand directions better when I see a map than when I receive oral direction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**4.) How do you correspond to the following statements regarding the Media Management Online Platform:**

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
Overall, I find the platform useful in my studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using the platform improves my performance in my studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall, I find the platform easy to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My interaction with the platform is clear and understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assuming I have access to the platform, I intend to use it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Given that I have access to the platform, I predict that I would use it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People who influence my behavior think that I should use the platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People who are important to me think that I should use the platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My use of the platform is voluntary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My supervisor does not require me to use the platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in my course who use the platform have more prestige than those who do not	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in my course who use the platform have a high profile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In my studies, usage of the platform is important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In my studies, usage of the platform is relevant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of the output I get from the platform is high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have no problem with the quality of the platform's output	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have no difficulty in telling others about the results of using the platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The results of using the platform are apparent to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



5.) All things considered, my using of the Media Management Online Platform in my studies is:

Good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bad
Wise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Foolish
Favorable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unfavorable
Beneficial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Harmful
Positive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Negative

6.) How do you correspond to the following statements regarding the Media Management Online Platform:

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
The content of the course materials provided by the platform is complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the course materials provided by the platform is easy to comprehend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the course materials provided by the platform is timely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The course materials provided by the platform are well represented with text and graphics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the course materials provided by the platform is relevant to the topic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The user interface is well designed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The platform can quickly load all the text and graphics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easy to navigate the platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The platform functions well all the time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The platform provides quick responses to my requests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel comfortable using the functions and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The platform provides the services I need	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The platform provides reliable service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The platform can meet the specific needs of each learner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The platform provides the service on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.) How do you correspond to the following statements regarding the Media Management Online Platform and its use in the course, in contrast to other courses you have taken:

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
Increased the variety of activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Made the course more engaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased collaboration between people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aided in creating noticeable changes in intensity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helped me learn course material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Made it more fun to be a part of the course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helped me reduce the workload	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Created a better experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.) How do you feel that the following statements correspond to the Media Management course:

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
High variety in teaching methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High variety in course activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very immersive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very engaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very collaborative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very social	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High intensity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noticeable changes in the level of course intensity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The experience has made me more knowledgeable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is a real learning experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Just being here is very pleasant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The setting is very attractive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activities of others have been amusing to watch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watching others perform has been captivating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel I played a different character here	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel like I have been living in a different time or place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My time at the course was interesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will remember many positive things about this course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall the perceived quality of the course is excellent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall I am very satisfied with my experience at the course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have so far learnt more than I expected from this course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have so far learnt more from this course than from most other courses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



9.) Considering the Media Management course so far, how do you correspond to the following statements:

	Do not Agree					Agree Completely	
	1	2	3	4	5	6	7
The quality of the teacher/s was high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of the articles/literature was high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of the physical facilities (e.g. classroom) was high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of the planning/scheduling of the course was high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of other students' performance was high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.)How likely is it that you would recommend this course to a friend or colleague?

Not At All Likely	1	2	3	4	5	6	7	8	9	10	Extremely Likely
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

11.)How frequently do you use the Media Management Online Platform (times per week):

12.)How many hours do use the Media Management Online Platform every week:

13.)Are you currently enrolled in the MSc program at the Stockholm School of Economics:

14.)Please rate your computer skills on a scale from 1 to 7 (1 = Bad and 7 = Excellent):

15.)Gender:

16.)Age:

