MediaLAB: Bachelor Thesis

Virtual Community on Social Media

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a Case Study of the Digital Society School

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Abstract

Nowadays, real groups can come together on computers and the digital are increasingly more integrated in society. Users are more involved in virtual community building and recreating spaces where they can experience sociality through social media.YouTube, LinkedIn, Twitter, Instagram and Facebook facilitate these spaces and allow users and organizations to experience sociality and being part of a virtual community. This research will examine the meaning of social media, virtual and digital community and user experience in an ever developing cyberspace.

According to the principle 'the proof of the pudding is in the eating', the basic idea of this thesis is threefold: theory, empirical test and evaluation. Inspired by the virtual settlement theory of Jones (Jones 1997) and the implementation of community heuristics (Campo et al. 2013), the focus is on virtual communities, social media and user experience. As an empirical case study this research examines the Digital Society School (also abbreviated in this thesis as DSS) in order to investigate how institutions effectively use these platforms in order to build virtual communities on social media and make users actively interact and engage.

Based on the objectives of the DSS and the user experience of interactivity and engagement on social media platforms, a cross platform analysis is made of their current presence online and how to implement affordances to optimally use their platforms to enhance their presence online. The mixed methods approach of this research consists of three components: an investigative interview, a social media measurement and a heuristic evaluation in order to examine the user experience of the community members. The research contains information gathered through an interview with a representative of the DSS, descriptives of the data scraped of the different social media platforms and a group session with an evaluation of the user experience of the content pillars as heuristics.

Finally, an assessment is made of the merits of the theoretical concepts on the one side and the state of affairs of the case study on the other, in order to arrive at some recommendations for further developments.

Keywords

Virtual community, Virtual settlement, User experience, Social media, Sociality, Affordances, Education, Digital Society School, Usability, Social networking, Human computer interaction

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1. Introduction

In recent years, social media has become matured in design and user adoption (Jürgens 2012). Social media are a primary form of communication and anyone who is digitally inclined is able to participate in the different online communities on the various platforms (Davis III et al. 2015). It is a means to conduct social networking online and there are many sites and services that start from providing general affordances and features for a broad target audience to specialized networks that narrow their target audience. A social network can be understood as a social structure that allows individuals or organizations to build a profile within a system, connect to a number of users and traverse and view their connections and those of others (Boyd & Ellison 2008).

Where social media has developed significantly over the years, it still has a lot of potential for the user's experience. Such potential relates specifically to the social environment through the emergence of virtual communities and the interactions that are captured by user data (Jürgens 2012). It has become more common for 'real' communities to exist in cyberspace (Pickard 2013). As cyberspace seemed to grow, so did the number of virtual communities in this digital environment. In physical communities, there is a unity of the self and as Judith Donath states: "the norm is: one body, one identity" (Donath 1998, 1). The body in this case is the stabilizing anchor. However, in the virtual world there is disembodiment, which leads to ambiguity for the establishment of the identity.

In order to explain behavior on social media, a study is to be conducted that takes into consideration the social structure and the influences it has on the user experience. Moreover, Allison Jane Pickard states that: "Virtual settings have some unique features: establishing the existence of a 'community', personal identity in a disembodied environment, and the nature of 'truth' in a transient reality" (Pickard 2013, 144). Therefore, identity cues differentiate over different social media platforms, but are not consistently reliable. As the perception based on social categories allows for first impressions, which can hold biases (Donath 1998).

Implicitly, social media technology allows for real-world communities and institutions to resort to the potential media has to connect and create communities. In addition Allison Jane Pickard mentions: "The existence of 'real' communities in cyberspace is becoming increasingly more common, no longer being seen as the strange phenomenon it

was a decade ago" (Pickard 2013, 144). Organizations that rely on real-world and online communities are declining due to different forms of social media (Davis III et al. 2015).

This research provides a foundation to develop conceptual frameworks that would effectively capture the impact of user experience among the building of virtual communities on social media platforms, the Digital School Society in particular. Organizational communication has developed into an interpretive approach to communication in organizations and has also acknowledged constitutive perception of organizations (Lammers 2011). By assessing this particular online issue through the current use of social media of the DSS and user experience of the community, a comprehension of virtual community building on social media platforms will be conducted effectively and determine what is necessary to expand and maintain a virtual community.

The thesis considers the Digital Society School as a case study. In addition, the DSS uses these platforms to inform and reach out to potential students, current students, employees of the DSS and trainees as mentioned in *Appendix A*. In the case of the DSS, these platforms are used to connect stakeholders to project initiators and to create an online community of learning. The main objective of this research is to investigate how these platforms are used to create a virtual community and whether this corresponds to the user's experience. The case of the Digital Society School as an example of learning organizations is put to the test. The 'virtual settlement theory' (Jones 1997) is a theory that consists of minimum requirements one should be able to adhere to in order to create a virtual community online. Therefore, the implementation of the current content pillars of DSS (*Appendix D*) are to be critically assessed in order to examine whether these are used effectively or not. If not, what ameliorations could be made on the basis of for instance the 'virtual settlement theory'.

Furthermore, the conceptual framework shall be based on the 'virtual settlement theory' by Jones (1997). It states that there are minimum conditions that must exist before a cyber-based environment can be termed 'community'. Firstly, a minimum level of interactivity and stable membership has to be realised. In addition, a variety of communicators have to be present in a community. Lastly, an interactive group computer-mediated communication has to be possible in a virtual public space (Jones 1997).

Moreover, Jones (1997) determines two dominant uses of the term: various forms of group computer mediated communication and as a new form of community created

through the use of computer mediated communication. The difference between these two definitions emphasizes that virtual communities are more than computer mediated communication messages, rather sociological phenomena (Jones 1997). Thus, the research of 'virtual settlement theory' (Jones 1997) presents the necessity to differentiate virtual community cyber-place and the actual virtual community itself. This theory shall be tested in this research by examining the case study of the DSS by assessing virtual community, social media and user experience in academia.

By combining the three literature topics from the 'virtual settlement theory' of Jones (1997); virtual community, social media and user experience, it resulted in the following framework as portrayed in *Appendix B*. In order to examine the emergence of a virtual community on different social media platforms, the user experience of the people that interacted with the different media are to be considered. These three elements are intertwined to one another, since organisations use social media as a means to connect and create social actors.

Of course, there are unpredicted variables that might complicate the findings, this is due to the novel research of the DSS and virtual communities on social media. Therefore, the research shall investigate to what extent the users and the community of the DSS is related to the engagement and interaction on different social media platforms. The aim of this research is to test the DSS as a case study on being a virtual community according to the virtual settlement theory by (Jones 1997).

The research conducts data scraping, user testing and implementing expert evaluation on how the DSS is using current social media technology and affordances (likes and comments) presented on YouTube, Instagram, Facebook and Linkedin to gain presence on these platforms. Moreover, the research shall examine how this educational institution can optimally use these platforms in order to expand and maintain their virtual community and reach out to new users. The chapter division of this thesis is the following. In chapter 2 Virtual community on social media in literature is explored. In chapter 3 the focus is on the empirical test of the theory by implementing a case study of the Digital Society School, and finally, in Chapter 4 an analysis on the subject is presented.

The research questions have been based on the research design, conceptual framework and synthesized literature. By assessing these three components and identifying the gaps in current research the following research question that is central to this examination is formulated as such:

How do organizations create a virtual community on social media?

To answer this question, the research shall be divided into three sub questions. When researching a virtual community, social media and user experience one must comprehend what is being examined. Therefore, the following questions shall be answered in the following chapters:

Chapter 2 explores the phenomenon of virtual settlements on social media in academia. Additionally, the user experience is also examined, as to determine the relevance of this element to the consumption of the content on social media and the emergence of virtual communities. The main question is:

How is a virtual community defined in current academia, what are the requirements of one, and how does it relate to social media and the user experience?

In chapter 3, one case study is examined against the theoretical background described in chapter 2. The Digital Society School is an initiative that emerged in 2018 to enhance digital transformation in society ("Learn More about Us - Digital Society School - Amsterdam" n.d.). It is highly dependent on their online presence to expand their service as it focuses on an international audience and the building of a virtual community ("Learn More about Us - Digital Society School - Amsterdam" n.d.).

The DSS is a representation of an educational institution that pursues a virtual community on the platforms: Twitter, YouTube, Instagram, LinkedIn and Facebook. This case study is as Yin describes it: "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (Yin 2008, 23).

The research question of this chapter is:

To what extent does the Digital Society School realize a virtual community on social media platforms?

Finally in chapter 4 an evaluation is made on the basis of the leading question:

Against the theoretical background of virtual settlement theory and based on the case study of the DSS, how should an organization use social media in order to develop as a virtual community, and therefore reap the possible benefits of being one?

2. Virtual community on social media in academia

This chapter is an exploration of the literature on virtual settlements. Three elements from the 'virtual settlement theory' of Jones (1997) are investigated: virtual community, social media and user experience in academia. Moreover, this chapter assesses the following question:

How is a virtual community defined in current academia and what are the requirements of one, and how does it relate to social media and the user experience?

The synthesized literature portrayed a virtual community to be an open-textured concept that adapts depending on the social environment. These social environments can be considered as the different social media platforms where virtual communities can settle. The notion of virtual communities will be considered in this thesis as social gatherings that emerge online when enough people carry on public discussions to form webs of personal relationships in cyberspace (Rheingold 1994). This is regarded to be related to Jones's idea that virtual communities are sociological phenomena on social media (Jones 1997).

Furthermore, social media is an egalitarian online environment where a hierarchical structure is not present. It allows for social networking on internet-based sites to take place, such as YouTube, Twitter, Facebook, Instagram and LinkedIn. Besides that, it allows for dyadic relational interactivity that allows for value co-creation by the consumer of the content. While there are many different social media platforms that are similar in use, the experience of each platform differs for each user.

The term user experience describes the person's experience of human interface and usability, the interface, the manual and the physical interaction. The user experience will be understood in this thesis as the implementation of principles that allow for an evaluation of the interface, such as heuristics that enable the examination of online community design to enhance virtual communities from a member's perspective. The overall experience is related to the perception (emotion and thought), reaction, and behavior that a user feels and thinks through direct or indirect use of a system or content.

2.1. Virtual Community

In 1997, the *BusinessWeek* published a cover story that the definition of virtual community has been established as synonymous with different forms of group computer mediated communication (Hof et al. 1997). Communities come in different forms, Wenger, McDermott and Snyder (2002) define a 'learning community' as "groups of people who share a concern, a set of problems or a passion about a topic, and who deepen their knowledge and expertise in these areas by interacting on an ongoing process" (Wenger et al. 2002, 4). The term 'interacting' is a key factor for the conceptualization of a community.

The perception of community has become broader and has become redefined by the emergence of new platforms (Yang et al. 2010). In learning communities, the writing and reading of content were examples of interaction. However, in the study of Yu-Fen Yang, Hui-Chin Yeh and Wing-Kwong Wong (2010) the social interaction was determined by posts or comments on the content. Consequently, the students were free to utilize the online system and make decisions, actions on their own behalf (Yang et al. 2010).

The concept of a 'virtual community' in literature is not only ambiguous, but also proves to be challenging to produce a general definition of. David Ellis, Rachel Oldridge and Ana Vasconcelos give the following description to a virtual community: "an open-textured concept and changes in our social environment and practices may require modifying the definition of communities of practice" (Ellis et al. 2005, 161). Additionally, Chirag Somani (2012) defines a virtual community as a social network that has no limit on geographical area or political restriction and that it achieves socialization.

While definitions of the term 'virtual community' emphasize the digital environment that allows for communities to be global, other researchers consider the activity within the digital environment to hold the core of the definition. Hof et al. (1997) define virtual communities as computer mediated spaces where there is an integration of communication and content that has an emphasis on member-generated content. Therefore, virtual communities can also be distinguished by online information services to the extent that content and user communication are integrated.

Additionally, Erickson (1997) states that a virtual community is an engaging notion that describes online discourse. However, the notion of community does not support a clear guideline on designing the framework for organizations. The demand to distinguish

computer mediated communication messages and virtual communities itself creates a dilemma, since a distinction is to be made between these two concepts.

Furthermore, Howard Rheingold, a WELL-user and journalist, wrote in his literature *The Virtual Community* (Rheingold 2000) that users in virtual communities utilize vocabulary on screens to exchange ideas and argue, engage in intellectual discussions, conduct commerce, share emotional support, orchestrate plans, brainstorm, network and connect with other WELL-users (Rheingold 2000). Virtual communities came to emergence with the invention of Web 2.0. This led to the beginning of social media. This technology was first associated with the Whole Earth Lectronic Link (the WELL), which is one of the earliest virtual communities that provides Internet forums, email and web pages that differ in topic based on the nature of the participants preference (Stevenson 2018).

Rheingold states that in virtual communities users do just about everything people do in real life, but leave their bodies behind (Rheingold 2000). In addition, Rheingold defined the community online as "social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace" (Rheingold 1994, 5). Rheingold (2000) states that the term 'virtual community' is commonly used to distinguish multiple forms of computer mediated communication, specifically as long-term, textual mediated conversations by large groups.

Furthermore, virtual communities were considered to be integral, because they provide a remedy to the increasing individualization and atomization of society. As Rheingold perceived it, the WELL was a gift economy and revitalized democracy by providing an alternative participatory approach than the traditional mass media that was influenced by consumerism. Furthermore, this notion got revitalized by other platforms, such as Facebook that articulates the goal of giving people an openness, connection and to bring the world together (Stevenson 2018). Before the Digital Society School, a Netherlands initiative constructed De Digitale Stad (DDS) funded by the government (Stevenson 2018). It focussed on Rheingold's basics and implemented on using 'digital cities' in order to complement local community and reinforce intercultural awareness in virtual culture (Stevenson 2018).

However, the 'virtual' concept of communities should be critically approached, since social ties are fundamental in the computer industry. Therefore, questioning the fact that Rheingold claimed that the medium was a gift economy, when it had an underlying

intention for personal gain. Despite the flaws a virtual community has, the sense of utilizing the web as a measure of cooperation and community kept its relevance. The use of reputation systems and the emergence of mobile use enabled users to act collectively that was not possible before (Stevenson 2018). Furthermore, the quality of online connections are also to be questioned, as the distinction between online and offline has become intertwined and social networks have become a source of 'weak ties' in the form of social capital to generate opportunities (Stevenson 2018).

"Social capital refers to the values and beliefs that citizens share in their everyday dealings and which give meaning and provide design for all sorts of rules" (Baron, Field, & Schuller 2000, 111). Moreover, it is generated within the community through interaction and learning. Yet, the 'capital' implies that it is accumulated such as revenue. Whereas the 'social' implies that this is achieved through the form of a community or membership. This takes the economical and operational model of for instance an interface into account.

Virtual communities enable the study of behavior and perceptions of communities (Ellis et al. 2005). This allows for developing distinctions of the different forms of virtual communities and questions the networking objectives to increase social capital. Issues of researching virtual communities consist of ethical restrictions in the study, methods used and the negative effects a research may have on the community (Ellis et al. 2005). However, research on virtual communities provides for insights in the actions and perception of the physical communities (Ellis et al. 2005).

For instance, the library and information science (LIS) community implements collaborative workspace, development of virtual communities and discussion lists in order to assess the participation of the community online (Ellis et al. 2005). In this case, the library and information science (LIS) community are serving, responding, reflecting and are part of society (Ellis et al. 2005). The economic and social postmodern society altered institutions, organizations, and communities to the extent that the people have to adapt to it as well. The objective of a virtual community altered to enhance accessibility to information and other services for participants of the real community (Ellis et al. 2005).

In summary, there are multiple definitions for virtual communities. However, for this research the definition of Rheingold shall be implemented when assessing the Digital Society School. Consequently, virtual communities can be understood as social gatherings that emerge online when enough people carry on public discussions to form

webs of personal relationships in cyberspace (Rheingold 1994). This can be considered to be similar to Jones's notion that virtual communities are not computer mediated communication messages, rather sociological phenomena (Jones 1997). In the following section, social media is the next phenomenon to be investigated in order to determine whether it fits the notion of virtual communities in academia.

2.2. Social Media

It is questioned whether educational institutions effectively use the computer-interfaces or webpages effectively to build communities on these platforms. Nowadays, organizations do not want to depend on the specific infrastructure such platforms offer. Consequently, they develop their own platforms in cyberspace. However, in this thesis the virtual settlements are only assessed on existing social media platforms, such as YouTube, Instagram, LinkedIn, Twitter and YouTube. Factors that also are to be considered are the type of content and the target audience. These elements affect the social network through images, videos, links and recommendations, etc. The usability of social media platforms entails an understanding of the system and its usage. Researchers have engaged in usability to present the usefulness of websites and information systems (Fang & Holsapple 2007). This entails that user-friendly platforms need attributes such as user efficiency, effectiveness and satisfaction.

Social media came to existence in the early 2000s with the emergence of YouTube and Facebook. These platforms were part of the change to 'Web 2.0', where platforms became more accessible, participatory and dynamic media environments (Stevenson 2018). The features of Web 2.0 on social media consisted of networking, personalization, user-generated content and computer mediated communication (Stevenson 2018). It allowed for openness and participation, sophisticated and technological infrastructures and web companies gained cultural and financial investment for reshaping the media landscape. This resulted in an elaborate knowledge resource, work environment and collaboration on creative expression. Eventually, this led to a vision of a virtual community.

Furthermore, social media is regarded as egalitarian of nature, which implies that there is no authority or hierarchical structure that urges exposure of commercial content as in other media (Peters et al. 2013). What makes social media different from traditional media is that it allows for dyadic relational interactivity, which makes a social medium a

contingent subject (Peters et al. 2013). Nevertheless, in order to understand the different degrees of interactivity, one must comprehend the objectives, contingency, context and structure, actions and characteristics of the specific medium. This can be understood as the culture of the specific platform.

Social media provides co-creation and communication that allows for immediate feedback and enhancing value propositions and defining new objectives. In social media, likes, shares and comments can be viewed as feedback and User-Generated-Content (UGC) (Alwash et al. 2019). Besides that, users select to engage with MGC (Marketer-Generated Content) that creates meaning to them (Alwash et al. 2019). Value co-creation allows for the opportunity to research and identify stimulants for customer engagement by using value propositions in communication, it is defined as the process of brand and customer creation exchanges that establishes the value of a product or a service (Alwash et al. 2019). It consists of three steps: a brand has to communicate a value proposition, customer engagement expressed by feedback and taking action and control of the brand based on the feedback.

Furthermore, there have been two forms of engagement identified: shallow engagement and deep engagement. Shallow engagement is defined as an engagement-related action that requires a low cognitive effort and short duration (Alwash et al. 2019). On the other hand, deep engagement involves high cognitive effort and a longer duration (Alwash et al. 2019). For example, Twitter interactions consist of metrics that include liking and sharing tweets, shallow engagement, and that users write responses to a tweet, deep engagement (Alwash et al. 2019). Deep engagement consists of an elaborate list of sentiments of users on different aspects of value propositions and details that are absent in shallow metrics. The deep engagement metrics are the number of comments posted by customers of a brand and the valence of sentiments in the responses.

In communication science, the term ‘medium’ is a means for sharing and storing information (Peters et al. 2013). However, within the field of sociology, social networks are regarded as a social structure that consists of social actors (Peters et al. 2013). When these two fields are combined, the definition of social media can be understood as communication systems that enable social actors to communicate along dyadic ties (Peters et al. 2013). However, there is no common definition of the term social media, since there are a number of definitions that lack to establish a concise mutually agreed-upon definition (Carr & Hayes 2015). Social media has been defined “to digital

technologies that emphasize user-generated content or interaction" (Carr & Hayes 2015. 47) or "any interactive communication channel that allows for two-way interaction and feedback" (Carr & Hayes 2015. 48). Thus, social media can be referred to as a specified technology or tool with affordances of different applications that correspond to the development of interaction through the emergence of Web 2.0, such as YouTube, Facebook, Twitter, LinkedIn, Instagram, etc.

In *Social Media Metrics - A Framework and Guidelines for Managing Social Media* three main components of interaction are identified: motives of the action of an actor in social media, the content that has dyadic ties and the network structure of the social infrastructure (Peters et al. 2013). Actions on content may earn actors a role within a social network. Boyd and Ellison present a definition of social network sites: "as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd & Ellison 2008. 211). Additionally, social networking is the use of these internet-based sites, such as YouTube, Facebook, Twitter, Instagram and LinkedIn, for a social purpose. The social interaction on a platform requires an exchange from both parties, where broadcasts are acknowledged through likes and direct comments. Directed communication between relational partners is common among friends, which is associated with greater strength in ties over time and is motivated by the desire to keep in touch (Hall 2018).

Despite the obscurity of the definition of social media and social networking, the influence of social media platforms as a means of social interaction and communication is growing (Constantinides & Stagno 2011). Businesses and institutions are integrating social media technology as a marketing tool in order to attract target audiences. Therefore, it is important to research how potential audiences use social media and the role they play in the decision making process of participating in the community (Constantinides & Stagno 2011). Constantinides and Zinck Stagno's (2011) findings indicate the interest of potential students to be content with social interaction and information on social media. However, traditional communication channels are prefered over the social media channels. Although students are active when following social media, the impact of these platforms in the choice to commit to a community is low compared to traditional forms of marketing (Constantinides & Stagno 2011).

Nevertheless, Fabio Giglietto, Luca Rossi and Davide Bennato (2012) established three forms of distinction of interaction on these platforms: social interaction, audience interaction and platform interaction. Audience interaction entails the number of times a video or channel is viewed and is measured through metrics. Social interaction emphasizes metrics such as comments, likes, subscriptions. Platform interaction consists of the different kinds of information that are enabled when uploading a video, such as ID, date, title, uploading account, category, and so on (Giglietto et al. 2012). These different forms of information are used differently, for instance in selecting videos to analyze and another purpose is to contextualize information for building social behavior patterns. The video itself is not integral, but the information that allows for insights in the community is (Giglietto et al. 2012).

The use of social media is determined by users exchanging private messages, wall posts and uploading or commenting on photos (Hall 2018). In media-mediated communication, individuals are connected to other individuals through asynchronous media, such as email or networking sites, or synchronous media, for example texting, chatting or talking over the mobile phone (Ahn & Shin 2013). Through the constant connection of media it has improved society's efficiency worldwide (Ahn & Shin 2013). Directed communication through messages qualifies as social interaction, this includes photos with tags, sharing private messages and commenting on posts (Hall 2018). Unfocused interactions are one-click messages, such as likes, similar to acknowledgement. It is not associated with social interaction or relatedness, which does not establish relatedness and in turn is not a relational or consequential action (Hall 2018). Users' behavior consists mainly of browsing and when this increases, the perception of social interaction seems to diminish.

Therefore, Jeffrey A. Hall (2018) states that broadcasting is not to be confused with social interaction or relational development, rather to a concept as advertising. Additionally, advertising and marketing is conducted through condensed narratives that allow for meaning and value that the user can associate with. Therefore, the message must also apply for internal audiences. Consequently, information-seeking is a fundamental reason for people utilizing social networking sites and participating in virtual communities (Vries et al. 2012). Lisette de Vries, Sonja Gensler and Peter S. H. Leeflang (2012) states that people consume brand-related content, because the motivation to participate or consume content is met by the brand supporters. Moreover, the research

also portrays the positive attitude of brand supporters towards informative ads on social networks.

In general, institutions emerged as senders and started to share institutional messages. A common purpose of institutional message is used to refer to the efforts of organizations to visualize their activities with external and internal images. Therefore, the institutional message is implemented as a representative narration to grant promotion. In this case, the image is understood as the message and that the institutional message is a collection of publicly perceived actions of the organization. If this is the case, organizations establish guiding principles for institutional messages. There are two types to be distinguished from the sending side: those sent intentionally and unintentionally (Lammers 2011). On the other hand, the receiving side distinguishes two types: messages that do not obligate the receiver to take actions and messages that the receiver is mandated to receive and act on (Lammers 2011).

Educational institutions emphasize social media strategies on maintaining and updating social media channels with the objective of building identity by connecting with prospective students and alumni (Peruta & Shields 2017). Results in the literature of Peruta and Shields (2017) show that certain topics increase engagement and the format, such as including user-generated content. Although institutionalism has a far-reaching effect online, utilization of; message delivery, construction and exchange remains an ambiguous subject of research (Lammers 2011).

Communication through messages developed over time and became discrete signals or stimuli for receivers (Lammers 2011). The message was no longer a signal that indicates a specific command or request (Lammers 2011). Persuasive messages were no longer defined actions, but were perceived as a collation of thoughts, which are transmitted with the objective to stimulate different motivational circumstances portrayed in observations. The perceived duty of the user in this case is to receive, understand and act according to the message. However, a key element of the message is the intention of the sender (Lammers 2011). Institutional messages can be examined to the extent that they are purposive or intentional and encumber the receiver (Lammers 2011).

In summary, social media can be considered an egalitarian online environment where a hierarchical structure is absent during the exposure of content. It enables social networking on internet-based sites, such as YouTube, Twitter, Facebook, Instagram and LinkedIn. Besides that, it allows for dyadic relational interactivity that allows for value co-creation by the consumer of the content. This is established through shallow and deep

engagement in the forms of likes and comments. However, while social media has many uses, broadcasting is not similar to social interaction in the notion of virtual communities. This is not only determined by the posts, but also the user's experience of the content.

2.3. User Experience

Users are crucially important for the development of new digital technologies. In the virtual settlement theory of Jones this is acknowledged as a virtual public space that has to enable an interactive group to communicate and interact (Jones 1997). Nevertheless, the definition of user experience proves to entail different factors as well.

User experience is a topic that expands in different fields. Thus, having many different definitions and methods to research the phenomenon. Such a method is through UX Design, a term that derives from Don Norman in 1993 (Merholz 2007). The term refers to the person's experience of human interface and usability including industrial design graphics, the interface, the manual and the physical interaction. It might be defined as "a person's perceptions and responses that result from the use or anticipated use of a product, system or service" (Hokkanen et al. 2016, 218) or as Joo states: "User Experience (UX) refers to the overall experience related to the perception (emotion and thought), reaction, and behavior that a user feels and thinks through his or her direct or indirect use of a system, product, content, or service" (Joo 2017, 9931).

In the case of this research, UX is understood as: "an interface through which a person can interact with a system or application in a computer and communication environment, which is classified into a software interface and a hardware interface" (Joo 2017 9931). In addition, Joo states: "A user interface (UI) refers to a system and user interacting with each other through commands or techniques to operate the system, input data, and use the contents. User interfaces range from systems such as computers, mobile devices, games, etc. to application programs and content usage" (Joo 2017, 9931). Therefore, implying that user experiences can be understood as the result of the interaction with a product or service, which includes UI as a part of the user experience.

Furthermore, the user experience is based on what is presented on the interface. Jakob Nielsen (1994) established ten general principles for interaction design. These ten general principles are also known as 'heuristics', as they are broad and do not convey specific usability guidelines. The list of user interface design principles of Jakob Nielsen (1994) are stated in *Appendix C*.

These principles allow for an evaluation of the interface and what defines the user experience. However, human computer interaction (HCI) and user experience (UX) are to be differentiated from one another. Human computer interaction encompasses the user, the interface and the computer. Whereas user experience refers to the people, experience and technology as stated by Olia Lialina (Olia Lialina n.d.). User experience is related to the concept of human-computer interaction that is generally applied in not only software and hardware development, but also in services, processes, products, society and culture (Joo 2017, 9931).

The emphasis of user experience on social media platforms mainly consists of optimized searches and filters, functionality and generation of shared content, visible and direct communication features, enabling the user to distinguish and categorize content based on characteristics and to allow for opportunities to engage with users to participate in communities, which reinforces efficiency of the feature of automatic grouping along the content or other characteristics is enabled. Therefore, heuristics can be tailored to target a specific purpose. An example of this is Simon à Campo and his peers who developed guidelines to research crowdsourcing platforms based on their own developed 'community heuristics' (Campo et al. 2019). These heuristics enable us to examine online community design to enhance virtual communities from a member's perspective (Campo et al. 2019).

Interfaces influence daily life as it processes people's understanding and forms relations with companies and services. It defines computer culture. Donald A. Norman is a pioneer of user experience design, he uses the door as a metaphor for an interface: "A door has an interface – the doorknob and other hardware – but we should not have to think of ourselves using the interface to the door: we simply think about ourselves as going through the door or closing or opening the door" (Norman 1988, 218). *Why Interfaces Don't Work* does not mention the word ´affordance´, he rather uses the door knob as a symbol of it. Norman describes affordances as: "When affordances are taken advantage of, the user knows what to do just by looking: no picture, label, or instruction needed" (Soegaard 2002). He emphasizes a pragmatic question that answers who and what exactly is experienced through the design. This is due to the fact that in the case of social media platforms, the digital features are fundamental to enable communication. Moreover, this is apparent as stated by Jürgens (2012, 199); "communities formed by communication are an inherent feature of social media."

The term ‘affordance’ is derived from the field of ecological psychology by James Gibson to appoint different physical action possibilities and was later adopted by Donald A. Norman (1988). Gibson’s main insight was that we do not perceive the environment, rather through the affordances and the possibilities it has (Bucher & Helmond 2018). In addition, Gibson emphasizes that affordances are invariant and do not change as the need of the perceiver changes according to their preferences. Therefore, Gibson states: “affordances do not cause behavior but constrain and control it” (Bucher & Helmond 2018, 5). When Donald A. Norman adapted the term, it became generally used as a description of what artifacts as media technologies allow people to do (Bucher & Helmond 2018). As the term has been incorporated in many fields of studies, the term for affordance has become obscure and has many different meanings in the media and communication field.

User experience encompasses more than what an user interface initially provides, it also considers strategy and implementation. As stated by Laura Hokkanen, Kati Kuusinen and Kaisa Vaananen: “if user experience (UX) of the product is poor, users tend to concentrate on the disturbing user interface instead of the actual product idea” (Hokkanen et al. 2016, 217). Therefore, it is integral that a user experience is to be accompanied with a strategy in order to comprehend the objectives related to product maturity (Hokkanen et al. 2016). Since the research and design aims are not concerned with the institution, the objective and end product might be altered based on an experiment with users (Hokkanen et al. 2016). In turn, this implies that the targeted user group might change as well. Therefore, user experience development consists of practices that relate to the understanding of the user and the context of use (Hokkanen et al. 2016).

The experiences comprise social media engagement and can be understood as the emotional experience or perception that people have when using a particular medium (Voorveld et al. 2018). This experience is multidimensional, for instance satisfying the need of consuming information and sharing with others (Voorveld et al. 2018). The term media experience refers to the specific experience while consuming concrete content on social media. Comparable to social media engagement is the experience of advertising. Voorveld (2018) and her fellow researchers assume that engagement and embedded advertising in social media platforms allow for catering the needs of the users to use the platform.

Similar to the concept of user experience, it is challenging to determine engagement, since it has many definitions. In the literature *Engagement with Social Media and Social*

Media Advertising: The Differentiating Role of Platform Type the approach to engagement is specified to media and the effectiveness it has on the user (Voorveld et al. 2018). It states engagement as; ”a multilevel, multidimensional construct that emerges from the thoughts and feelings about one or more rich experiences involved in reaching a personal goal” (Voorveld et al. 2018, 39). Moreover, engagement is manifested in different experiences and differs between brands, products and services (Voorveld et al. 2018).

In summary, the term user experience describes the person’s experience of human interface and usability, the interface, the manual and the physical interaction. It can be determined through the implementation of principles that allow for an evaluation of the interface. These can be understood as heuristics that enable the examination of online community design to enhance virtual communities from a member’s perspective. The overall experience is related to the perception (emotion and thought), reaction, and behavior that a user feels and thinks through direct or indirect use of a system or content.

For this reason, it is beneficial that a user experience is accompanied with a strategy in order to comprehend the objectives of a social media platform. This objective might be changed based on an experiment with users (Hokkanen et al. 2016). Consequently, the following chapter shall examine the case study of the Digital Society School based on the synthesized literature and shall conduct a usability study in order to gain insights on the user experience.

3. Case Study: the Digital Society School

The Digital Society School (DSS) is an institution that implements different approaches to convey information to their audience and aspires to create a digital educational community. Moreover, it is presented as a growing community of learners, creators and designers and it directs the interests, knowledge and effort of this community to build a digital society ("Learn More about Us - Digital Society School - Amsterdam" n.d.). Therefore, the research shall explore how this form of educational community building is done on social media platforms.

Since the HogeSchool van Amsterdam and the DSS are educational institutions connected to each other, this research shall explore and expand on the implementation of social media platforms to establish their future objectives online, usability testing, social networking and the emergence of virtual communities that pursue educational objectives. The research shall explore the issues within the context of the DSS and provide insights to these challenges. Besides that, it will also bring the virtual settlement theory in practice through a case study and assess whether the DSS meets the requirements of being considered a virtual community on these social media platforms. Based on the 'virtual settlement theory' (Jones 1997), community heuristics (Campo et al. 2013), and the current content pillars, the case study of the DSS shall be examined. Consequently, the following research question is examined in this chapter:

To what extent does the Digital Society School realize a virtual community on social media platforms?

The Research Design shall be based on the methods presented in *Research Methods in Information* written by Alison Jane Pickard in 2013. A mixed methods research approach shall be conducted with a quantitative research method to assess the interaction and engagement of the social media platforms of the DSS and a qualitative research method is realized through the implementation of an interview with a representative of the DSS, Jadine van Ooijen, and a usability study to assess the user experience of social media of the DSS through the expertise of members of the community that consists of users who are experienced in the fields of cultural anthropology, media, design and user experience.

It is a method designed to study a specific subject within a context and the purpose it has (Pickard 2013).

Attributes that are measured in order to answer this question will be the user experience with the simplicity of which users can: interact with creating posts and chats functions, search for other users, join digital communities, navigate themselves on the interface, interpret messages and find innovative ways to get help. These attributes are intended to improve the quality of user design according to Larry Constantine and Lucy Lockwood (1993). However, this is dependent on pre-designed UI/UX-design variables such as the features of different social media platforms and this in turn affects the content specified for the specific platform and the targeted audience of the DSS.

In order to comprehend the user experience of the community that consists mainly of coaches, employees, interns, students and trainees, the fundamentals of user experience and usability shall be utilized to assess the DSS's approaches to distribute experiences and knowledge through social media. Consequently, this research shall conduct besides a semi-structured interview and a social media measurement of the posts, comments and likes and a heuristic evaluation in the setting of a group of trainees in order to asses the different forms of communication that the DSS utilizes and whether they are effectively exploiting the features of social media platforms in order to create interaction and engagement with the community (Stanfill 2014).

Moreover, the heuristic evaluation is carried out by a number of evaluators, more specifically up to five, since more information will saturate the information and cause for overlap of identified issues (Pickard 2013). Therefore, for this research a group of trainees (5) shall participate in an empirical study through the implementation of a heuristic evaluation based on community heuristics (Campo et al. 2019) and the current content pillars that have been created by the DSS as a user experience strategy. These participants remain anonymous, as to allow for genuine opinions of the DSS on social media platforms.

The following sections present the findings and the cross-platform analysis and show that while the DSS in theory may be considered a virtual community, it differs with the experience of the users that perceive the content as broadcasting or advertising. This proves that the user experience is fundamental for the emergence of virtual communities on social media.

3.1. Analysis of the Digital Society School

In this section the interview with Jadine van Ooijen is presented. As business development manager at the DSS she is responsible for the social media presence of the educational institution. Therefore, a semi structured interview was conducted with her in order to establish the objectives of implementing YouTube, Facebook, Instagram and LinkedIn in order to build a digital community (Pickard 2013). In addition, the interview will also provide insights and act as the basis of establishing the guidelines and principles for the evaluators. Based on the objectives and the content pillars used by the DSS that are mentioned in *Appendix D*, the social media measurement is conducted.

The Digital Society School is a growing community of learners, creators and designers and it directs the interests, knowledge and effort of this community to build a digital society ("Learn More about Us - Digital Society School - Amsterdam" n.d.). Besides the conventional resources, such as the DSS website and being associated with the applied university of Amsterdam, the educational institution also incorporates YouTube, Instagram, Twitter, Linkedin and Facebook as a means of communication and connection with their audience in a digital environment. The educational institution creates content for their account on these platforms to provide their (potential) trainees and employees with information that support their educational goals. By utilizing these platforms, they want to expand their community globally.

Furthermore, the DSS is a project initiated by the HogeSchool van Amsterdam in order to work on ideas to successfully integrate digital technology in society ("Learn More about Us - Digital Society School - Amsterdam" n.d.). The initiative, which started in 2018, is focussed on change as it touches the core of creativity towards technological development. As Jadine states: "It started like two and a half years ago, but the company does not have a real strategy to expand or how to reach out to this community. It was not clear how to communicate with this community" (*Appendix A*). The school's purpose is to research the impact of technology on society and pass this knowledge on by letting trainees work on projects together or hosting courses ("Learn More about Us - Digital Society School - Amsterdam" n.d.).

Therefore, a presence on social media is fundamental for the online school and the institution uses content pillars in order to sustain their current community on their social media. However, as stated by Allison Jane Pickard: "it is evident that there are issues in a virtual community" (Pickard 2013, 144). Consequently, the practice of maintaining and

facilitation of a virtual community are examples of these issues. The institution is highly dependent on their social media presence to expand their service. It targets an international audience and strives to build a virtual community ("Learn More about Us - Digital Society School - Amsterdam" n.d.).

The interview with Jadine van Ooijen portrays the problem the DSS is experiencing in their social media. The educational institution is lacking a clear objective on how to expand as a community and maintain ties with their community online. As stated by Jadine, "We're just using social media platforms with no prior knowledge or expertise like Facebook, Instagram, LinkedIn, Twitter. It is more or less wanting to be visual. We want to show ourselves on those different platforms" (*Appendix A*). It was evident that the DSS had no descriptives on their current media presence and on their users' experience of the content on social media platforms. This is reinforced by Jadine: "I don't really know what the viewer thinks of our different kinds of posts, or the number of likes, and if they share the posts, and what works and what not" (*Appendix A*).

Therefore, the expectation of this research shall be that the DSS's usage of social media platforms and their affordances are not used optimally, which leads to an absence of interaction and engagement on these platforms. On the question if the virtual community of DSS is able to interact with others through social media, such as comments, Jadine responded: "No, not so much. Sometimes you get reactions if we have a new colleague, then people say: 'oh, congratulations', but this is due to the content we share. For example, if you share a statement on Twitter, it allows for more discussion and the focus is more on the informative kind of content. But we don't have a platform or something besides social media. I don't know if social media is the right place to do those kinds of conversations. So yeah, maybe it can also be an option to create a sort of forum within our website where people can communicate with each other, but we haven't done that yet" (*Appendix A*).

From the investigative interview can be concluded that the DSS has no clear objective of using social media platforms other than being visual, as stated in *Appendix A*. As stated by Jadine in the transcript: "We do not have actual objectives. The objectives are not very clear around that." Currently, the DSS implements the strategy documented in *Appendix E* and *F*.

The educational institution has no prior knowledge or expertise on social media platforms. However, content pillars have been developed in order to structure the usage of these social media platforms. Jadine stated that "a content pillar is a theme or topic that

is the basis of a general content strategy" (*Appendix A*). Yet, the experience of these content pillars are not researched based on the feedback from the users. Therefore, the effectiveness of these content pillars may not be in line with the user experience of the community. This is apparent as Jadine states: "currently we post content on different channels and this seems to be a challenge in itself" (*Appendix A*).