## 9.5 Rollout Plan - A Suggestion

Proposed Rollout Plan for social IS based on Empirics, Theory & Discussion
Convince top management and make sure they are actively supporting the solution throughout the implementation process
Make sure that the social IS aggregates various forms of social media, allowing for various forms of interaction. Integrate the social IS into the existing internal information system that the organization has, so that the users don't have to keep track of two IS's.
Make sure a search function and notification system is in place.
Ensure that a anonymous function is always present for hesitant users
Add features that creates a stronger online Visibility
Photos and other personal information that can be uploaded and shared
Gameification features: top contributor lists
Consider introducing entertainment elements to persuade users to join
Identify:
Ambassadors = natural tendency to adopt the solution
Marquee user = other employees looks up to individual and tend to follow them and their advice
Introduce solution to them and get them fired up (inspirational meeting)
Have the them generate content
Have them informally promote the solution - employees see the value of using it
Ensure that top management is providing support and feedback to active participants
Create Policies & Guidelines (not rules) so that employees know that it is officially recognized and so that they feel comfortable in what they can and can't do
Have a more formal introduction of the tool to the rest of the employees
Signup new employees to the solution and have them create their own profiles with information that makes it easy to connect users
Put extra focus on Digital Immigrants, as they require the most convincing
As number of participants increases start adding structure - creating communities around topics, events etc
Assign a community manager whose sole function is to aid in facilitating connections with between users, especially for new users, as well as providing support.
Occasionally have scheduled mandatory events so the skeptics can see the progress of the platform and be persuaded
Scheduled events can be centered around the focus on one of the features and have activities tailored specifically to their strength
Scheduled events could also be an Eye-opener that tells users of their inherent lack of knowledge and how the social IS can help them

## 9.6 Statistical Data

### Hand-out 3 linear regression

Dependent Variable	Independent Variable/s	R	R Square	Adjusted R Square	Standard Error of the Estimate	F	Significance
Attitude towards using	Perceived usefulness; Perceived ease of use	0.799	0.639	0.615	0.89640	26.571	0.000
Perceived usefulness	Perceived ease of use	0.377	0.142	0.115	1.44973	5.147	0.030
Attitude towards using	Intention to use	0.735	0.541	0.526	1.02589	36.520	0.000
Perceived usefulness	Subjective norm; Image, Job relevance; Output quality; Result demonstrability, Perceived ease of use	0.741	0.550	0.446	1.14730	5.286	0.001
Perceived usefulness	Job relevance; Output quality; Perceived ease of use	0.709	0.502	0.450	1.14220	9.744	0.000
Intention to use	Perceived usefulness; Perceived ease of use; Subjective norm; Voluntariness (measured separately by two variables)	0.870	0.756	0.709	0.81542	16.118	0.000
Intention to use	Perceived usefulness; Perceived ease of use	0.785	0.616	0.590	0.95377	24.058	0.000

### Hand-out 3 T-test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Overall, I find the platform useful in my studies	Equal variances assumed	0.549	0.462	-2.302	0.025	-1.08036	0.46935	-2.02261	-0.13810
	Equal variances not assumed			-2.283	0.028	-1.08036	0.47329	-2.03570	-0.12502
Overall, I find the platform easy to use	Equal variances assumed	3.358	0.073	-2.961	0.005	-1.13690	0.38392	-1.90765	-0.36616
	Equal variances not assumed			-3.135	0.003	-1.13690	0.36265	-1.86536	-0.40845

TAM - Attitude	Equal variances assumed	0.079	0.780	-2.341	0.023	-0.91613	0.39142	-1.70231	-0.12994
	Equal variances not assumed			-2.312	0.026	-0.91613	0.39626	-1.71625	-0.11601
How likely to recommend the course	Equal variances assumed	15.775	0.000	-3.846	0.000	-2.10511	0.54729	-3.20334	-1.00689
	Equal variances not assumed			-4.421	0.000	-2.10511	0.47621	-3.06536	-1.14487