As a result, a gap emerges between the community and the DSS on social media. There is no knowledge on the user's opinion of the different kinds of posts, number of likes and whether the posts are shared. In short, there is a lack of understanding on what enhances the user's experience or what content is preferred to be displayed on social media. Furthermore, the DSS has not researched their current growth of being a community. There is no experience from the DSS on the growth of their community and what contributes to this growth.

The issue with the DSS is that the branding is ambiguous. The external partners and potential community members expect the institution to be a non-profit organization that is solely focussed on learning, because it is related to the Hogeschool van Amsterdam. Yet, the projects that the DSS provides are financed by the institution itself and by the industry or the partner. Besides the ambiguous branding of the DSS, the institution is inexperienced with potential affordances that might enhance the experience of the content to the users and have an idea of how the information of the educational institution is experienced on social media platforms.

The DSS attempted to allow trainees to create content for the social media platforms. However, this led to inconveniences, since the trainees are not aware of how to share the content in a professional manner that corresponds to the content pillars and utilizing affordances on social media effectively. This has an effect on the interactive aspect of the community within the social media platforms of the DSS. Due to this, the community is not able to interact properly on the social media platforms of the DSS. Therefore, the DSS questions whether social media is a sufficient method to communicate with their users. The DSS implements a blended learning in a digital and physical format. In addition, digital learning realizes interaction with people who do not see each other face to face. Therefore, communication is an integral component for the DSS.

The DSS consists of a broad community of people. On the website it states the following: "The DSS is made by many of us. Students, Researchers, relations in business and government and university staff form an ever growing network of kindred spirits" ("Community – Digital Society School" n.d.). The overall interest comprises people that

want to have a societal impact and this correlates with innovation. Furthermore, the DSS came to existence through the incorporation of buzzwords that created their identity such as, inclusion, diversity, digital transformation, etc. Although the DSS encompasses many different buzzwords to their identification of an educational institution, it raised the problem that the DSS lacks a concrete form of community. This correlates to the ambiguity of the definition that the DSS uses as a community. Despite the ambiguity surrounding the DSS, Jadine states that the DSS had little to no recruitment challenges for trainees.

Besides social media and a newsletter, the DSS utilizes Slack in order to facilitate the trainees to work together on their projects and to collaborate with the partners (Slack n.d.). The community on Slack consists of alumni, learners and former trainees. Consequently, a user that is not considered to be part of this community is able to become part of the community by completing the traineeship. Thus, the motivation of a trainee to become part of the community is to gain a learning experience and the social capital the DSS provides by connecting them to their partners.

The educational institution states that it has the desire to expand the community with more trainees and partners. In addition to the community on Slack, the DSS also considers employees, coaches, ambassadors, fellows, external partners, potential partners as part of their community. The motivation of these participants emphasize an issue in their organization and acknowledge the capabilities of the DSS to be able to solve this. Besides that, the organization also gains a learning experience and is able to recruit the trainee after their traineeship. Yet, user experience swallowed other possible perspectives to perceive what an interface is and how it could be. In the case of the DSS, it is fundamental to examine the potential of the reach the community has on different platforms and whether it is relevant to reach out to users through these specific media and how to utilize the features and affordances effectively.

To summarize, the DSS desires to be a virtual community on social media, but through the use of content pillars there seems to be a lack of interactivity with the users. The following section shall present the descriptives and whether this lack of interactivity is a reality. In the next section the focus is on measurements of the relevant social media platforms.

3.2. Social Media Measurement

In this section the research shall assess the social media measurement of the Digital Society School based on the data collected online. For the data collection, this research considers the use of a cross-platform analysis of existing externally created material, that consists of current social media data of the DSS. The mixed method approach allows data collection from a number of sources and provides a variety of perspectives than from a single data-gathering session. These data collection techniques are implemented in order to obtain general background information about the DSS, stimulating new ideas and creative concepts, diagnosing the potential issues of their service or program, generation of impressions, learning how members talk about the DSS and interpret the obtained quantitative and qualitative results (Pickard 2013 244). These are visualized in graphs and tables that represent each social media platform in the *Appendices I, J, K, L and M.*

Information available on social media platforms is uncomplicated. For instance, the information on Twitter is about tweets or about the users (Giglietto et al. 2012). Although the information is considered simple, combined it provides useful data on Twitter usage for posting topics and creating strategies to develop communities on Twitter (Giglietto et al. 2012). While social media platforms, such as Twitter, allow for an open source of information, Facebook experienced its success because it advocates for a sense of privacy protection and enabling users to share content with their community (Giglietto et al. 2012). Facebook developed a set of privacy settings and allowed users to make these settings usable. While data from Facebook and their profiles are private, the information is available for the public. In addition, ethnographic research on Facebook resulted in bias and tended to be challenging to generalize.

Therefore, data extraction allows for individual data collection techniques and new unanticipated concepts that can be further investigated (Pickard 2013). In this case, the extension of phantombuster.com ("Phantombuster." n.d.) and YouTube Data Tools ("YouTube Data Tools." n.d.) are used to retrieve data from the different social media platforms that the DSS is active on. These datasets are downloaded as csv files and imported in excel in order to visualize the findings and statistics of the different social media platforms. Tables are made in SPSS in order to get descriptives from the social media of the DSS. By performing medium specific data retrievals, a cross platform analysis of the different social media output allows for insights in the social environment and interaction on the platforms (Rogers 2009).

Profile meta-information consists of the entire available data on the profile from the 'about' and 'favorites' sections (Giglietto et al. 2012). For this research the profile meta-information consists of the number of likes, comments, followers, posts and views. For a more detailed analysis of the content the most viewed, liked and commented posts are analyzed in content and whether it fits to a predesigned content pillar that is stated in *Appendix D.* Besides that, a general picture of the total number of views, likes and comments shows the overall interaction and engagement the DSS has on their social media platforms. By assessing the platform's technological structure and the utilizations of the digital objects, such as likes and comments, the true implementation of the specific platform will be extracted. What follows are the measurements of the different social media platforms.

3.2.1. Youtube

On YouTube, the Digital Society School seemed to have generated the least interaction compared to the other platforms. This can be observed in the *Appendix N*, where the comment count per post is predominantly 0. Yet, there seems to be a minimum of likes distributed over the different uploads.

Statistics

		viewCount	likeCount	commentCount
N	Valid	82	82	
	Missing	0	0	
Mean		191.06	2.74	.06
Std. Error of Mean		35.254	.401	.032
Std. Deviation		319.239	3.634	.287
Range		2508	26	2
Minimum		0	0	0
Maximum		2508	26	2
Percentiles	25	46.25	1.00	
	50	84.00	2.00	
	75	249.75	3.25	

The DSS started their YouTube channel on the 13th of November in 2016 (“Digital Society School | YouTube.” n.d.). Moreover, their first post was on 23rd of June in 2017 with an introductory post called “Digital Society School” (“Digital Society School - YouTube.” n.d.). Currently, the YouTube channel has over 187 subscribers, 81 uploaded videos and a total of 15.606 views (“Digital Society School - YouTube.” n.d.). The upload that generated the most number of likes and views is “Global Goals Jam 2018 official aftermovie” (“Digital Society School | YouTube.” n.d.), which can be categorized as *events through our lens*. The video generated 26 likes and 2.508 views since it was posted on the 10th of august 2018. This result shows that there might be a positive correlation between the number of likes and comments.

Although these statistics show a significant number of users that view these uploads, the social networking on this platform seems to differ from their output. Overall, the total view count of the DSS shows a sudden peak at the 10th of august 2018 and after that the number of likes and views have been diminishing while the subscribers have been rising. The video that had the least number of views on the platform is “Government as a Bridge to innovation - Gemeente Haarlem” (“Digital Society School | YouTube.” n.d.) that was

posted on the 22nd of January 2021 with 15 views and 1 like. The interaction on the platform can be considered limited compared to the other social media platforms. This becomes apparent in the descriptives of *Appendix N*. The average like count is set at 2,74 and of comments the average is 0,06, which shows a shallow engagement (Alwash et al. 2019) based on the 191,06 average view count. In total the whole account managed to generate 5 comments on their 81 uploads. Moreover, 77 of these uploads were accompanied with 0 comments (deep engagement).

3.2.2. Facebook

Similar to YouTube, the Digital Society School portrays a lack of comments compared to the number of posts. In contrast, *Appendix J* illustrates that there is a significant number of likes on each post.

Statistics

		likeCount	Comments	Viewcount	
N	Valid	430	433	7	
	Missing	3	0	426	
Mean		3.45	.06	126.29	
Std. Error of Mean		.172	.014	39.820	
Median		3.00	.00	151.00	
Std. Deviation		3.560	.286	105.353	
Range		26	3	313	
Minimum		0	0	0	
Maximum		26	3	313	
Percentiles	25	1.00	.00	29.00	
	50	3.00	.00	151.00	
	75	5.00	.00	164.00	

At the time of recording, the DSS managed to generate a total 2.774 followers and 2.696 likes on the social media platform. This dataset takes into account the period from the 3rd of April 2018 to the 20th of October 2020 through 432 posts on the platform. The number of comments on the platform from the period of the 3rd of April 2018 to the 20th of October 2020 consists of a total of 27 and for likes it entailed 1484. The post with the most likes (26) in this period was with the description: “We really enjoyed the showcase!

And you?" on the 20th of June 2019 ("Digital Society School | Facebook." n.d.). Therefore, this post can be categorized as the pillar *Events*.

In addition, the post with the most comments (3) was on their first project on the 12th of June 2018 that endorsed an internship at a partner, which can be categorized as the pillar *Recruitment*. Moreover, this post was reshared 4 times. Facebook also allows for videos to be posted. The post with the highest view count (313) was posted on the 29th of October 2019 and generated 15 likes and 0 comments. Moreover, this post entails 35,4% of the total view count. The content of the post portrays what it is like to be part of the community of the DSS, which can be considered as a post that corresponds to the pillar *Culture shots*.

Furthermore, the majority of the posts with no comments consist of 409, which portrays a lack of interaction on the social media platform. The average number of comments is little to none (0,06) and an average of 3,45 likes per comment. The engagement and interaction of the users seem to be limited, as the average view count is set on 126,29. Nevertheless, the platform seems to have grown in the number of likes after its peak in June 2019. This is reinforced with the fact that posts that have no likes involve 20%. This shows that the majority of posts have shallow engagement (Alwash et al. 2019). In contrast to the significant number of likes, the posts that contain 0 comments are 409, which refers to 94,7%. This portrays a lack of deep interaction.

3.2.3. LinkedIn

The Digital Society School appears to have 39,3 percent of the posts to consist of at least a post as portrayed in *Appendix L*. This shows more deep interaction compared to the previous social media platforms.

Statistics			
	likeCount	commentCount	
N	Valid	163	163
	Missing	0	0
Mean		11.80	.74
Median		9.00	.00
Std. Deviation		10.701	1.195
Range		75	5
Minimum		0	0
Maximum		75	5
Percentiles	25	5.00	.00
	50	9.00	.00
	75	16.00	1.00

On the platform LinkedIn, the DSS consists of 1.836 followers, 1923 likes, 121 comments and 163 posts over a time span of 20th of May 2020 to 19th of April 2021. The mean of the number of likes is 11,73 per post and the average for the number of comments is 0,74. The post that contains the most likes (75) is posted on the 11th of March 2021. Moreover, the content of this post was on a new employee that was introduced, which can be considered as the pillar *People in the spotlight.*

With regard to the most comments, there are four different posts that contain 5 comments. The earliest post is on the 14th of April 2020. It is a post to gain attention in order to find another trainee for a project. Therefore, this post can be regarded as a *Recruitment* pillar. The next post is published on the 6th of November 2020 that promotes on courses the DSS hosts, this can be considered a *Courses* pillar. In addition, the second post is published on the 17th of January 2021 and refers to a previously held event of the DSS, which can be considered a pillar of *Events*. The most recent post is from the 23rd of March 2021. It presents the content of a project that the DSS is working on, which can be viewed as a *Spotlight the track* pillar.

3.2.4. Instagram

In *Appendix K*, the descriptives are presented on Instagram. Based on the like count and comment count, the platform generates interactivity.

Statistics				
	commentCount	likeCount	viewCount	
N	Valid	305	305	305
	Missing	2	2	2
Mean		.78	22.74	23.20
Std. Error of Mean		.064	.945	3.502
Median		.00	21.00	.00
Std. Deviation		1.113	16.506	61.167
Range		7	80	324
Minimum		0	0	0
Maximum		7	80	324
Percentiles	25	.00	12.00	.00
	50	.00	21.00	.00
	75	1.00	33.00	.00

On Instagram the DSS has published 304 posts, 237 comments, 7076 views and 6937 likes as of the 24th of April 2021. The posts that were retrieved from the dataset dated back from the 28th of August 2019 to the 19th of April 2021. The post with the most comments (7) dates back to the 15th of November 2018. This post announces an event for a programming course that the educational institution hosts, which can be considered as a *Courses* pillar.

Coincidentally, this post also has the most likes (80). The second post with the most comments dates back to the 28th of May 2020. Furthermore, the content of the post consists of a video of a deer being spotted at the location of the DSS, which can be categorized as a *Culture shots* pillar. The view count of this post entails 224 and it has no likes. Besides publishing images, the platform of Instagram also allows for videos to be posted, because of this it shows that the most viewed post (324) is that which shows content of what trainees are creating, which can be categorized as the content pillar of

DTIP content, that is published on the 15th of September 2020. Furthermore, it has generated 2 comments and 44 likes.

3.2.5. Twitter

On Twitter, the Digital Society School has on most occasions no comments or a little number of likes per post as presented in *Appendix M*.

Statistics

		commentCount	likeCount	retweetCount	
N	Valid	800	800	800	800
	Missing	0	0	0	0
Mean		.09	2.18	1.24	
Median		.00	1.00	1.00	
Std. Deviation		.315	3.075	1.908	
Range		2	37	18	
Minimum		0	0	0	
Maximum		2	37	18	
Percentiles	25		.00	.00	.00
	50		.00	1.00	1.00
	75		.00	3.00	2.00

The DSS has been most active on Twitter, since it has generated 4925 followers, 5049 posts, 72 comments and 1742 likes. The DSS tweets have been retweeted 988 times. These descriptives are displayed in *Appendix M*. The dataset considers the timespan of the 7th of May 2012 to the 2nd of March 2021. The like count is most often than not underneath the 10 likes on a tweet. However, three tweets seem to have had a positive reception over others. The tweets were posted on the 14th of February 2017 (30) and the 2nd of March 2019 (27), both these posts show achievements that have been achieved by a track (*Spotlight the track*). The tweet with the most likes is 37. This tweet promotes the Global Goals Jam, which is considered a partner of the DSS where they collaborate on projects. Therefore, the tweet can be considered a Partner *in the spotlight*. Coincidentally, this tweet also contains the most retweets (18).

Besides that, the tweet with the most comments (2) are 7 tweets that fall under the following pillars: *Culture shots, Events* and *Spotlight the track*. The mean of the number

of tweets is 0.09, which shows that there is limited interaction on the content of Twitter. On 735 of the 800 tweets there are no comments. The number of likes and retweets do not seem to increase nor diminish in the graphs.

3.2.6. An Overview: the Digital Society School on Social Media

Social Media Interactivity Digital Society School (Total)					
Platform	Followers/Subscribers	Posts/Tweets/uploads	Comments	Views	Likes
YouTube	179	82	5	15.667	225
Facebook	918	432	27	884	1484
Twitter	4.925	5.049	72	-	1742
Instagram	1190	304	237	7076	6937
LinkedIn	1836	163	121	-	1923

An overview of the different social media platforms leads to the following findings. The total interactivity on the social media platforms of the DSS are retrieved over different periods, since the data would be too limited to research or the program Phantombuster would not have been able to retrieve all the data of the social media posts of the Digital Society School. Furthermore, the Digital Society School has been more active with posting on Twitter in comparison to YouTube, the amount of data differs significantly. Besides that, the specific usage and culture of the platforms are to be considered, for instance YouTube is a platform that has the main purpose of presenting videos. Therefore, it is no surprise that the platform has generated an overwhelming number of views. Based on this observation, the DSS does not stand out with regard to community engagement in a particular platform.

In the next section, the heuristic evaluation shall be addressed to confirm whether the interaction on these social media platforms correspond to the experience of the users.

3.3. Heuristic Evaluation

In this section a heuristic evaluation is introduced in order to examine the user's experience of the social media platforms that the Digital Society School are active on. The goal of heuristic evaluation is to find the usability problems in the design, so that it can be solved as a segment of an iterative design process, which is in this case for the content pillars of the DSS (Pickard 2013). The emphasis of this research is to examine, measure and explore the experience of interaction and engagement of the DSS community on social media. This will allow for more insight for the reason behind the lack of engagement the DSS has with their audience.

The purpose of the method of the heuristic evaluation is to enable a range of perceptions and emotions from respondents. The examination of the platforms through the eyes of the users will allow for identification of perceived issues with the DSS. Purposive sampling is based on the key informants that have detailed knowledge on the case and allow for the key informants: the participants of the community of the DSS, more specifically the "social actors" (Pickard 2013 105), to share their experiences, which in this case are the trainees.

The process involves having a small set of evaluators examine the interface and judge its compliance with recognized usability principles. To assess the specific case of the DSS, the interaction design of the social media platforms emphasizes the intersection between the community on the platform and the user interface (UI). The difference of the commonly used heuristic evaluation is that it focuses on interfaces, rather than social media usage on virtual community activity.

The principles that are used for this research are based on Jakob Nielsen's 10 general principles for interaction design (Nielsen 1994), the content pillars that the DSS implements as their current strategy (*Appendix D*) and the principles of community heuristics as presented in *Community Heuristics for User Interface Evaluation of Crowdsourcing Platforms* (Campo et al. 2019). Based on these sources, the heuristics address the design of the platforms, the specific use of the DSS and the user experience of the community that is present on the platform and connected to the educational institution and are explained in *Appendix G*.

The heuristics implemented in this research follow a similar process as the usability evaluation of Jakob Nielssen (2007) as displayed in *Appendix C*. However, the description and process have been altered and re-defined with the objective to explore

and generate results from existing applicable content pillars and heuristics that affect and define communities on social media platforms as presented in *Appendix G*.

A debriefing will allow for verification of the obtained interpretations. The participants are given an opportunity to read their case reports and leave comments on the content accompanied by their interpretations. For this collective case study design a phenomenological analysis is conducted when the individual cases have been collected and the different phenomena are determined.

"Phenomenological analysis is concerned with discovering the underlying structure of experiences" (Pickard 2013, 268). It emphasizes a detailed understanding of the phenomena under investigation as it is experienced by the individual, which in this case is the community building of the DSS on social media platforms (Pickard 2013). Therefore, the results of the evaluators' experience is used to determine how to effectively utilize a social media platform based on the content and target audience in order to create online communities and may show on which platform this objective is most likely to succeed. As Jane Pickard stated, "The end result of this approach is a detailed, systematic and exhaustive account of an event presented as descriptive narrative" (Pickard 2013, 268).

Moreover, the heuristic evaluation is conducted by 5 evaluators, since the overlap of identified issues will outweigh the benefits of additional evaluators (Pickard 2013, 132). The evaluators are given a set of predetermined guidelines and principles. These guidelines are conceived as 'free-flow' evaluation in contrast to the 'task-based' evaluation of cognitive walkthroughs (Pickard 2013, 131). The evaluation should be done by experts, as this allows for deeper understanding of levels of compliance and suggested improvements. By being part of the virtual community, it allows for the experts to provide an ethnographic approach on the technical and cultural understanding of the different platforms (Giglietto et al. 2012). It will implement elements of Quentin Jones's (1997) 'virtual settlement theory' that explores the requirements of a community in a digital environment.

According to Allison Jane Pickard (2013) heuristic evaluation is conducted by acquiring a general foundation of information about a subject of interest, stimulating novel ideas, diagnosing the potential for issues with a service or product, creating impressions of the subject and studying how respondents communicate about the phenomenon of interest that facilitates quantitative research tools. The user experience can be based on many different factors. As stated in the literature of Alison Jane Pickard:

“to carry out data analysis it is necessary to be open to all eventualities and not allow prior theory to drive the analysis. The emphasis must always remain on theory emerging from the data” (Pickard 2013, 106).

To summarize, the objective of this research is to utilize media platforms effectively to create a form of community building online. Since user experience is subjective and is based on occurrences presented on the social media of the DSS, a phenomenological analysis will be used to examine the output of what can be observed on social media. It utilizes categorization of the content and affordances that will allow for opportunities for the DSS to effectively implement, as stated by Alison Jane Pickard: “the creation of initial categories or themes will not only inform the analysis, it also allows you to identify salient issues which may need to be revisited during subsequent phases of the fieldwork” (Pickard 2013, 107).

3.3.1. Content Pillars

As stated by Jadine, the content pillars are fundamental for the communication with the community on social media. For this reason, the research assesses the content pillars of the DSS that are presented in *Appendix D*.

What motivated the respondents to engage with the content on the social media platforms were the interesting projects and courses the DSS was providing in their posts. However, the majority of the users would only consider interacting through the use of comments and likes if the content was related to a topic or project the trainee was working on. A respondent mentioned a ‘hierarchical’ setting on the social media platforms of the DSS. This setting made the threshold to comment or leave a like too high due to the formal setting of the educational institution on social media and the global status it has on these platforms.

Furthermore, a respondent also remarked that: “Personally I do not feel particularly motivated to engage with the content - to be honest if I was not already affiliated with DSS, I am not sure I would understand what exactly the DSS is about.” This was due to the posts not being clear enough for the user. The posts contained a lot of text and visually there was no unifying theme.

The respondents remarked that the affordances and features, such as likes and comments, did not contribute to the engagement of the posts of the DSS. Consequently, the number of likes and comments were perceived as only liked by the DSS and their alumni and employees. This made the threshold for not only newcomers to leave a like

too high, but also for the trainees as well. Trainees would only engage and interact on a post when the content was related to their own project or if it was related to someone they personally know.

A platform that was considered to have a lot of potential on the basis of user experience was YouTube. The DSS as an educational institution can share a wide variety of content pillars, such as *Podcasts* and *Courses*. Besides that, all the respondents mentioned YouTube to be used for educational purposes. However, YouTube is restricted to video content, which rules out other forms of posts, such as articles, publications or events.

Furthermore, respondents perceived that the DSS would go out of their way to mention people in Facebook and LinkedIn in the pillars *People in the spotlight*. Twitter enables the sharing of content that is not only about the DSS, but is related to the interests of the community. However, while this was perceived as holistic by a respondent, someone else would perceive it as distracting from the objectives of the DSS. These content pillars are represented in *Appendix D* and the product of the evaluation is stated in *Appendix O*.

The content pillars that were perceived with the highest value of efficiency on LinkedIn were: *Events* (5), *Courses* (5), *Method Monday* (5), *Recruitment* (5) and *Podcast* (5). The lowest valued pillars on LinkedIn were: *DSS Month view* (0), *DTIP Content* (1), *Project Kickoff* (2), *Partner in the spotlight* (2) and *Culture shots* (2).

The lowest valued content pillars on Twitter were: *Project Kickoff* (0), *DTIP Content* (0), *Recruitment* (0), *DSS Month view* (1) and *Spotlight the track* (3). On the other hand, the highest values for efficiently implemented content pillars on Twitter were: *Events* (5), *Courses* (5), *Podcast* (5), *Culture shots* (5) and *People in the spotlight* (4).

The lowest valued content pillars on Instagram were: *Project Kickoff* (0), *DTIP Content* (0), *DSS Month view* (1), *Partner in the spotlight* (1) and *Recruitment* (1). The highest valued on Instagram were: *People in the spotlight* (5), *Method Monday* (5), *Podcast* (5), *Culture shots* (5) and *Spotlight the track* (4).

The highest valued content pillars on Facebook were: *People in the spotlight* (5), *Spotlight the track* (5), *Events* (5), *Culture shots* (5) and *Courses* (4). The lowest valued pillars on Facebook were: *Project Kickoff* (0), *DTIP Content* (0), *DSS Month view* (1), *Partner in the spotlight* (2), *Method Monday* (2).

The lowest valued content pillars on YouTube were: *DTIP Content* (0), *Method Monday* (0), *Recruitment* (0), *Podcast* (0) and *People in the spotlight* (1). On the other

hand, the highest valued content pillars on this platform were: *Events through our lens* (4)*, Events* (4)*, Culture shots* (4)*, Partner in the spotlight* (2) and *People in the spotlight* (1).

Initially, these observations portray a concrete image of how respondents perceive the Digital Society School on social media. On the other hand, the community heuristics allow for elaborate insights based on these observations in the following section.

Content Pillars					
	Facebook	Instagram	LinkedIn	Twitter	YouTube
People in the Spotlight	5	5	4	4	1
DSS Month view	1	1	0	1	1
Spotlight the Track	0	0	2	0	1
Project Kickoff	0	0	2	0	1
DTIP Content	0	0	1	0	0
Events through our Lens	3	4	4	4	4
Events (own or faculty)	5	4	5	5	4
Courses	4	3	5	5	1
Partner in the Spotlight	2	1	2	3	2
Method Monday	2	5	5	3	0
Recruitment	3	1	5	0	0
Podcast	3	5	5	5	0
Culture Shots	5	5	2	5	4

3.3.2. Community Heuristics

In this section, the community heuristics that are assessed can be referred back to in *Appendix G*. When the respondents were asked why they use social media. The dominant answer was to social network and interact with their communities. However, it was also used for job opportunities, leisure and to gain inspiration. In short, besides a way to stay in contact, it was a source of information for the respondents.

A virtual community according to the respondents was an environment where one has the sense of belonging and as a source of information. Moreover, the respondents mentioned also the fundamental element of interaction and engagement as part of the definition of a virtual community. The DSS was only perceived as a virtual community on the platform Slack or through the newsletters. However, most respondents did not participate in the communities of the DSS on the social media platforms of YouTube, Twitter, Instagram and Facebook. LinkedIn was an exception to this, because most respondents came into contact with the DSS through the platform.

Where LinkedIn was often used for professional purposes, YouTube was utilized the most for educational purposes. LinkedIn and Facebook were perceived by the respondents' experience as a formal setting to participate in social networks, as the affordance of leaving a comment made it easy for users to stay in touch with others. However, when asked on which social media platform the respondents would be willing to actively participate in a virtual community, Facebook was the most mentioned platform. Facebook was experienced as a platform where users would offer help and share advice. Therefore, the platform allows for a community feeling under the respondents. The platforms that were used the least under the respondents were Twitter and Instagram.

These notions can be observed in the following community heuristics (*Appendix P*):

1.1. Clarity: The DSS was perceived as a means to broadcast and inform newcomers and alumni of digital practices and services. The respondents experienced that the majority of the content shared over these platforms were related to courses, promotion and recruiting newcomers. The usage of the platforms was towards branding rather than building a virtual community by articulating who their partners are and the projects the organization is working on.

1.2. Visibility: The respondents perceived that 60% conveyed to some degree visibility and 40% did not. There was an absence of conviction that the newcomers are

enticed by the social media platforms of the DSS nor did it give a common frame of reference.

1.3. Idealism: Based on the user experience of the respondents, the Digital Society neglected to activate new users to join the community on social media. This was apparent, because 60% answered 'no' and 20% were 'yes' and 'semi.'

2.1. Moderators: The overall experience of the users was an absence of moderators that were active on the social media platforms of the DSS. Therefore, mistakes in their communication were made on their platforms. In this case, 60% answered 'no' and 20% answered 'semi' and 'yes.'

3.1. Deep profiling: the social media platform of the DSS did not allow for users to interact with other users or community members. This was apparent, since 80% of the users answered 'no' and 20% 'yes.'

3.2. Lifecycle: The social media platforms of the DSS facilitated the members to be welcomed and rewarded to some degree. Respondents of which experienced this with 'semi' are 60% and 40% 'no.'

3.3. Recruitment: A community pursues to expand and sustain an active group of members. The social media platforms of the DSS allow this to a certain extent with 60% 'semi', 'yes' and 'no' with 20%.

3.4. Virtual co-presence: the community of the DSS on the social media platforms give the impression that it is inactive. This is perceived by the respondents with 60% answering 'no' and 40% stating 'semi.'

4.1. Subgroups: The DSS does not facilitate mechanisms that increase the probability that members encounter people with similar interests by creating subgroups on their platform. This is reinforced by 80% of the respondents stating 'no' and 20% answering 'yes.'

4.2 Diversity: This was the heuristic that all the respondents agreed upon that the DSS was able to realize. Therefore, the DSS successfully presents the user a wide range of interests and perspectives. The diverse interests and perspectives are represented properly and may lead to a new diverse group of new community members.

4.3. Events: The DSS provides events through their social media platforms that contribute to the image of the educational institution and the community. This is evident due to 60% of the respondents answered 'yes' and 40% 'semi'.

4.4. Rituals: The opinion of the respondents were scattered on the notion of rituals provided by the DSS on their platforms that make members engage and familiarize

oneself to the DSS. In this case, 40% answered ‘no’, 40% answered ‘yes’ and 20% answered ‘semi.’

5.1. Request list: It was evident that the DSS contributes to the community by providing traineeships, internships, jobs and other opportunities. This was reinforced by 20% that stated ‘no’ and 40% of the respondents answering ‘yes’ and ‘semi.’

6.1. Reputation: The DSS showcases their achievements, which helps users to understand the usage of the platform. According to the respondents, 60% answered ‘yes’ and 40% answered ‘semi.’

6.2. Motive: The brand and motive of the DSS are not clear to the users. This is reinforced by 60% answering ‘no’ and 20% answering ‘yes’ and ‘semi.’

6.3. Aesthetics: The respondents experienced the social media platforms of the DSS as an attractive platform that provides a professional user experience without inconsistencies or technical difficulties. This is evident due to 40% stating ‘yes’ and 60% ‘semi.’

These community heuristics indicate that there is a gap between what is observed in the social media measurement and what the respondents experience. The debriefing in the next section portrays this gap through the remarks of the respondents and the literature.

Community Heuristics			
	Yes	No	Semi
1.2. Purpose: Visibility	3 (60%)	2 (40%)	0 (0%)
1.3. Purpose: Idealism	1 (20%)	3 (60%)	1 (20%)
2.1. Moderation: Moderators	1 (20%)	3 (60%)	1 (20%)
3.1. Members: Deep Profiling	1 (20%)	4 (80%)	0 (0%)
3.2. Members: Lifecycle	0 (0%)	3 (60%)	2 (40%)
3.3. Members: Recruitment	1 (20%)	1 (20%)	3 (60%)
3.4. Members: Virtual Co-presence	0 (0%)	3 (60%)	2 (40%)
4.1. Common ground: Subgroups	1 (20%)	4 (80%)	0 (0%)
4.2. Common ground: Subgroups	1 (20%)	4 (80%)	0 (0%)
4.3. Common ground: Diversity	5 (100%)	0 (0%)	0 (0%)
4.4. Common ground: events	3 (60%)	0 (0%)	2 (40%)
4.5. Common ground: rituals	1 (20%)	2 (40%)	2 (40%)
5.1. Contribution: Request list	2 (40%)	1 (20%)	2 (40%)
6.1. Platform: Reputation	3 (60%)	0 (0%)	2 (40%)
6.2. Platform: Motive	1 (20%)	3 (60%)	1 (20%)
6.3. Platform: Aesthetics	2 (40%)	0 (0%)	3 (60%)

3.3.3. Debriefing

In this section, the debriefing describes the overall findings and responses of the participants in the heuristic evaluation. The respondents were of the opinion that they experienced too many different types of content that was being posted on the platforms of the Digital Society School. Therefore, it was not clear what the core of the DSS was. In addition, content pillars such as *DSS Month view*, *DTIP Content* and *Project Kickoff* were not identified on the platforms. However, the users also experienced difficulty identifying different content pillars, because the pillars seemed to overlap with others.

The users experienced the lack of testing of the type of content that works for each kind of platform and the users desire. Additionally, this shows that the branding components seem to be absent in the various information of the platforms. This resulted in inconsistencies in the content, such as the visual aesthetic of the same post on different platforms constantly changing and leaving the user in a disarray. Thus, the content did not activate users to interact with the community through the means of feedback that would lead to an increasing interaction. Consequently, the conceptual framework of the current use of the DSS can be altered based on the user experience.

Moreover, the users experienced that the content that was posted seemed not to suit the platform's cultures due to the limited reach of the content and not resonating with the different audiences on the platforms. It was perceived as broadcasting that is relevant for newcomers who are intrigued with the concept of the DSS, but the content was not relevant for the virtual community that consists of the alumni and trainees. Consequently, the pillars did not motivate users to interact and participate on these social media platforms.

Rather than suggesting concepts of new pillars, the respondents implored the DSS to clearly articulate the objectives of the DSS in their posts. A respondent proposed translating the mission of the organizations into the posts and tailoring the content pillars to the culture of the specific platform. This reinforces the notion that the interface is a cultural phenomenon with a structured set of codes (Hadler 2018). Besides that, the respondents suggested a content pillar that motivated trainees to share questions that engage with the community and give them room to share their own experiences on the different social media platforms. Another recommendation of a respondent is to incorporate track-personalized posts to evoke engagement.

The implementation of Slack allows for the trainees to participate in virtual community activities, such as interacting with one another and creating subgroups. For

this reason, the users would suggest to use the other social media platforms to broadcast information, rather than creating a community on the platforms. However, on the other social media platforms the respondents experienced a sense of hierarchy or formality, this made users cautious when commenting or liking posts, since it will have effect on the image of the user on the platform as well. While a few respondents prefer the use of Slack above the other social media platforms, other users expressed that the DSS should manufacture owned media as to have complete control of their own image instead of it being scattered and fragmented over different social media platforms and gives rise to confusion.

Based on the social media of the DSS, the interaction between the user and the educational institution is limited. Although there are many followers and subscribers to the platform of the DSS, the interaction that is presented through likes and comments is little to none. As presented in the tables and graphs of each platform in *Appendix J, K, L, M and N.* This shows that there is an overwhelming number of posts that do not have any likes or comments.

Thus, the user experience on social media platforms questions contribute to a sense of virtual community of the concept that is stated by Jones (1997) and Rheingold (1994). The evaluation portrays that the DSS has a variety of communicators, such as the trainees, alumni, partners, etc, to be present on the social media platforms. It may be questioned whether a minimum level of interactivity is realized and an absence of stable membership on the social media platforms of the DSS, since the majority of the trainees do not use the social media platforms of the DSS. Therefore, based on the user experience, it may be concluded that the educational institution does not live up to the minimum conditions of a virtual community according to the ‘virtual settlement theory’ (Jones 1997).

4. Discussion, Limitations and Suggestions for the Digital Society School

This chapter comprises the discussion, limitations and suggestions of the research of the case study of the Digital Society School. The following chapter shall assess the following question:

Against the theoretical background of virtual settlement theory and based on the case study of the DSS, how should an organization use social media in order to develop as a virtual community, and therefore reap the possible benefits of being one?

To answer the question whether the DSS can be considered as a virtual community on these social media platforms based on the 'virtual settlement theory' of Jones, because it contains a minimum level of interactivity and stable membership, a variety of communicators and an interactive group computer-mediated communication on a virtual public space. In this case, the DSS allows for various forms of group computer mediated communication.

Nevertheless, it does not reap the benefits of it. The answer is that it can be regarded as a community on a cyber-place, but because of the lack of interaction of the user experience through comments and likes, it is not a virtual community itself according to the 'virtual settlement theory' of Jones (1997). Consequently, based on the experience of a lack of interactivity on the platforms by the users, it is not a new form of community created through the use of computer mediated communication (Jones 1997).

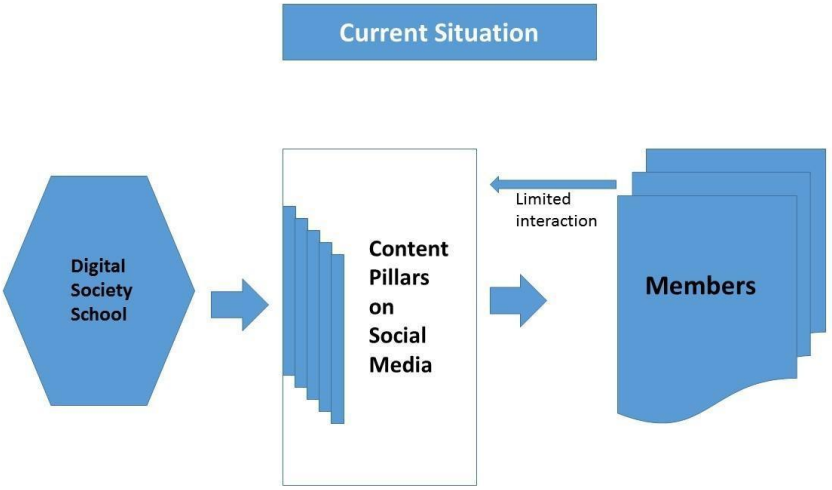
Despite this insight, the experience of the user is disregarded in the process of the emergence of virtual communities within the DSS. An user would not partake or associate with a virtual community on different forms of social media through the use of the current content pillars.

Furthermore, the findings showed that users prefer traditional communication channels over the social media channels (Constantinides & Stagno 2011). Although students are active when following social media through the number of followers, the impact of these platforms in the choice to commit to a community is low compared to traditional forms of marketing. Therefore, Jeffrey A. Hall's (2018) notion that

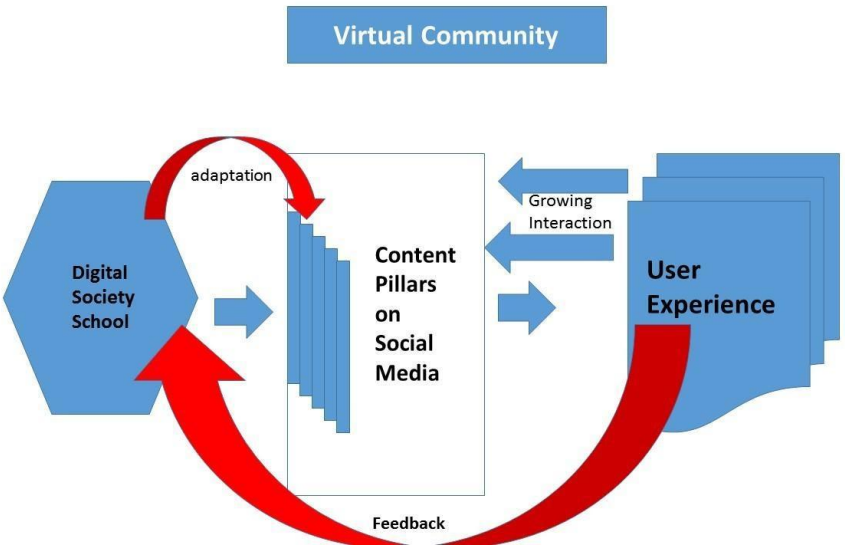
broadcasting is not to be confused with social interaction has been confirmed in this study.

4.1. Discussion

In this section, the discussion consists of an analysis based on the findings of the research and the synthesized literature. In the interview with Jadine, the following situation displays how the Digital Society School implements their content pillars on social media. The result of this is limited interaction from the members as stated in *Appendix B*.