### Hand-out 3 Pearson correlations (TAM)

		TAM - Perceived Usefulness	TAM - Perceived Ease of Use	TAM - Intention to Use	TAM - Subjective Norm	TAM - Image	TAM - Job Relevance	TAM - Output Quality	TAM - Result Demonstrability	TAM - Attitude	My use of the platform is voluntary	My supervisor does not require me to use the platform
TAM - Perceived Usefulness	Pearson Correlation	1	.377*	.756**	0.322	0.206	.674**	.504**	0.272	.661**	.555**	0.207
	Sig. (2-tailed)		0.030	0.000	0.068	0.251	0.000	0.003	0.126	0.000	0.001	0.248
	N	33	33	33	33	33	33	33	33	33	32	33
TAM - Perceived Ease of Use	Pearson Correlation	.377*	1	.479**	0.193	0.168	.392*	.624**	.678**	.666**	0.336	.427*
	Sig. (2-tailed)	0.030		0.005	0.282	0.350	0.024	0.000	0.000	0.000	0.060	0.013
	N	33	33	33	33	33	33	33	33	33	32	33
TAM - Intention to Use	Pearson Correlation	.756**	.479**	1	.493**	0.187	.767**	.589**	.522**	.735**	.436*	-0.045
	Sig. (2-tailed)	0.000	0.005		0.004	0.298	0.000	0.000	0.002	0.000	0.013	0.805
	N	33	33	33	33	33	33	33	33	33	32	33
TAM - Subjective Norm	Pearson Correlation	0.322	0.193	.493**	1	0.341	.464**	0.183	0.122	0.318	0.084	-0.227
	Sig. (2-tailed)	0.068	0.282	0.004		0.052	0.007	0.308	0.499	0.071	0.647	0.204

	N	33	33	33	33	33	33	33	33	33	32	33
<b>TAM - Image</b>	Pearson Correlation	0.206	0.168	0.187	0.341	1	0.182	.507**	0.314	0.123	0.100	0.117
	Sig. (2-tailed)	0.251	0.350	0.298	0.052		0.311	0.003	0.075	0.494	0.586	0.516
	N	33	33	33	33	33	33	33	33	33	32	33
<b>TAM - Job Relevance</b>	Pearson Correlation	.674**	.392*	.767**	.464**	0.182	1	.461**	0.344	.536**	0.202	-0.266
	Sig. (2-tailed)	0.000	0.024	0.000	0.007	0.311		0.007	0.050	0.001	0.268	0.134
	N	33	33	33	33	33	33	33	33	33	32	33
<b>TAM - Output Quality</b>	Pearson Correlation	.504**	.624**	.589**	0.183	.507**	.461**	1	.795**	.685**	.509**	.395*
	Sig. (2-tailed)	0.003	0.000	0.000	0.308	0.003	0.007		0.000	0.000	0.003	0.023
	N	33	33	33	33	33	33	33	33	33	32	33
<b>TAM - Result Demonstrability</b>	Pearson Correlation	0.272	.678**	.522**	0.122	0.314	0.344	.795**	1	.636**	0.332	0.265
	Sig. (2-tailed)	0.126	0.000	0.002	0.499	0.075	0.050	0.000		0.000	0.063	0.137
	N	33	33	33	33	33	33	33	33	33	32	33
<b>TAM - Attitude</b>	Pearson Correlation	.661**	.666**	.735**	0.318	0.123	.536**	.685**	.636**	1	.394*	0.330
	Sig. (2-tailed)	0.000	0.000	0.000	0.071	0.494	0.001	0.000	0.000		0.026	0.060
	N	33	33	33	33	33	33	33	33	52	32	33
<b>My use of the platform is voluntary</b>	Pearson Correlation	.555**	0.336	.436*	0.084	0.100	0.202	.509**	0.332	.394*	1	.507**
	Sig. (2-tailed)	0.001	0.060	0.013	0.647	0.586	0.268	0.003	0.063	0.026		0.003
	N	32	32	32	32	32	32	32	32	32	32	32
<b>My supervisor does not require me to use the platform</b>	Pearson Correlation	0.207	.427*	-0.045	-0.227	0.117	-0.266	.395*	0.265	0.330	.507**	1
	Sig. (2-tailed)	0.248	0.013	0.805	0.204	0.516	0.134	0.023	0.137	0.060	0.003	
	N	33	33	33	33	33	33	33	33	33	32	33

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

### Hand-out 3 Pearson correlations (Platform activities & experience)

		Increased the variety of activities	Made the course more engaging	Increased collaboration between people	Aided in creating noticeable changes in intensity	Helped me learn course material	Made it more fun to be a part of the course	Helped me reduce the workload	Created a better experience
<b>Increased the variety of activities</b>	Pearson Correlation	1	.791**	.648**	.398*	.622**	.615**	.513**	.788**
	Sig. (2-tailed)		0.000	0.000	0.022	0.000	0.000	0.002	0.000
	N	33	33	33	33	33	33	33	33
<b>Made the course more engaging</b>	Pearson Correlation	.791**	1	.886**	.614**	.715**	.828**	.659**	.899**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000	0.000
	N	33	33	33	33	33	33	33	33
<b>Increased collaboration between people</b>	Pearson Correlation	.648**	.886**	1	.768**	.765**	.867**	.843**	.809**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.000
	N	33	33	33	33	33	33	33	33
<b>Aided in creating noticeable changes in intensity</b>	Pearson Correlation	.398*	.614**	.768**	1	.662**	.812**	.819**	.660**
	Sig. (2-tailed)	0.022	0.000	0.000		0.000	0.000	0.000	0.000
	N	33	33	33	33	33	33	33	33
<b>Helped me learn course material</b>	Pearson Correlation	.622**	.715**	.765**	.662**	1	.732**	.718**	.758**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000
	N	33	33	33	33	33	33	33	33
<b>Made it more fun to be a part of the course</b>	Pearson Correlation	.615**	.828**	.867**	.812**	.732**	1	.829**	.851**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	N	33	33	33	33	33	33	33	33
<b>Helped me reduce the workload</b>	Pearson Correlation	.513**	.659**	.843**	.819**	.718**	.829**	1	.649**
	Sig. (2-tailed)	0.002	0.000	0.000	0.000	0.000	0.000		0.000
	N	33	33	33	33	33	33	33	33
<b>Created a better experience</b>	Pearson Correlation	.788**	.899**	.809**	.660**	.758**	.851**	.649**	1

<b>experience</b>	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	N	33	33	33	33	33	33	33	33

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

### Hand-out 3 Pearson 1-tailed correlations (Platform variables & experience; TAM)

		Increased the variety of activities	Made the course more engaging	Increased collaboration between people	Aided in creating noticeable changes in intensity	Helped me learn course material	Made it more fun to be a part of the course	Helped me reduce the workload	Created a better experience
<b>TAM - Attitude</b>	Pearson Correlation	.540**	.555**	.413**	.455**	.488**	.643**	.408**	.668**
	Sig. (1-tailed)	0.001	0.000	0.009	0.004	0.002	0.000	0.009	0.000
	N	33	33	33	33	33	33	33	33

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

### Hand-out 3 Pearson 1-tailed correlations (TAM and actual use)

		How frequently do you use the Media Management Online Platform (times per week)	How many hours do use the Media Management Online Platform every week
<b>TAM - Attitude</b>	Pearson Correlation	.327*	.326*
	Sig. (1-tailed)	0.034	0.034
	N	32	32
<b>TAM - Intention to Use</b>	Pearson Correlation	0.257	.376*
	Sig. (1-tailed)	0.078	0.017
	N	32	32

\* . Correlation is significant at the 0.05 level (1-tailed).

\*\* . Correlation is significant at the 0.01 level (1-tailed).