According to the insights of Jones's 'virtual settlement theory', a virtual community can be realized based on the user experience of this research. If the Digital Society School enables adaptation within the content pillars, the users will be activated to grant feedback, which allows for a growing interaction that as result will allow for the emergence of a virtual community.



In the case of the Digital Society School, an approach that considers classic advertising, shall not realize engagement in the form of likes, comments and shares on social media. This is reinforced by Jadine, "The bigger the community is, the better we can sell courses to them and we can do projects with external parties. Within a community there we also can communicate with partners" (*Appendix A*). Consequently, the content pillars can be considered insufficient for the creation of a virtual community as we refer back to Rheingold (1994) and Jones (1997). This research has shown how integral it is for a community to be adaptable and contingent in a digital environment. The DSS should be able to use the content pillars as a means to inspire users to engage and share it. As Peters et al. stated "organizations need to learn to feed and nurture their network base - a living organism" (Peters et al. 2013, 295). If the brand does not feed the network, it will resort to another source of consumption.

When examining the engagement of value propositions of the social media of DSS, the shallow engagement did not lead to deep engagement. While there was a correlation in the posts that had the most comments and also the most likes, it not always appeared to be the case. This was due to the brand proposition being inconsistently clear as stated in the user experience in *Appendix O* and *P*. Therefore, it affirms Hall's (2018) notion that a one-click acknowledgment does not strengthen a relationship, since the acknowledgment of a post without a directed comment is inherently not social interaction as it fails the condition of exchange between the viewer and the broadcaster (Hall 2018). Nevertheless,

the shares show a well-designed social network on Twitter, because users act as distribution agents for social network purposes (Guo 2013).

The relatability one has on the content of a post affects whether the person will comment, like or share it. This will enhance how attractive a post is perceived to be. It will result in a general interest in a brand, which may lead to more interactivity on the platforms. Links affect the interactivity on a platform negatively, as users that click on a link are not able to comment anymore, since they are redirected away from the social media platform (Vries et al. 2012). Finally, organizations should allow for feedback on their social media, as negative comments may allow for insights from the user where the DSS can improve on. This may lead to users to feel as part of a community, because they engage with the post of the organization and start a discussion.

Nevertheless, it is not a virtual community itself. Rheingold (2000) states that a virtual community is distinguished from other computer media communication, because it allows for public discussions and establishing personal relationships on the platforms. However, the DSS is perceived by the users for the use of broadcasting on the different social media platforms and pursuing social capital, rather than stimulating users to share knowledge other than offering courses (Campo et al. 2019). This form of communication does not allow or motivate the users to engage with the content, rather the institutional messages from the DSS were perceived to be challenging to make sense of by the users.

Based on the findings, the DSS considers these platforms similar to early communication theory: the mechanical fashion rather than the receipt of a message, the variety of senders' motivations and types of contexts (Lammers 2011). Therefore, the interpretation of a message is the responsibility of the receiver, rather than the sender. Consequently, the social-networking experience of adoptability is difficult to discover through the usage of the social media platforms of DSS and not implementing the culture that is on the platform (Guo 2013). Interface design is based on decisions that form a chosen idiom, affordance and design that will define human computer interaction. Lialina states that design of a user interface influences our daily life more than we would initially understand (Lialina n.d.). User interfaces affect how humans understand processes and form relations with communities or institutions that provide services. In short, interfaces describe the roles computer users play in media and computer culture (Liliana n.d.).

To answer the question whether the DSS should use social media to be considered a virtual community and therefore reap the benefits of being one; it can be regarded as a virtual community on these social media platforms, yet it does not receive the benefits of

it. The answer is that it can be regarded as a community on a cyber-place, but because of the lack of interaction through comments and likes, it is not a virtual community itself based on the virtual settlement theory of Jones (1997) and the user experience. The DSS can be considered as a community on social media platforms. Based on the theory of Jones (1997), the media consists of: a variety of communicators, a level of sustained membership and a virtual common-public space. However, the virtual common-public space is experienced with a lack of participation. This is amplified by the lack of motivation of the users to contribute to the social media of the DSS. In addition, the 'virtual settlement theory' of Jones (1997) might have to include the user experience within the requirements of a virtual community based on the findings of this research.

4.2. Limitations

With regard to all research, this investigation is subject to limitations. In this case study, this thesis also contains limitations which may provide for future research on virtual community building on social media platforms. The particular case of the Digital Society School was put to the test. Therefore, this research can be considered only as an example to research other organizations on multiple platforms that strive to create a virtual community. The research has examined 12 applications of 6 heuristics based on the community heuristic of Campo et al. (2019). Moreover, the use of these heuristics can be further examined and refined to suit social media research more sufficiently. Heuristics are considered as rules of thumb (Nielsen 1995). Thus, the results of this research are dependent on the user's experience on the content pillars and community heuristics.

A cross-platform analysis has been realized by manual coding is time-consuming if there is a vast amount of data and sampling the data is difficult, since results can be skewed to the extremes (Giglietto et al. 2012). Therefore, a mixed methods approach made it possible to research the complexity of this particular case of the DSS. However, the methodological requirements in order to research this phenomenon is not only restricted to a specific scientific field. For this reason, a collaboration among scientists that derive from different fields is fundamental to combine different perspectives of user's experiences may allow for in-depth analysis (Giglietto et al. 2012). This is executed through a small group of evaluators that consists of 5 trainees of the DSS.

The data was sufficient to research what contributes and what abstructs virtual communities on social media. However, a deeper examination of the data could gain more insights and new theories on the usage of social media for institutions. Therefore, it may be considered to research each social media platform into depth, rather than a cross platform analysis. As mentioned by Giglietto et al. (2012) that classical distinction between ethnographic and statistical approaches, even if complemented by computational methods, is hardly able to describe all the ways in which social media data can be used to understand online users' behaviors. This research evaluated the system based on these 'free-flow' guidelines and principles to comprehend the willingness of users to participate in an online educational community, but a cognitive walkthrough would also have been a viable option as research method.

Moreover, it would be interesting to compare other social media platforms as well. For future research, Slack is an interesting platform that does allow for virtual communities to thrive instead of the other social media platforms. Besides that, it is beneficial to assess what affordances and features allow for more engagement and interaction in order to maintain a virtual community on this platform. By comparing multiple platforms, it has offered different user experiences and amplified the apparent distinction between YouTube, Facebook, Instagram, Twitter and LinkedIn. Each platform has different forms of usage, such as LinkedIn being a means of professional networking, Facebook to bring together friends on a global scale, Instagram is a visual platform that emphasizes the sharing of images or videos to an audience and YouTube consists mainly of viewing videos online.

In order to examine the perceived issue of a lack of interaction and reach of the different social media platforms of the DSS, the research conducted different forms of research methods, such as an interview, data collection and heuristic evaluation. Yet, further research might uncover the user experience on institutional messages and why it does not invite users to interact with the content. Future work would benefit from enhancing the efficiency of applying heuristics.

Besides that, the content pillars of the DSS are assessed, but different perspectives might allow for more insights on how to use media efficiently. Therefore, considering other user experiences than trainees. The respondents seem to have been critical, yet we cannot rule out any form of bias, since only this group was considered. It might be resourceful to conduct a user experience with other groups as well, such as alumni, employees, new comers etc.

However, so far the experience of the user is disregarded in the process of the emergence of virtual communities. It determines whether one would partake or associate with a virtual community on different forms of social media through the use of the content pillars. The theoretical framework presents disjoint studies on specific media topics with regard to virtual community, social media and user experience. Yet, this barely scrapes the surface of potential knowledge on these topics. For future research, it would be advised to research the specific topics and to reassure what we have learned from all these studies. The next section leaves room for suggestions that not only the DSS might benefit from, but also academia.

4.3. Suggestions

In this section, suggestions shall be made for the Digital Society School on the use of their social media and how to be able to effectively create an engaging and interactive virtual community on these platforms. The challenge of organizations, such as the DSS, is to not stop with the communication of the brand through integration of the multiple uses of the different social media platforms. However, organizations should be aware of the two-way communication and the interactive experience of the user as presented in *Appendix B*. What this research showed is that the user experience is integral for organizations to connect with their community. The users allow for key insights on innovation, quality issues and the need of structuring on the use of social media by organizations. When integrating these insights properly by the organization on their own social media usage, the user shall be activated to communicate and feel the need of a 'central content hub' (Peters et al. 2013) that brings all these different social media platforms together, which is realized on Slack.

Through User Generated Content (UGC), multiple categories can be determined for the divergent social media: blogs (Twitter), content communities (YouTube) and social networks (Instagram, Facebook and LinkedIn) (Peters et al. 2013). These different forms of social media demand different measures to capture network characteristics, dynamics that reflect egalitarianism, contingency of shared information and the application of a particular social medium (Peters et al. 2013). This prevents interactivity, such as shares, comments and likes and results in an unbalanced distribution of these measures may affect the reach of the traditional media (Peters et al. 2013).

Future posts should also be critical on brand posts that have the main purpose to entertain, as this might be unrelated to the brand and diverge from the image or message the organization wants to convey (Vries et al. 2012). This can be observed in the absence of likes and comments on the posts of the DSS. The results also presented that users are influenced by each other, as mentioned by the trainees. This reinforces that unfocused interactions are one-click messages, such as likes, that are not associated with social interaction or relatedness, which does not establish a sense of relatability (Hall 2018).

Additionally, this resulted in a lack of User-Generated-Content to the platform, this became apparent with the majority of the comment and like count to be 0 on the social media platforms. When organization's strive to become a virtual community, based on the 'virtual settlement theory' of Jones (1997), interactivity is to be realized. This can be accomplished by enhancing the number of likes and comments with medium interactive brand posts, such as a question or another content pillar that emphasizes on the engagement of the user.

Users prefer traditional communication channels over the social media channels (Constantinides & Stagno 2011). Although students are active when following social media through the number of followers, the impact of these platforms in the choice to commit to a community is low compared to traditional forms of marketing. Besides that, in the evaluation users stated that their behavior consisted mainly of browsing through the content and when this increases, the perception of social interaction seems to decrease. Therefore, Jeffrey A. Hall (2018) states that broadcasting is not to be confused with social interaction or relational development, rather to a concept as advertising.

5. Conclusion

In conclusion, in consideration of the grounded theory in the literature research on virtual communities, social media and user experience, the research investigated the case study of the Digital Society School and the user experience of their media usage based on social media measurements and heuristic evaluations with regard to their virtual community. Based on the results of this research, the DSS focuses on social capital and broadcasting rather than realizing virtual community building on these social media platforms in practice. Consequently, it may be questioned that the engagement of the interaction of the virtual community is lacking.

To answer the question: *How do organizations create virtual communities on social media based on the user experience of the community?* We have to refer back to the 'virtual settlement theory' of Jones (1997), which states that the DSS has to meet the following requirements: minimum level interactivity, variety communication, common public space and a minimum level of sustained membership. Additionally, it was determined that the DSS allows for various forms of group computer mediated communication, rather than enabling a new form of community created through the use of computer mediated communication on these platforms. Consequently, in the case study of the DSS, the user experience proved to be fundamental for the determination of a virtual community.

While the social media measurement proves that the DSS meets these requirements, it differs from the user experience evaluation of the content pillars and the community heuristics (Campo et al. 2013) that states that the DSS is mainly using these social media platforms as a means to broadcast and holds little to no interaction. Moreover, it may also be questioned whether it corresponds to Rheingold's description of a virtual community being a social aggregation that facilitates public discussions and forms personal relationships (Rheingold 1994).

As stated by Jadine van Ooijen, the institution is lacking a clearly formulated objective on how to expand and maintain their community on social media platforms. Suggestions for the DSS might be to invest in users feedback on these platforms by altering the content pillars in order to create a 2-way communication. The users experienced the content pillars as confusing due to the fact that there are different categories that seem to overlap with each other. However, the DSS was perceived as a virtual community on Slack and through the newsletters. Therefore, the DSS can consider using these platforms

as a means to broadcast to relevant newcomers. Another suggestion was to create owned media, so the DSS is not anymore restricted to the cultures of other social media platforms.

Furthermore, the research shows that user experience is a fundamental element to virtual community building and a rich source for the research of social media platforms. Through this research, it has become apparent why the community does not interact with the social media platforms and that the DSS should consider the culture of platforms and expectations of users. Therefore, proving the notion of Jeffrey A. Hall (2018) that broadcasting is not social interaction or relational development, but advertising.

Finally, this research calls for further research on social media, and more specifically, how it is used and experienced in order to create virtual communities. In addition, this research pretends to adjust the community heuristics and content pillars based on future research. This research shows that the term virtual community on social media is one that has altered over time. It has become apparent that the naming and framing of the term virtual community is still ambiguous and dispersed over time. Therefore, future research may consider examining the new use and purpose of the term ‘virtual community’ in new media culture. Of course, it is not integral that an organisation can call itself a virtual community according to the standards stipulated by academia. The essence is that an organisation can benefit from being a virtual community itself by interacting satisfactorily with its members for the benefit of all.

To make the research assessment complete, one must resort back to the claim of Steve Jobs that the success of technical innovation starts at the usability, this also applies for the Digital Society School. In this case, a virtual community on social media can only thrive if the user experience is realized. This thesis shall end with a final quote in order to summarize where the focus should be according to Steve Jobs: “You’ve got to start with the customer experience and work back toward the technology - not the other way around” (Cane 2011).

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Appendices

Appendix A - Transcript Interview with Jadine van Ooijen business development manager at DSS

Interviewer 0:04

Thank you for participating in this research project. I am conducting this study for my bachelor thesis in Media & Information at the University of Amsterdam. Part of this research is devoted to qualitative research, including doing research through interviewing. The intention of this interview is to determine the objectives of the Digital Society School by using social media platforms to expand the educational online community. Furthermore, the information will be used in the research of the case study of the Digital Society School. The interview will last between half an hour and an hour. Before I start the official interview: am I allowed to use the information shared in this interview for my research and am I able to mention you in my research or would you prefer your answers to be confidential, and I will store the information from this interview strictly anonymously. Therefore, I will never report any information leading to you when I write the report.

Interviewee 1:22

Well, I'm fine with it, but if it's very confidential for the DSS. Then I would prefer not to be mentioned or what we have spoken about in this research.

Interviewer 1:36
Who are you in short, what role do you have within the Digital Society School and what do you contribute to the building of a virtual community on social media?

Interviewee 1:54
Within the Digital society school, I'm responsible for sales and marketing. So I'm coordinating the team, sales marketing team, which is myself and two marketeers, one is focussed on communication and the other on online. Besides the marketing, I'm also helping the tracks to work and get in contact with their partnerships. So with creating partnerships for our projects on traineeships, I help the track owners to find those partners, and also to see how we can contract the partnerships and collaborate with those partners for a longer time. So it's marketing communication, but also the establishment of partnership. Moreover, I'm part of the core team within the Digital Society School. So that's the dedicated team who works for the school since it started. Around that core team, we work with tracks and tracks have their own program manager, their own does and don'ts and our own trainees. So they're more like a flexible skill around the core team, and we provide and help the tracks so that they can work on it the right way. So that's a bit what I do within the Digital society school. And the other question was what I contribute to the community? I have been doing this function for over a year now and before I came to the digital society school, I worked at DPG media. So that was also more a media company, and also more an external organization than an educational organization. So they really wanted to have someone from the industry within the Digital society school. Because within educational organizations, they're not very used to work with sales and marketing teams, because it's more corporate or nonprofit or types of organizations where it's more like the organization where I came from DPG media, it's all about data and sales and marketing and promoting our websites. They acknowledged my experience and

when I came across the Digital Society School, they wanted to create a learning community with a lot of international learners. I thought it was an interesting project, so I accepted the offer. It started like two and a half years ago, but the company does not have a real strategy to expand or KPIs or the knowledge on how to reach out to this community? It was not clear how to communicate with this community. Social media is one of the things within my portfolio and where I looked a bit more actually from this year on also in the planning I made for the team. So actually, we are just starting to get it more professionalized. So we were also setting up some KPIs and that kind of stuff, but we are in that phase right now. So before I came, there was like, no real strategy around this. But now since January, we started with this team. And we started to create a bit more like a strategy around sales marketing, and especially on creating this community. The bigger the community is, the better we can sell courses to them and we can do projects with external parties. Within a community there we also can communicate with partners. So I think it's very important that we communicate with the people around us. It helps us in the organization, and to add on it is that from an educational perspective, they're very used to working with students on internships and other educational purposes. The projects we do and the tracks we're working on are semi financed by us as a digital society school, but the other hand is financed by industry. So we always have to look at ways to finance the projects.

Interviewer 6:50
On the website it states that the Digital Society School is a growing community of learners, creators and designers and it directs the interests, knowledge and effort of this community to build a digital society. What is in this case of the Digital Society School a “virtual community” and how does it differ from other organizations or educational institutions?

Interviewee 7:26
What I mentioned before is that with other educational institutions, they work on internships and we work with people who are at the end of their study or the beginning of their career. So we don't speak about students, rather more of trainees. So that's a bit different. We provide them a learning experience. So the products we do are all coached and the detailed program. Such a program is the digital transformation intensive program that is a program that we created and where we think is quite an exclusive learning experience. It is where not only our trainees can learn from, but also the partners that we work with. So we hope to be able to approach issues within society in this manner, since we can all learn and adapt. In the end, we offer those courses where people can sign up for. Therefore, it is partly an educational institution as it is also about learning. Nevertheless, the difference is a bit that we are partly financed by those educational institutes like Hogeschool van Amsterdam, but also partly financed by the partners where we work together with. So it's always a sort of combination of industry, semi government and education. This is how we get financed.

Interviewer 9:17
What are the objectives of the Digital Society School by using social media platforms such as YouTube, Instagram, Facebook, Twitter and Linkedin?

Interviewee 9:34
We do not have actual objectives. The objectives are not very clear around that. So that's maybe something you could look into. We're just using social platforms with no prior knowledge or expertise like Facebook, Instagram, LinkedIn, Twitter. It is more or less wanting to be visual. We want to show ourselves on those different platforms. And like I mentioned before, this year it was totally random what we posted on those channels. And now

we have it a bit more structured. So we like to use different content pillars. So it's a bit more structured, but we don't really have experience or did any research around it. We're just very practical and sending it out and seeing what happens. Nowadays we are more visible, so we do more regular posts. So this morning, I also did the posting for next week. As a result you see that the followers on Instagram and LinkedIn are growing. That is what we want, because that's also a bit of our community building of course. However, there is no experience made of this growth. Furthermore, we also have to take actions and generate some data to be able to build on. We created some information where we can look into what works and what doesn't work. It is let's say on the one hand a bit practical, and opportunistic. On the other hand, we have to create some content and see what works for us and what's not.

Interviewer 11:36
What are the challenges the Digital Society School face in general or on social media platforms?

Interviewee 11:53
In general, the way we brand ourselves causes some problems. If people think that we are part of the Hogeschool van Amsterdam, they tend to also think that they would have to do a project with students and it won't cost the partner anything. On the other hand, if we want to invite an external partner or invite people who are interesting to work with, then they perceive it as a group from an educational background, which is interesting for the partners to talk with and for them to work with us. However, for partners, sometimes the branding is confusing. So in order to get in contact with new partners, it is important for us to rebrand our digital side and establish the school without any ties to the Hogeschool. This will show our partners that we are a different type of organization and that we work on a different level than the Hogeschool van Amsterdam. But on the other hand, for experts and people from within the field, sometimes it's also nice that they know that we are part of the Hogeschool van Amsterdam. So for the position area of our branding, it is sometimes a bit difficult to see what the best way is to promote ourselves?

Interviewer 13:25
How do educational institutions, such as the Digital Society School, use new media platforms, such as YouTube, LinkedIn, Twitter, Facebook and Instagram?