### Hand-out 3 descriptives

	N	Minimum	Maximum	Mean	Std. Deviation
Brand Attitude	34	1.00	4.67	1.9412	0.98975
Risky	34	1.00	6.00	2.2059	1.45184
Innovative	34	1.00	7.00	3.8824	1.40916
Modern	34	2.00	7.00	4.2353	1.43672
Personality - J vs P	34	2.50	7.00	5.0882	1.06223
Personality - N vs S	34	1.50	5.50	3.2794	0.98620
Personality - T vs E	34	3.50	7.00	4.9118	0.91677
Personality - Ex vs In	34	2.50	6.50	4.5735	0.96242
TAM - Perceived Usefulness	33	1.00	6.50	3.0303	1.54080
TAM - Perceived Ease of Use	33	1.00	6.00	4.0909	1.48668
TAM - Intention to Use	33	1.00	7.00	3.4242	1.49018
TAM - Subjective Norm	33	1.00	7.00	3.3788	1.94467
TAM - Image	33	1.00	5.00	2.0152	1.18246
TAM - Job Relevance	33	1.00	7.00	3.3182	1.75810
TAM - Output Quality	33	1.00	7.00	3.5152	1.49731
TAM - Result Demonstrability	33	1.00	6.50	4.1364	1.25793
TAM - Attitude	33	1.00	6.40	3.9091	1.44490
My use of the platform is voluntary	32	1.00	7.00	3.7188	2.05150
My supervisor does not require me to use the platform	33	1.00	7.00	3.1818	1.89497
The content of the course materials provided by the platform is complete	33	1.00	7.00	4.6667	1.79699
The content of the course materials provided by the platform is easy to comprehend	33	1.00	7.00	5.1515	1.58353
The content of the course materials provided by the platform is timely	33	1.00	7.00	5.0303	1.46810
The course materials provided by the platform are well represented with text and graphics	33	1.00	7.00	4.7576	1.73260
The content of the course materials provided by the platform is relevant to the topic	33	1.00	7.00	5.2727	1.44206
The user interface is well designed	33	1.00	7.00	3.7273	1.50567
The platform can quickly load all the text and graphics	33	1.00	7.00	3.8485	2.09346
It is easy to navigate the platform	33	1.00	7.00	4.1212	1.47389
The platform functions well all the time	33	1.00	7.00	4.1212	1.72767
The platform provides quick responses to my requests	33	1.00	7.00	4.0606	1.56004
I feel comfortable using the functions and services	33	1.00	7.00	4.3636	1.57754
The platform provides the services I need	33	1.00	7.00	3.9091	1.64628



The platform provides reliable service	33	1.00	7.00	4.3333	1.61374
The platform can meet the specific needs of each learner	33	1.00	6.00	3.4848	1.50252
The platform provides the service on time	33	1.00	7.00	4.6364	1.57754
Increased the variety of activities	33	1.00	7.00	3.5758	1.75054
Made the course more engaging	33	1.00	7.00	3.2424	1.83763
Increased collaboration between people	33	1.00	7.00	3.1212	1.72767
Aided in creating noticeable changes in intensity	33	1.00	6.00	2.8788	1.49494
Helped me learn course material	33	1.00	6.00	3.0909	1.52815
Made it more fun to be a part of the course	33	1.00	7.00	2.6970	1.59069
Helped me reduce the workload	33	1.00	7.00	2.6364	1.59723
Created a better experience	33	1.00	6.00	3.0606	1.56004
Module/Course (V)eci	34	2.00	7.00	5.5294	1.21194
Module/Course v(E)ci	33	2.00	7.00	5.3788	1.14585
Module/Course ve(C)i	34	2.00	7.00	5.5588	1.07847
High intensity	34	3.00	7.00	5.7941	1.20049
Noticeable changes in the level of course intensity	34	2.00	7.00	4.9118	1.46407
ExpEconomy - Education	34	2.00	7.00	5.6176	1.29134
ExpEconomy - Esthetics	33	1.50	6.50	4.6667	1.16369
ExpEconomy - Entertainment	34	2.00	6.50	4.4706	1.15431
ExpEconomy - Escapism	34	1.00	6.00	2.7647	1.32708
ExpEconomy - Memory	34	2.00	7.00	5.2941	1.19416
How likely is it that you would recommend this course to a friend or colleague	34	2.00	10.00	7.9118	1.71213
How frequently do you use the Media Management Online Platform (times per week)	33	0.00	21.00	1.9697	3.63563
How many hours do use the Media Management Online Platform every week	33	0.00	3.50	0.7455	0.95356
Are you currently enrolled in the MSc program at the Stockholm School of Economics	34	1.00	2.00	1.3529	0.48507
Please rate your computer skills on a scale from 1 to /	34	3.00	7.00	5.6765	1.00666
Gender	34	1.00	2.00	1.4706	0.50664
Age	34	22.00	34.00	24.1176	2.08552
Valid N (listwise)	29				