Interviewee 13:42
It depends on the faculty we work with. We were part of the faculty that was quite active in the Digital Society School. Besides that, we have ties with the central Hogeschool van Amsterdam organization. They would also send newsletters and are active on social media. But it's very difficult to be part of that, because they're quite cautious with what kind of intimate information they want to share. Therefore, the Hogeschool van Amsterdam is sometimes difficult to work with. This is the reason why I do not clearly know what their media strategy is, because I do not know the department that well. For us, it's more important that we work with the community department of the faculty design, media, creative industries (FDMCI). We have very close meetings with them. So once in every two weeks we meet and talk about what kind of content they share and how we can collaborate on that. For us it is also contributing to our building of the community. Furthermore, all the faculties are also very important for us, because in many instances we share our courses with the faculty of the Hogeschool van Amsterdam. And on the other hand, they also have research projects around the Hogeschool van Amsterdam where we can add on. So for example, this morning, I had a conversation with some people from the faculty, and there was a subsidy around e-health and

they wanted to create some extra human capital around it. They asked us to see how we can collaborate on this. Therefore, the initial partner comes from the Hogeschool van Amsterdam. So that's also quite an important resource. So to keep the contact alive with the Hogeschool van Amsterdam is more important than with other partners. That is why we have someone that focuses on communication. He is also working on that relationship. So the community is half partners, most commonly the Hogeschool van Amsterdam, and half industry that are all the people that would like to learn and have an impact on society.

Interviewer 16:30
What is the motivation of someone that wants to participate in the Digital Society School community?

Interviewee 16:51
For a partner, they have different kinds of reasons why they would like to work with us. They need some extra capacity on the sort of problems they have within the organization. We can create a prototype for them. So we can look with a fresh pair of eyes at their problem, so they also gain a learning experience from that. Besides that, it is a way of connecting with professionals and it's also a bit of talent pooling. So they work on a digital transformation issue, for example, for the municipality of Haarlem I work with the innovation manager and that works with the staff department. So for the innovation manager the domain is difficult to understand within the domain, to create innovation and to make impact she is stuck in her own way of working. Therefore, there is a distance between the innovation manager and the field. Our team of trainees are actually in the field and in the department where the innovation has to take place. So it helps the innovation manager to actually create innovation to place our teams within the municipality. It is beneficial for the innovation manager to work with our trainees. So that's what the innovation manager appreciates the ability to transform. On the other hand, the trainees also create something that the municipality was not able to think of. It has a sort of impact and a way of looking at problems from different perspectives that allows for transformation, because the trainees all have different kinds of backgrounds. So they come up with a solution. What is something you may not have thought about. So, it is also innovative that they have a sort of new perspective on topics. The learning experience is for the trainees to actually go through such a process, but it's also a learning experience for the partner. They work with digital young people. So if they want to expand their employees, then they can do some cherry picking from within our teams. I think the Digital Society School from a recruitment perspective has not had much difficulty recruiting trainees for the program. Especially from other countries, they really like to work in Amsterdam and to have this experience. They also want to expand their network, see if they can get within an organization. So the reason for the trainees or for the learners is beneficial, as they really like to work with us for the possibilities it may have. We also see that former learners of us who are now working within the DSS are also very willing to communicate with us. So, we have the people who did the learning experience, all the trainees, are very eager to work with the DSS or to get involved. We have, besides social media, also a slack channel with alumni and people who did traineeship with us. We also provide a newsletter to share updates. So they're very eager to work with us and to stay tuned on what's happening. I think that's quite unique in a global setting. Furthermore, we're also working with ambassadors and fellows from within the fields of partners, external partners, potential partners, ex trainees and people who are involved and are just curious about what we're doing. I think overall there is an interest of people that want to make an impact on society through the use of the sustainability of the SDGs (sustainable development goals) from the United Nation. People are curious whether these are all present in all our projects. It has to be a bit based on one or two or three from

those SDGs. The main interest in this case is innovation. The Digital Society School started with many buzzwords such as: digital transformation, inclusion, diversity, etc. This forms a problem, because the Digital Society School lacks a form of focus and has to be a bit more concrete. I think that it is also important for our community. It is beneficial that you are broad, but I think from a marketing perspective it is also good that they know why the partner can go to us and what's in it for them and how they can contribute. So I think that we can become more specific. Also, when you look at the website you see a lot of information on courses, projects, tracks, trainees and so on. So it's quite a lot.

Interviewer 20:59
What precisely are the content pillars and how have these come to existence and are these concepts used on the social media platforms?

Interviewee 24:06
When we started these content pillars, and also this content calendar, I've asked help from someone within the field who has many years of experience on marketing strategies from within different organizations. This is also someone who is very close to me and someone who also did some research within the DSS. I asked him to help us a bit out so before we created those content pillars we have had some brainstorm sessions with me, the founders of the Digital Society School and the marketeer to see how we can create content in a good way. A content pillar is a theme or topic that is the basis of a general content strategy. During the brainstorming we had the idea of the content pillars and the design method toolkits, which the trainees use a lot in their learning experience. So then we came to the idea to do the method Monday every Monday morning, to show the user one of the blocks of the design method toolkits. We really liked it because we are a community and we wanted to show our community with the pillar of people in spotlights. So all the people who are coming into the team, we spotlight them on our social channels. Besides that, we also want to spotlight some people that are not trainees to show our community who comes into our core team or our track. These social media posts seem to generate a lot of likes, because the users see that many people are sharing it and seeing it. We have the partners where we work with in a project, so we want to spotlight them as well. So that's also a content pillar we wanted to create. Moreover, we also take the trainees in that project, because they are the people who actually work on the project. We always want to link to our websites. So if people want to know more about the projects, they can go to the page on the website. So before we publish on social media, we first want to get the page finished on the websites and then the project team and DTD or the program manager that is responsible for that content so we can share it. Another content pillar is, for example, events. So events show what we are planning to do, but we also want to use it for events where we are part of that we can have a sort of pillar that emphasizes the events through our lens. For example, if people from Digital society school went to the Next Web that we show something on our social media outlets. Furthermore, all the courses that are planned are also shown on our social media. But we also had a strategy to do more around inspirational kinds of content. And for now, that's something we didn't manage to do. In practice, we didn't manage to get it within the workflow. For example, the DTP program to learn a bit more on what kind of content they're working on. We were not able to create posts about that. It would be nice to see if trainees can share things in stories, but this seems to be a challenge as we have tried to ask trainees to do that. However, there were minor inconveniences, because they don't know if they share the right content. So when we ask them to post something, they don't feel very comfortable with it because they're a bit anxious that they share the wrong things or whatever. So we are also a bit experimenting around that as well.

Interviewer 28:59
What are the challenges when using these platforms for the purposes of the Digital Society School? Is there anything you would want to change on the platform such as YouTube, Twitter, LinkedIn, Instagram?

Interviewee 29:24
Currently we post content on different channels and this seems to be a challenge in itself. I am a user of LinkedIn and Instagram so from a personal perspective, I can imagine what followers on Instagram like and what LinkedIn content is nice but for example for Facebook or Twitter that are platforms that I don't use. For example, YouTube is one of our social channels that we don't use very often. We are also experimenting with Medium. There is a track that uses Medium for creating extra content around the project to show what they are working on. That is also something we share on our socials, new Medium posts, etc. That is something that we are experimenting with. But we don't have a specific strategy for it. We post the Medium content and use Buffer for that. This morning, I had a conversation with the content and communication marketeers and with our designer, and we planned all the social posts for next week. We can then use Facebook, Twitter, Instagram and LinkedIn. However, Buffer does not provide a service for YouTube. This makes posting on YouTube difficult for us.

Interviewer 31:17
What kind of affordances enhance the experience of content to users and how do they experience the information that is provided?

Interviewee 31:34
I actually don't really know that. So that's a good question, I don't really know what the viewer thinks of our different kinds of posts, or the number of likes, and if they share the posts, and what works and what not. We also experimented with a project and where a link is added, not in the comments but in the text. In the text we added the link to our website, which LinkedIn doesn't appreciate, because then they get redirected to other websites. So if we put the link in the comments, then the views increase. However, I don't know what the community or our followers think of our posts or their preferences. That's something I haven't got time to look into.

Interviewer 32:45
Are users able to interact with the digital society school or others through the social media platforms? And if not, would you prefer that this is possible and that the community is unable to post whatever they want on social media feed of the digital society school. Therefore making an open community out of it.

Interviewee 33:12
Yes that can be the case. For example, Instagram we like to present the example I had with the trainees to give them the access and just post on it and create content, but then you have the challenges that they feel a bit anxious to post something. And besides that they only work on one project with us. So for the continuation I think that LinkedIn is a bit more from the sales marketing team, that they are responsible for the strategy for that. Yet for Medium it is not entirely clear what the uses are, so we let the trainees work on that. They can put everything on it. So we have not decided on our strategy.

Interviewer 34:23
Is the virtual community able to interact with others through social media, such as comments?

Interviewee 34:42
No, not so much. Sometimes you get reactions if we have a new colleague, then people say: “oh, congratulations”, but this is due to the content we share. For example, if you share a statement on Twitter, it allows for more discussion and the focus is more on the informative kind of content. I don't actually know if social media platforms are the right way to communicate with our users. Tweakers was able to generate a lot of interaction with the community. They had to hire a community manager, because there was too much interaction than that the organization could handle. They used a forum on their website. It allows for a different space on their website where they can share the news or other content and then they create a sort of statement or maybe a question and they ask the members of the community what they think about it. But for now the slack group suffices. I'm not in every slack room, so I do not know if this works properly. But we don't have a platform or something besides social media. I don't know if social media is the right place to do those kinds of conversations. So yeah, maybe it can also be an option to create a sort of forum within our website where people can communicate with each other, but we haven't done that yet.

Interviewer 36:47
To what extent do differences in affordances and application interfaces influence aspects of community building processes on social media platforms?

Interviewee 37:17
It depends, maybe it's interesting to ask our community if they look at our social media posts and what they think about it. It might be resourceful to ask if there is a need for them to follow our posts. Do they like it? We can create anything, but it would help if there's someone in this forum or community that would introduce topics in our media. This can be a strategy itself, because then you have a sort of place where they can communicate with each other. And we can maybe also use that community to pick up some subjects which are interesting. I can imagine that it's interesting, but then I'm very curious if our community thinks it's a real addition to what we have.

Interviewer 38:26
How can we expect UX design/strategy to transform the media presence of institutions such as the Digital Society School and affect the education system in the foreseeable future?

Interviewee 39:36
That's a good question. I think if you look at the current situation with COVID and everything, then I think it will become more important, because you have blended learning and that shows how you can interact in a digital manner. So I can imagine it's important to create ways to communicate and to see how you can actually interact if you don't see each other. I think because of Corona, the development went a lot faster. I can imagine that we actually have to do something with that. That's the good thing about the Digital Society School, we consist of an experienced group of people from the Hogeschool or the University. So maybe if we experiment a bit around that potential, maybe we can implement such a design as well. That's also something I'm wondering about? Because I don't know the Hogeschool and University that well, I don't know what kind of things they do right now and also what they are planning to do.

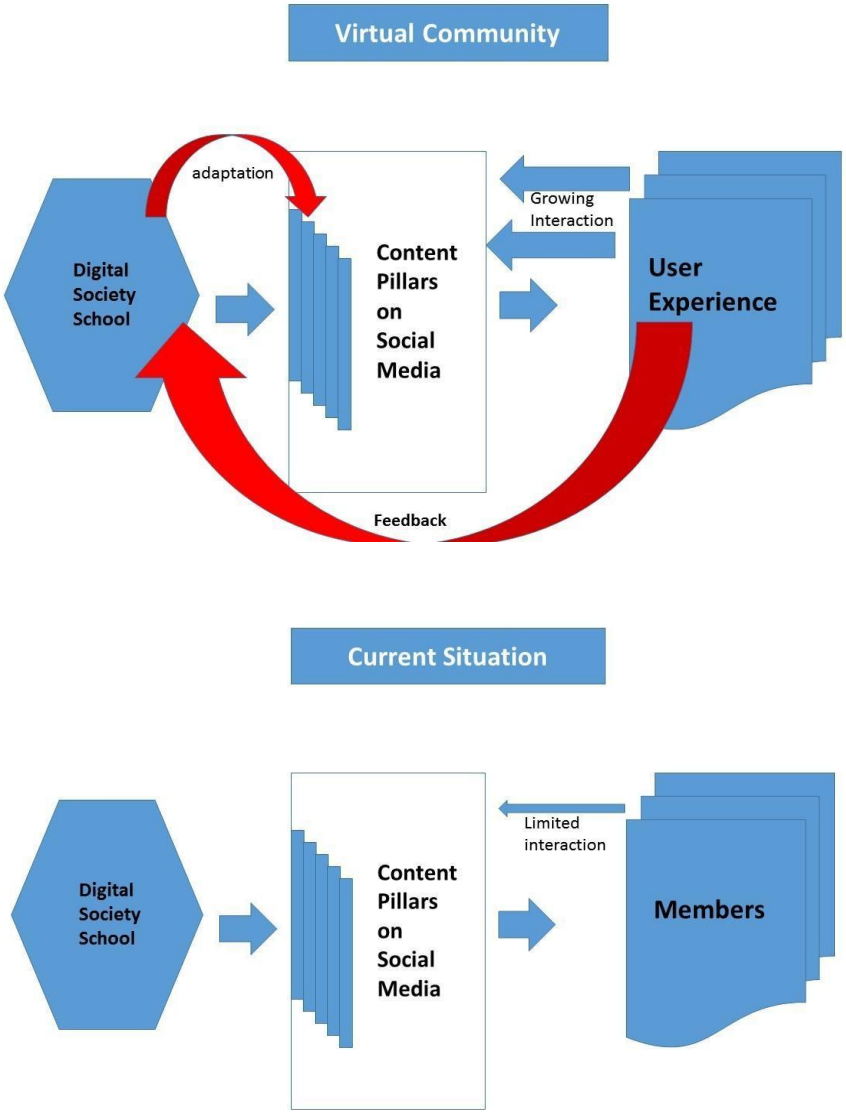
Interviewer 41:24
What can be expected of the Digital Society School, as an online educational institution, on social media platforms in the foreseeable future?

Interviewee 41:28
What I would like to do is to create some key performance indicators to see how we can let our community grow. For example, I do not have an overview of what our community is right now. We have the global goals community, our alumni, learners and ex-trainees. So what is the Digital Society now and where does it want to go and want to expand it? Maybe we want to focus on a certain goal to make the right choices and expand the community. At the moment we want to expand our community, because we want to grow, get more trainees, work with more partners and let people know that we exist. It would be beneficial to have a strategy that we can anticipate our actions on.

Interviewer 42:33
I want to end the interview with a last question: do you have any questions with regard to the research or anything else to add that might support my cause of researching the case of the Digital Society School?

Interviewee 42:53
I am happy that there will be an outside perspective who will look at the way we work and how we do things. I am curious about our next steps and what direction we want to work on.

Appendix B - Conceptual Framework



Appendix C - Jakob Nielsen's 10 general principles for interaction design

Jakob Nielsen's 10 general principles for interaction design	
Visibility of system status	The design enables to keep users informed through appropriate feedback and within an appropriate amount of time
Match between system and the real world	The design implements words, terms, phrases and concepts that corresponds to the user's language and presents information in a logical structure
User control and freedom	Allowing users to make mistakes and to clearly present an exit to undo actions without making the user have a sense of losing control
Consistency and standards	The user should be familiar to the platform and industry conventions and not have to wonder whether words, situations, or actions have a similar meaning
Error prevention	The design prevents problems from occurring, eliminate error-prone conditions and present a confirmation option before an action is confirmed
Recognition rather than recall	Making actions, elements and options visible to minimize user's memory and they do not have to recall information from other parts of the interface
Flexibility and Efficiency of use	The user is unaware of shortcuts that may make interaction simple and straightforward and it should allow users to customize frequent actions
Aesthetic and minimalist design	The interface contains relevant information and prevents extra information that diminishes the relative visible relevant information
Help users recognize, diagnose, and recover from errors	Messages from the platform should be in plain language, exactly indicate the issue and suggest a solution in a constructive fashion
Help and documentation	The interface provides documentation that helps the user to understand certain actions and are able to complete their tasks

Retrieved from: Nielsen, Jakob. 1994. "10 Usability Heuristics for User Interface Design." Nielsen Norman Group.

Appendix D - Content Pillars of the Digital Society School

Content Hub	
Description	Description
1. People in the spotlight	Put on person of DSS in the spotlight with a quote and more in-depth information on the website
2. DSS Month view	Update with 5-10 relevant articles / trends and our view on them (content from the Slack channels: inspiration, learnings opportunities and X)
3. Spotlight the track	Putting one of the tracks in the spotlights via project updates (prototypes, methods used, challenges) or blogs about experiences.
4. Project Kickoff	Share which 12 projects have started (3 projects per week)
4. DTIP Content	Updates about the personal development of the trainees based on DTIP
5. Events through our lens	Our view on events related to work field of DSS; viewed through our lens
6. Events (own or faculty)	Update about an own event or a faculty event
7. Courses	Share a (new) course. Focus on conversion, try to sell the course
8. Partner in the spotlight	Put one of our (previous) partners in the spotlight. They share their experiences related to working with DSS
9. Method Monday	Share one of the methods from our toolkits
10. Recruitment	Share vacancies to recruit new people
11. Podcast	Podcast Dear Future I am Ready
12. Culture shots	Showing DSS's unique culture in a visual way, no long texts, no added design elements , but just a photo or a short video of "the moments above" (Hero and Hub) or other relevant moments

Appendix E - Channel Implementation of the Digital Society School

Channels implementation	
Channel	Function
Website	Our website is the backbone of all marketing activities. We concentrate all DSS information on one website, except the Global Goals Jam
Email	Our channel to communicate with our current relations; newsletter should be relevant for both business and DTD/trainee
Instagram	Focus on DSS culture with inspiring pictures/videos | snapshots
LinkedIn	Show where DSS stands for from a more substantive perspective ('business tone of voice") | more in-depth content
Facebook	We don't post content on Facebook. We highlight one post in which we indicate that if you want to follow us, it is best to do this via LinkedIn and/or Instagram.
Twitter	Used for live updates related to events.
Advertising	Increase reach of DSS and target people that are interested in topics related to DSS or are in-market to buy courses.

Appendix F - Objectives of the Digital Society School

Objectives of using Social Media Platforms		
Moments	**Description**	**Channels**
A. Campaign flight to build the brand	Advertising campaign to grow to increase awareness of DSS	Website --> traffic to website via: email, LinkedIn, Instagram and advertising
B. Showcase of the projects	Share the outcomes, learnings and experiences of this semester's project	Website --> traffic to website via: email & LinkedIn
C. Global Goals Jam	Push the event and share learning and experiences	

Appendix G - Community Heuristics

1. Purpose

The purpose of a platform is the identification of the needs of the members and the goals of the Digital Society School presented on the different social media platforms.

- 1.1. Clarity: the social media platforms present a clear purpose that should describe how the members' needs and the owner's goals are identified. This is based on the interaction of the user and the social media of the DSS.
- 1.2. Visibility: the purpose is to be visible in such a fashion that it is comprehensible for newcomers and what needs the DSS fulfil. It is integral for orientation and enticement of newcomers to the community, while providing a common frame of reference for members of the community.
- 1.3. Idealism: the platform has the goal to contribute to society. Therefore, it reaches out further than a singular platform. Moreover, it activates new users to join the community on social media.

2. Moderation

Moderators monitor the platform and make sure it continues to be a digital environment that does not violate the regulations of the platform or their users.

- 2.1. Moderators: the DSS makes mistakes in their communication on the platform. However, it is possible for users to reach out to the DSS or their moderators in order to make an appeal if there is a form of misconduct by the educational institution on the social media platform.