## Hand-out 2 Pearson correlations (TAM)

		Usefulness	Ease of Use	TAM - Attitude
Usefulness	Pearson Correlation	1	0.313	.903**
	Sig. (2-tailed)		0.179	0.000
	N	20	20	19
Ease of Use	Pearson Correlation	0.313	1	0.342
	Sig. (2-tailed)	0.179		0.152
	N	20	20	19
TAM - Attitude	Pearson Correlation	.903**	0.342	1
	Sig. (2-tailed)	0.000	0.152	
	N	19	19	19

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Hand-out 2 Pearson correlations (Platform activities & experience)

		Increased the variety of activities	Made the course more engaging	Increased collaboration between people	Aided in creating noticeable changes in intensity	Helped me learn course material	Made it more fun to be a part of the course	Helped me reduce the workload	Created a better experience
Increased the variety of activities	Pearson Correlation	1	.770**	.617**	.723**	.562**	.600**	.588**	.685**
	Sig. (2-tailed)		0.000	0.004	0.000	0.010	0.005	0.006	0.001
	N	20	20	20	20	20	20	20	20
Made the course more engaging	Pearson Correlation	.770**	1	.894**	.820**	.671**	.803**	.818**	.800**
	Sig. (2-tailed)	0.000		0.000	0.000	0.001	0.000	0.000	0.000
	N	20	20	20	20	20	20	20	20
Increased collaboration between people	Pearson Correlation	.617**	.894**	1	.817**	.735**	.860**	.828**	.812**
	Sig. (2-tailed)	0.004	0.000		0.000	0.000	0.000	0.000	0.000
	N	20	20	20	20	20	20	20	20
Aided in creating noticeable changes in intensity	Pearson Correlation	.723**	.820**	.817**	1	.860**	.931**	.864**	.923**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.000
	N	20	20	20	20	20	20	20	20
Helped me learn course material	Pearson Correlation	.562**	.671**	.735**	.860**	1	.809**	.799**	.823**
	Sig. (2-tailed)	0.010	0.001	0.000	0.000		0.000	0.000	0.000

	N	20	20	20	20	20	20	20	20
<b>Made it more fun to be a part of the course</b>	Pearson Correlation	.600**	.803**	.860**	.931**	.809**	1	.880**	.899**
	Sig. (2-tailed)	0.005	0.000	0.000	0.000	0.000		0.000	0.000
	N	20	20	20	20	20	20	20	20
<b>Helped me reduce the workload</b>	Pearson Correlation	.588**	.818**	.828**	.864**	.799**	.880**	1	.930**
	Sig. (2-tailed)	0.006	0.000	0.000	0.000	0.000	0.000		0.000
	N	20	20	20	20	20	20	20	20
<b>Created a better experience</b>	Pearson Correlation	.685**	.800**	.812**	.923**	.823**	.899**	.930**	1
	Sig. (2-tailed)	0.001	0.000	0.000	0.000	0.000	0.000	0.000	
	N	20	20	20	20	20	20	20	20
**. Correlation is significant at the 0.01 level (2-tailed).									

## Hand-out 2 Pearson 1-tailed correlations (Platform variables & experience; TAM attitude)

		Increase d the variety of activitie s	Made the course more engagin g	Increase d collabor ation between people	Aided in creating noticea ble change s in intensit y	Helped me learn course material	Made it more fun to be a part of the course	Helped me reduce the workloa d	Created a better experie nce
<b>TAM - Attitude</b>	Pearson Correlation	.635**	.736**	.675**	.792**	.822**	.777**	.673**	.770**
	Sig. (1-tailed)	0.002	0.000	0.001	0.000	0.000	0.000	0.001	0.000
	N	19	19	19	19	19	19	19	19
**. Correlation is significant at the 0.01 level (1-tailed).									

## Hand-out 2 Pearson 1-tailed correlations (TAM and actual use)

		How frequently do you use the Media Management Online Platform (times per week)	How many hours do use the Media Management Online Platform every week
<b>TAM - Attitude</b>	Pearson Correlation	.553**	.518*
	Sig. (1-tailed)	0.009	0.014
	N	18	18
<p>** . Correlation is significant at the 0.01 level (1-tailed).</p> <p>* . Correlation is significant at the 0.05 level (1-tailed).</p>			