3. Members

Members are willing to be associated with the DSS. For a community to expand, the platform enables a sufficient form of recruitment and motivates users to contribute and stimulate other users.

- 3.1. Deep profiling: the social media platform of the DSS allows for users to interact with other users or community members. It allows for information that the platform provides on the user's activity and reputation. On the other hand, it also allows for self-presentation of the users and members itself in relation to the DSS.
- 3.2. Lifecycle: the social media platform enables the facilitation of members to be welcomed on the platform, instructing newcomers and rewarding community members.
- 3.3. Recruitment: A community continuously strives to expand and sustain an active group of members. The platform of the DSS is a useful method to gain new members for the virtual community.
- 3.4. Virtual co-presence: an online community that gives the impression that it is inactive will not motivate newcomers to interact with their practices online. The platform portrays the DSS as a populated digital environment where users are actively in contact with one another.

4. Common ground

Through their social media platforms, the DSS offers members to divide into subgroups while being able to stay diverse for being accessible for newcomers.

- 4.1. Subgroups: The platform facilitates mechanisms that increase the probability that members encounter people with similar interests by creating subgroups.
- 4.2. Diversity: diverse interests can decrease commitment to a platform and drive members away. However, if the diverse interests and perspectives are represented properly, it may lead to reaching a new diverse group of new community members.
- 4.3. Events: events allow a definition of the community. It reminds members what they have in common and determines what the DSS is about.

- 4.4. Rituals: rituals make members engage on a platform and familiarize oneself to the DSS.

5. Contribution

The stimulation of members to contribute to the platform can come in various forms. By utilizing appeals such as targeted requests towards a community allows for the threshold of contribution to be lowered for trainees to show on the platform what they have accomplished at the DSS.

- 5.1. Request list: The DSS contributes to the community by providing traineeships, internships, jobs and other opportunities.

6. Platform

The DSS has to be able to differentiate themselves from other educational institutions by peaking the interest of a new user. This is realized by the DSS by positioning itself by having a professional appearance and reliable reputation and motive.

- 6.1. Reputation: the DSS showcases their achievements and this helps to understand the value of their reputation on the platform.
- 6.2. Motive: the brand and motive of the DSS are clear to the users.
- 6.3. Aesthetics: an attractive platform that is one that provides a professional user experience without inconsistencies or technical difficulties.

Appendix H - Heuristic Evaluation

Section 1:

First name:
Surname:
Nationality:
Education:
Expertise:
Role within the Digital Society School:
How frequently do you use the following social media applications:

	Never	Every few months	Monthly	Weekly	A few times a week	Everyday
Twitter						
YouTube						
Facebook						
Instagram						
LinkedIn						
Email						
Other						

How did you get in contact with the Digital Society School?

- YouTube
- Twitter
- Facebook
- Instagram
- LinkedIn
- The Digital Society School Website
- Email
- Other

If other, on which medium did you get in contact with the Digital Society School?
Where do you retrieve your information about the Digital Society School?

- Twitter
- YouTube
- Facebook
- Instagram
- LinkedIn
- Email
- Digital Society School Website
- Other

Why do you use social media?

What is, according to you, a "virtual/digital community" and do you experience the Digital Society School as such?

Which of these social media platforms do you use for professional purposes?

- Instagram
- YouTube
- Facebook
- LinkedIn
- Twitter

Which of these social media platforms do you use for educational purposes?

- Instagram
- YouTube
- Facebook
- LinkedIn
- Twitter

On which platform do you expect you can be actively part of a digital/virtual community?

- Instagram
- YouTube
- Facebook
- LinkedIn
- Twitter

Elaborate on your choice of platform:

Section 2:

	Facebook	Instagram	LinkedIn	Twitter	YouTube	(NA) - not available
People in the spotlight						
DSS Month view						
Spotlight the track						
Project Kickoff						
DTIP Content						
Events through our lens						
Events (own or faculty)						
Courses						
Partner in the spotlight						
Method Monday						

Recruitment						
Podcast						
Culture shots						

What personally motivated you to engage with the content?

Elaborate on how the affordances and features contribute to the boxes you have checked:

Section 3:

1.1. (Purpose: Clarity) Based on your interaction with the social media of the Digital Society School, what do you think their purposes and goals are?

1.2. (Purpose: Visibility) It is important to orient and entice newcomers to the community as well as to provide a common frame of reference for more seasoned members. Are the Digital Society School social media platforms able to achieve this effectively?

1.3. (Purpose: Idealism) Is the purpose of the Digital Society School apparent on the social media platforms, thus reaching further than the platform alone and activating new users to join the community on social media and to be actively participating on the different media?

2.1. (Moderation: moderators) The Digital Society School can make mistakes, however members should be able to contact moderators or the Digital Society School and make an appeal if they don't agree with activities on the social media platforms. Is this possible on these social media platforms?

3.1. (Members: Deep profiling) Does the social media platform of the Digital Society School allow for interaction with other community members?

3.2. (Members: lifecycle) Does the social media platform facilitate the membership life cycle consisting of: Welcoming its visitors, instructing its novices, rewarding its regulars?
3.3. (Members: recruitment) A community should continuously seek new members, to grow and sustain an active amount of members. Is the Digital Society School social media platforms providing this?

3.4. (Members: virtual co-presence) Finding an inactive online community will yield little motivation to interact with it. Do the social media platforms of the Digital Society School give the impression that it is a populated, active space and motivates the user to interact on it?

4.1. (Common ground: Subgroups) The platform should facilitate mechanisms that increase the likelihood that members will encounter similar people to themselves, which can be achieved by creating subgroups. Are users able to do this on the platforms of the Digital Society School?

4.2. (Common ground: diversity) Are users with diverse interests and perspectives represented in the social media platform of The Digital Society School?

4.3. (Common ground: events) Events will help to define the community, remind members what they have in common and what their community is all about. Does the platform organize events to reinforce the purpose and values of the community?

4.4. (Common ground: rituals) Does the Digital Society School incorporate community rituals into the platform that will make the members feel at home?

5.1. (Contribution: request list) The Digital Society School provides traineeships and job offers for their community. Are users able to find opportunities that fit their needs?

6.1. (Platform: reputation) The Digital Society School is known on a global level. This all contributes to a positive reputation of the platform. Does the social media platform showcase the achievements of the school, does it help to understand the value the platform offers and can it raise expectations for future success?

6.2. (Platform: Motive) Is the motive and brand of the Digital Society School clear and is the usage of social media platforms contributing to the expansion of the community?
6.3. (Platform: aesthetics) A better-looking social media platform means that people expect it to be better. Does the Digital Society School provide a professional user experience without making members encounter any technical difficulties or inconsistencies?

Section 4:

What is your opinion of the content pillars? Do they create interaction with the community or would you suggest a different strategy?

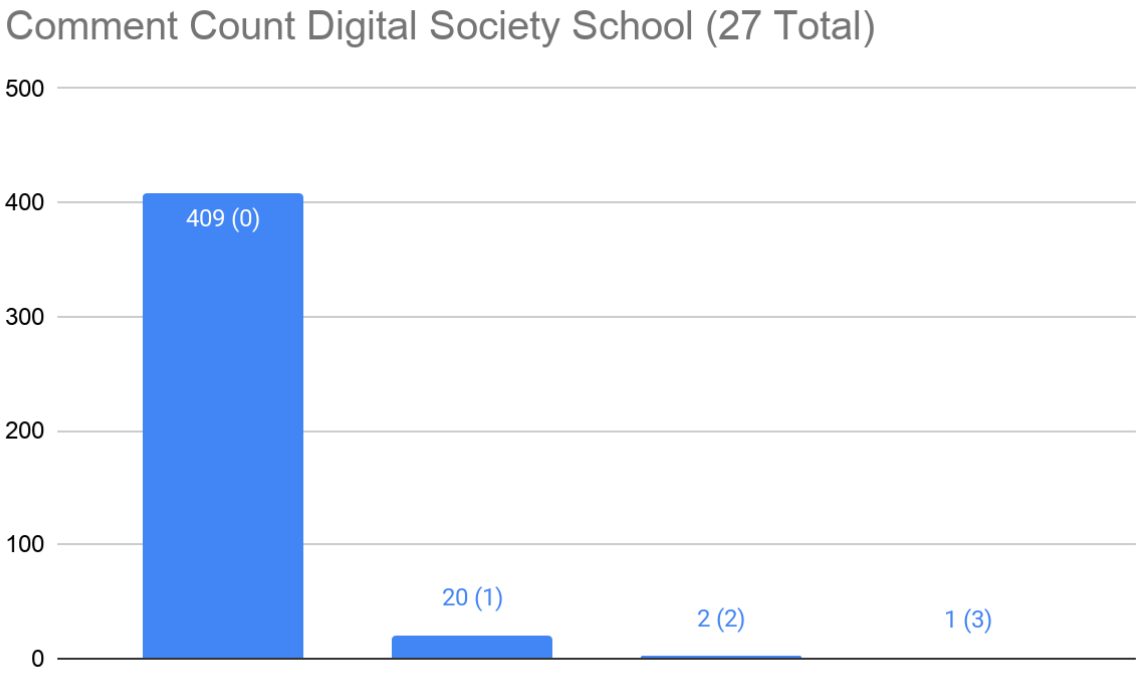
What other content pillar would you suggest in order to engage with the virtual community building?

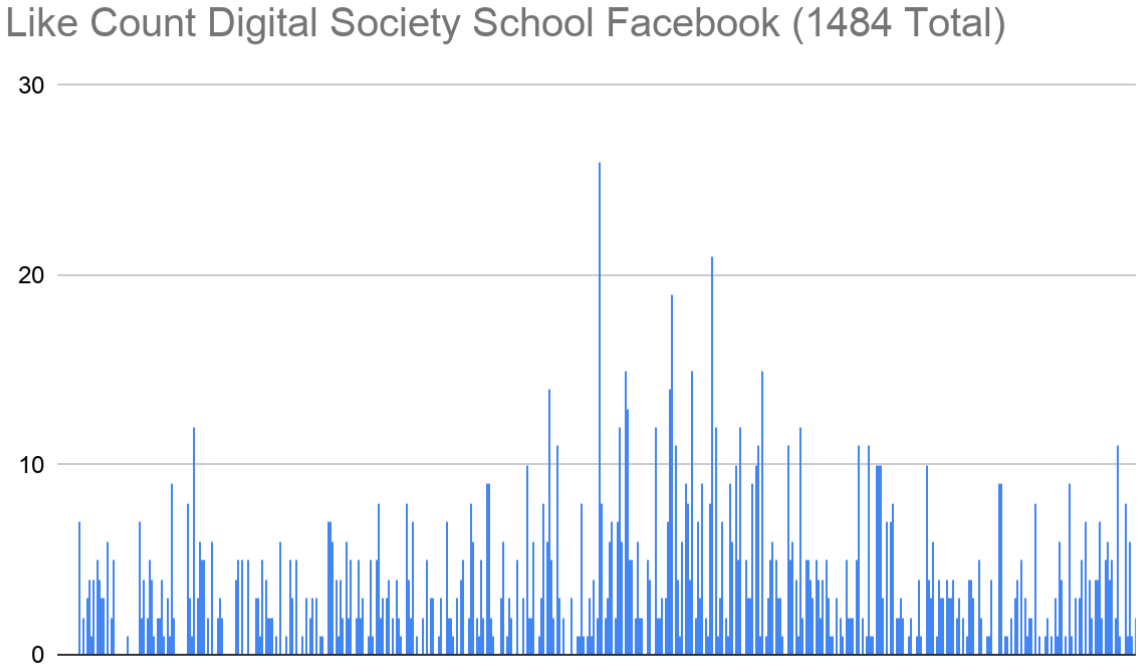
Is the Digital Society School utilising their social media platforms effectively or should they consider using other platforms to build an educational community?

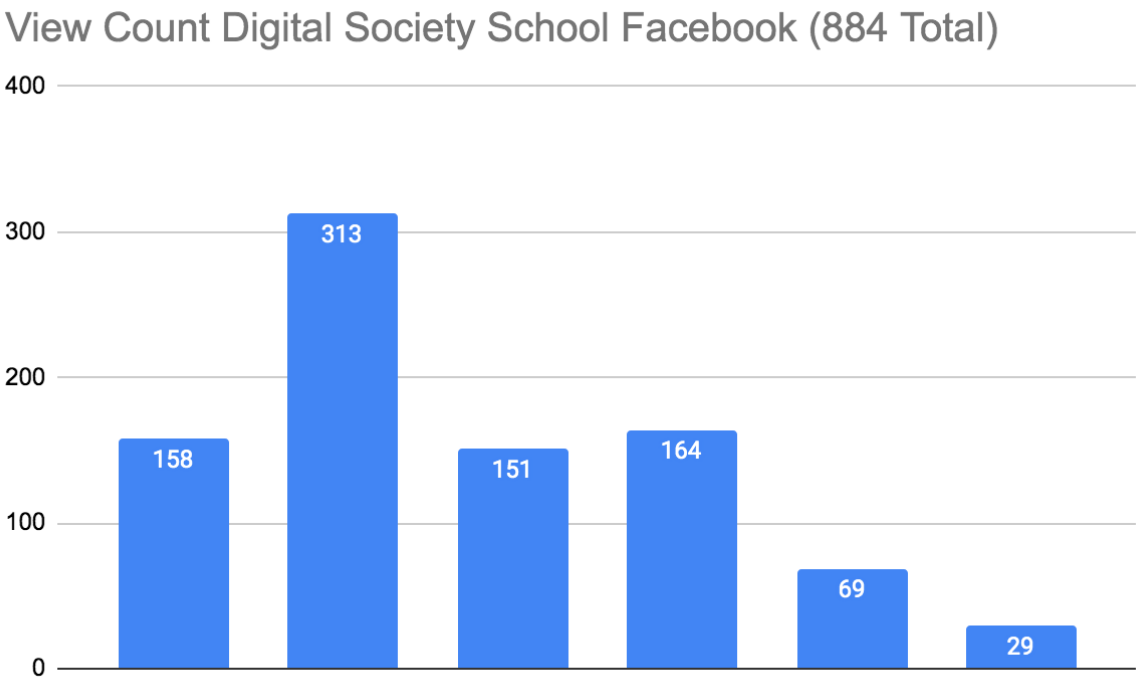
Appendix I - Digital Society School Media Output

Social Media Interactivity Digital Society School (Total)					
Platform	Followers/Subscribers	Posts/Tweets/uploads	Comments	Views	Likes
YouTube	179	82	5	15.667	225
Facebook	918	432	27	884	1.484
Twitter	4.925	5.049	72	-	1.742
Instagram	1.190	304	237	7.076	6.937
LinkedIn	1.836	163	121	-	1.923

Appendix J - Descriptives Facebook







Statistics				
	likeCount	Comments	Viewcount	
N	Valid	430	433	7
	Missing	3	0	426
Mean		3.45	.06	126.29	
Std. Error of Mean		.172	.014	39.820	
Median		3.00	.00	151.00	
Std. Deviation		3.560	.286	105.353	
Range		26	3	313	
Minimum		0	0	0	
Maximum		26	3	313	
Percentiles	25	1.00	.00	29.00
	50	3.00	.00	151.00
	75	5.00	.00	164.00

likeCount					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	86	19.9	20.0	20.0
	1	61	14.1	14.2	34.2
	2	67	15.5	15.6	49.8

	3	54	12.5	12.6	62.3
	4	36	8.3	8.4	70.7
	5	39	9.0	9.1	79.8
	6	21	4.8	4.9	84.7
	7	15	3.5	3.5	88.1
	8	12	2.8	2.8	90.9
	9	10	2.3	2.3	93.3
	10	7	1.6	1.6	94.9
	11	7	1.6	1.6	96.5
	12	6	1.4	1.4	97.9
	13	1	.2	.2	98.1
	14	2	.5	.5	98.6
	15	3	.7	.7	99.3
	19	1	.2	.2	99.5
	21	1	.2	.2	99.8
	26	1	.2	.2	100.0
	Total	430	99.3	100.0	
Missing	System	3	.7		
Total	433	100.0			

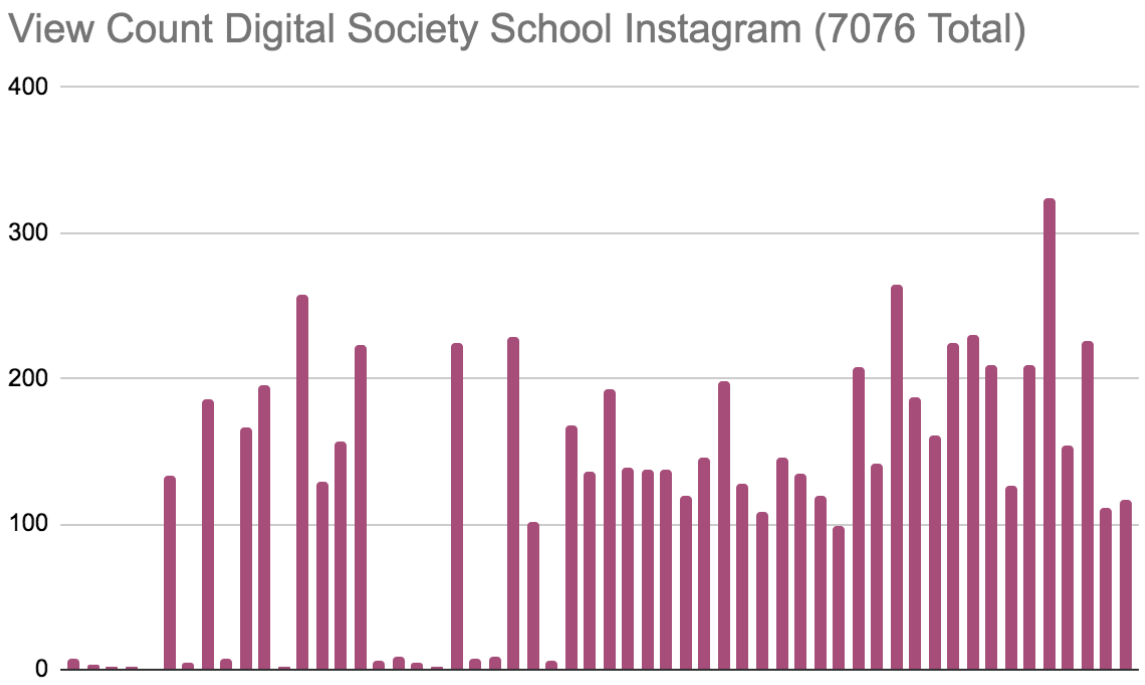
commentCount

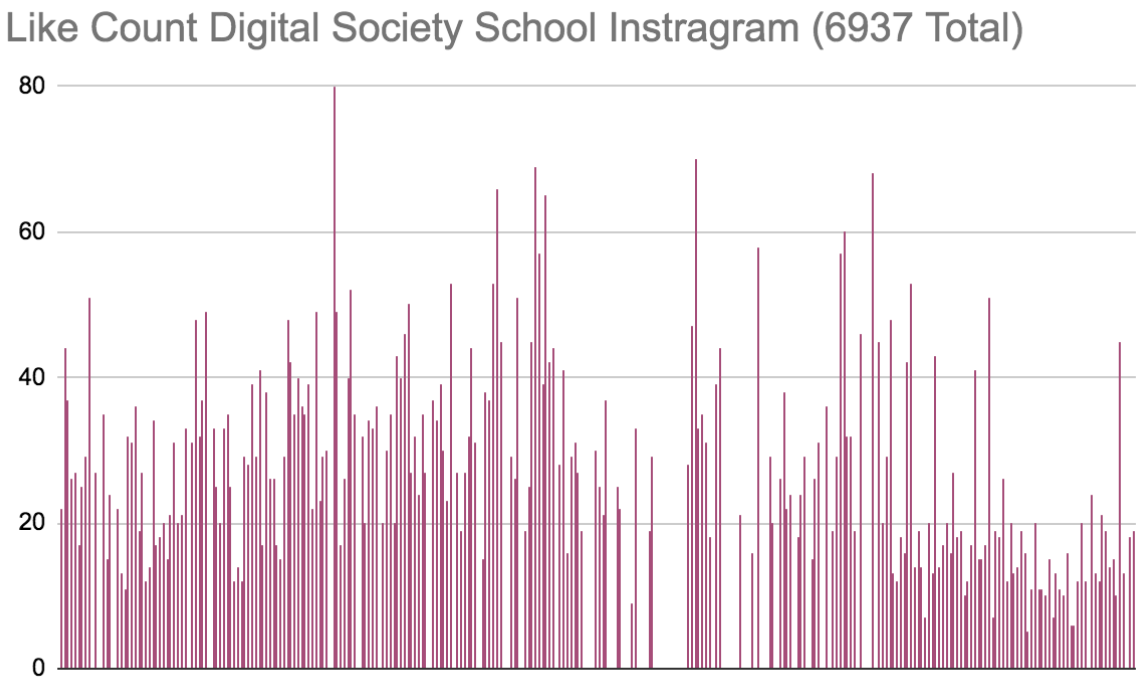
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	410	94.7	94.7	94.7
	1	20	4.6	4.6	99.3
	2	2	.5	.5	99.8
	3	1	.2	.2	100.0
	Total	433	100.0	100.0	

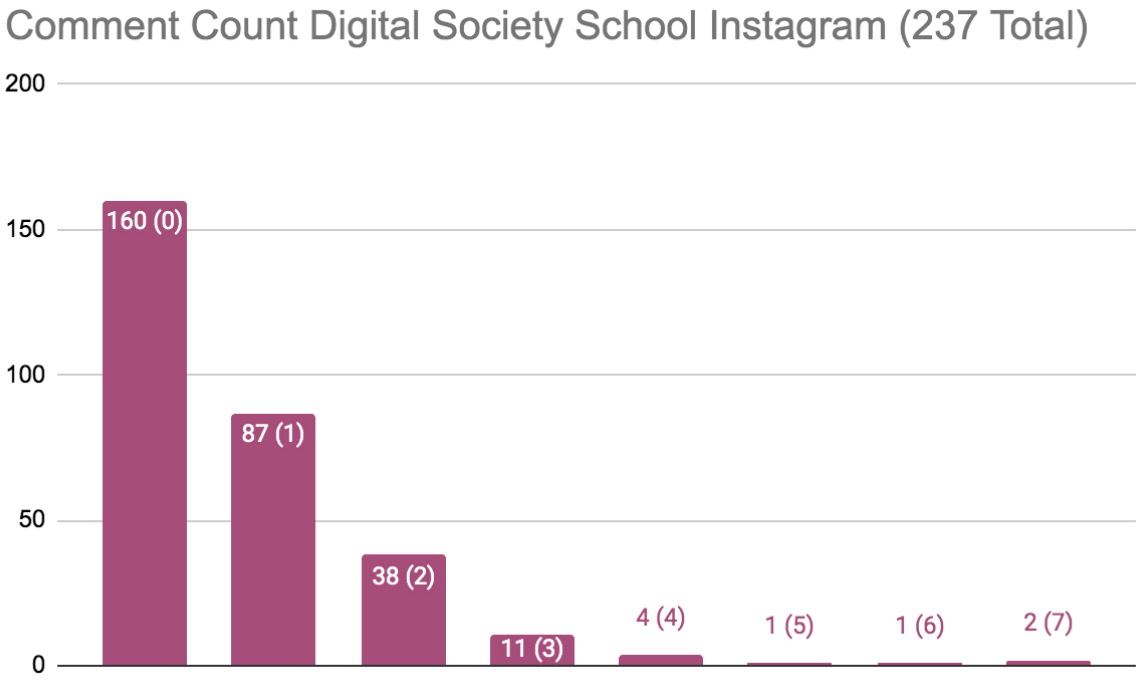
viewCount

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	1	.2	14.3	14.3
	29	1	.2	14.3	28.6
	69	1	.2	14.3	42.9
	151	1	.2	14.3	57.1
	158	1	.2	14.3	71.4
	164	1	.2	14.3	85.7
	313	1	.2	14.3	100.0
	Total	7	1.6	100.0	
Missing	System	426	98.4		
Total	433	100.0			

Appendix K - Descriptives Instagram







Statistics				
	commentCount	likeCount	viewCount	
N	Valid	305	305	305
	Missing	2	2	2
Mean	.78	22.74	23.20	

Std. Error of Mean	.064	.945	3.502	
Median	.00	21.00	.00	
Std. Deviation	1.113	16.506	61.167	
Range	7	80	324	
Minimum	0	0	0	
Maximum	7	80	324	
Percentiles	25	.00	12.00	.00
	50	.00	21.00	.00
	75	1.00	33.00	.00

commentCount

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	161	52.4	52.8	52.8
	1	87	28.3	28.5	81.3
	2	38	12.4	12.5	93.8
	3	11	3.6	3.6	97.4
	4	4	1.3	1.3	98.7
	5	1	.3	.3	99.0
	6	1	.3	.3	99.3
	7	2	.7	.7	100.0
	Total	305	99.3	100.0	
Missing	System	2	.7		
Total	307	100.0			

likeCount

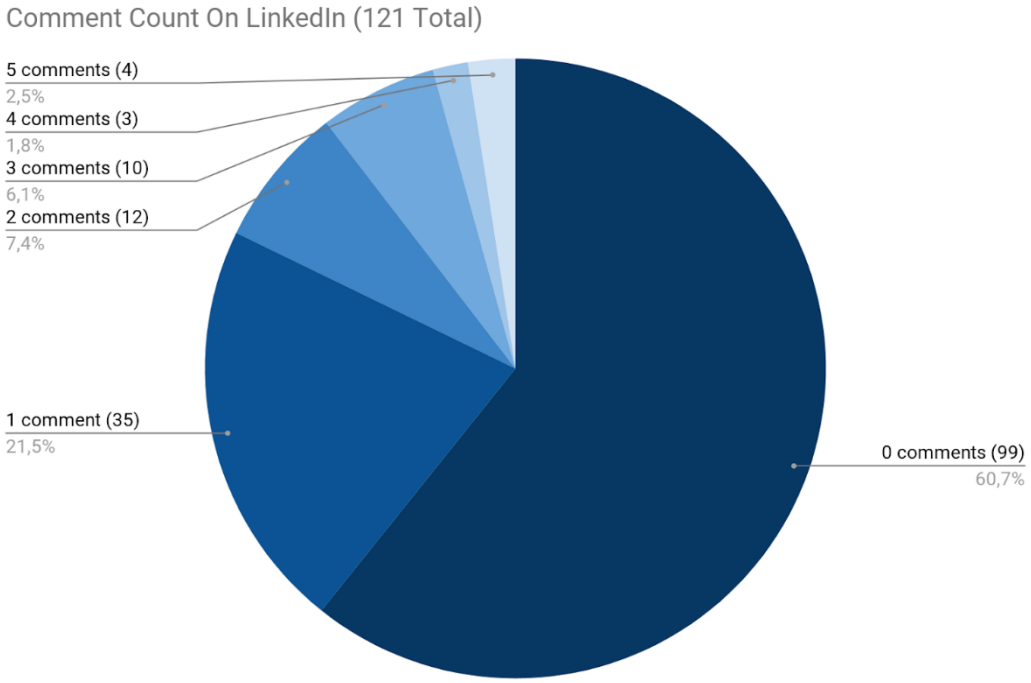
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	57	18.6	18.7	18.7
	5	1	.3	.3	19.0
	6	2	.7	.7	19.7
	7	3	1.0	1.0	20.7
	9	1	.3	.3	21.0
	10	4	1.3	1.3	22.3
	11	5	1.6	1.6	23.9
	12	9	2.9	3.0	26.9
	13	7	2.3	2.3	29.2
	14	7	2.3	2.3	31.5
	15	9	2.9	3.0	34.4
	16	6	2.0	2.0	36.4
	17	8	2.6	2.6	39.0
	18	7	2.3	2.3	41.3
	19	13	4.2	4.3	45.6

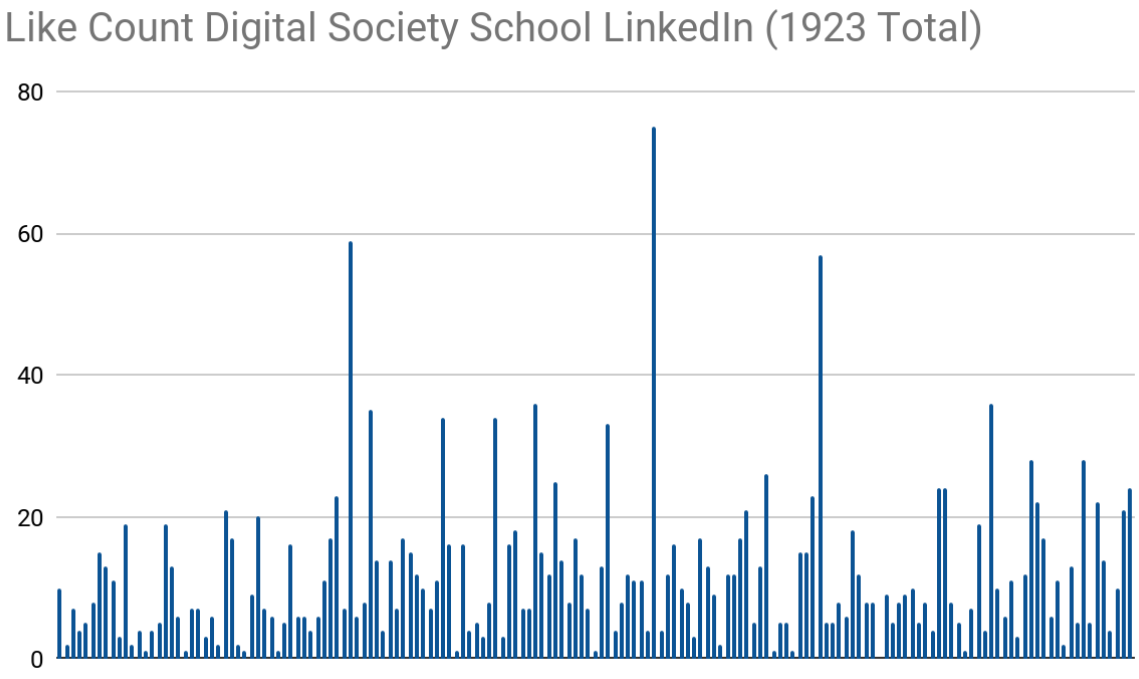
	20	13	4.2	4.3	49.8
	21	5	1.6	1.6	51.5
	22	5	1.6	1.6	53.1
	23	2	.7	.7	53.8
	24	5	1.6	1.6	55.4
	25	6	2.0	2.0	57.4
	26	8	2.6	2.6	60.0
	27	9	2.9	3.0	63.0
	28	3	1.0	1.0	63.9
	29	12	3.9	3.9	67.9
	30	4	1.3	1.3	69.2
	31	7	2.3	2.3	71.5
	32	7	2.3	2.3	73.8
	33	6	2.0	2.0	75.7
	34	3	1.0	1.0	76.7
	35	8	2.6	2.6	79.3
	36	4	1.3	1.3	80.7
	37	5	1.6	1.6	82.3
	38	3	1.0	1.0	83.3
	39	5	1.6	1.6	84.9
	40	3	1.0	1.0	85.9
	41	3	1.0	1.0	86.9
	42	3	1.0	1.0	87.9
	43	2	.7	.7	88.5
	44	4	1.3	1.3	89.8
	45	4	1.3	1.3	91.1
	46	2	.7	.7	91.8
	47	1	.3	.3	92.1
	48	3	1.0	1.0	93.1
	49	3	1.0	1.0	94.1
	50	1	.3	.3	94.4
	51	3	1.0	1.0	95.4
	52	1	.3	.3	95.7
	53	3	1.0	1.0	96.7
	57	2	.7	.7	97.4
	58	1	.3	.3	97.7
	60	1	.3	.3	98.0
	65	1	.3	.3	98.4
	66	1	.3	.3	98.7
	68	1	.3	.3	99.0
	69	1	.3	.3	99.3
	70	1	.3	.3	99.7
	80	1	.3	.3	100.0
	Total	305	99.3	100.0	
Missing	System	2	.7		
Total	307	100.0			

viewCount					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	249	81.1	81.6	81.6
	1	1	.3	.3	82.0
	2	4	1.3	1.3	83.3

	4	1	.3	.3	83.6
	5	2	.7	.7	84.3
	6	2	.7	.7	84.9
	7	2	.7	.7	85.6
	8	1	.3	.3	85.9
	9	2	.7	.7	86.6
	99	1	.3	.3	86.9
	102	1	.3	.3	87.2
	109	1	.3	.3	87.5
	111	1	.3	.3	87.9
	116	1	.3	.3	88.2
	120	2	.7	.7	88.9
	126	1	.3	.3	89.2
	128	1	.3	.3	89.5
	129	1	.3	.3	89.8
	133	1	.3	.3	90.2
	134	1	.3	.3	90.5
	136	1	.3	.3	90.8
	137	2	.7	.7	91.5
	139	1	.3	.3	91.8
	142	1	.3	.3	92.1
	145	2	.7	.7	92.8
	154	1	.3	.3	93.1
	157	1	.3	.3	93.4
	161	1	.3	.3	93.8
	167	1	.3	.3	94.1
	168	1	.3	.3	94.4
	186	1	.3	.3	94.8
	187	1	.3	.3	95.1
	193	1	.3	.3	95.4
	195	1	.3	.3	95.7
	198	1	.3	.3	96.1
	208	1	.3	.3	96.4
	209	2	.7	.7	97.0
	223	1	.3	.3	97.4
	224	2	.7	.7	98.0
	226	1	.3	.3	98.4
	229	1	.3	.3	98.7
	230	1	.3	.3	99.0
	257	1	.3	.3	99.3
	264	1	.3	.3	99.7
	324	1	.3	.3	100.0
	Total	305	99.3	100.0	
Missing	System	2	.7		
Total	307	100.0			

Appendix L - Descriptives LinkedIn





Statistics			
	likeCount	commentCount	
N	Valid	163	163
	Missing	0	0

Mean	11.80	.74	
Median	9.00	.00	
Std. Deviation	10.701	1.195	
Range	75	5	
Minimum	0	0	
Maximum	75	5	
Percentiles	25	5.00	.00
	50	9.00	.00
	75	16.00	1.00

commentCount

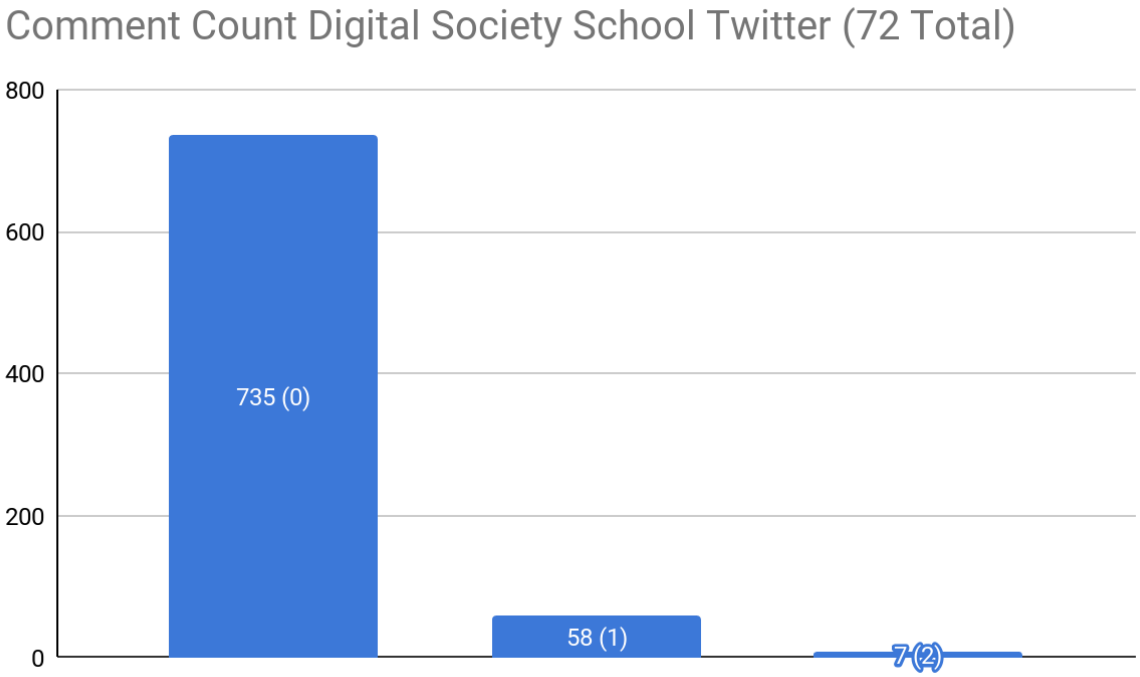
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	99	60.7	60.7	60.7
	1	35	21.5	21.5	82.2
	2	12	7.4	7.4	89.6
	3	10	6.1	6.1	95.7
	4	3	1.8	1.8	97.5
	5	4	2.5	2.5	100.0
	Total	163	100.0	100.0	

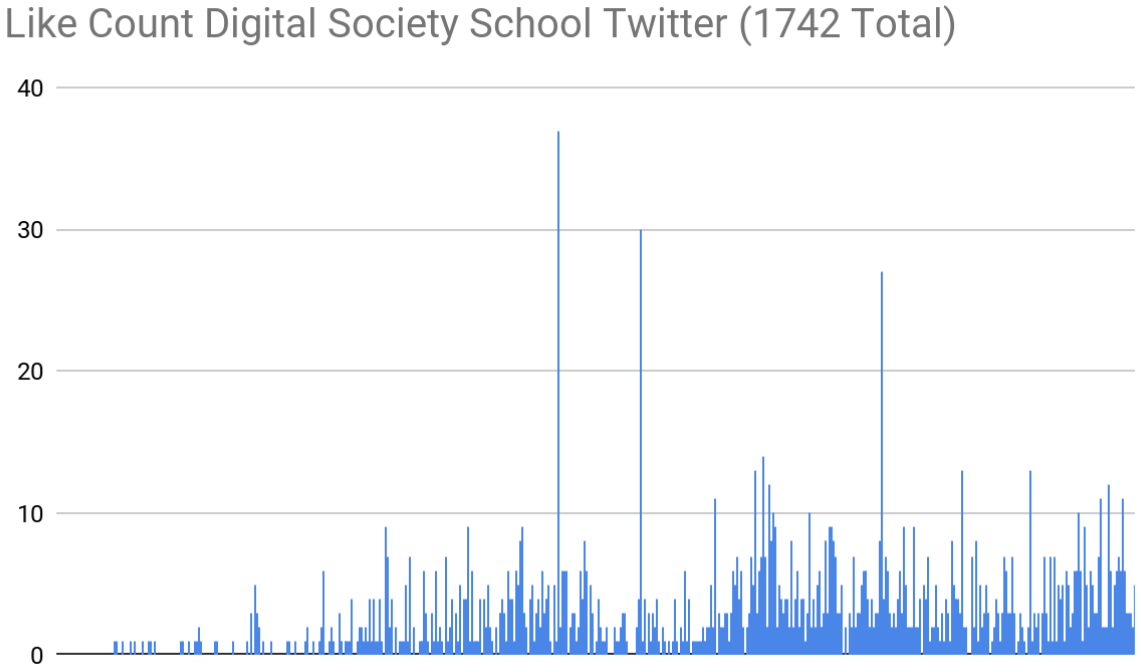
likeCount

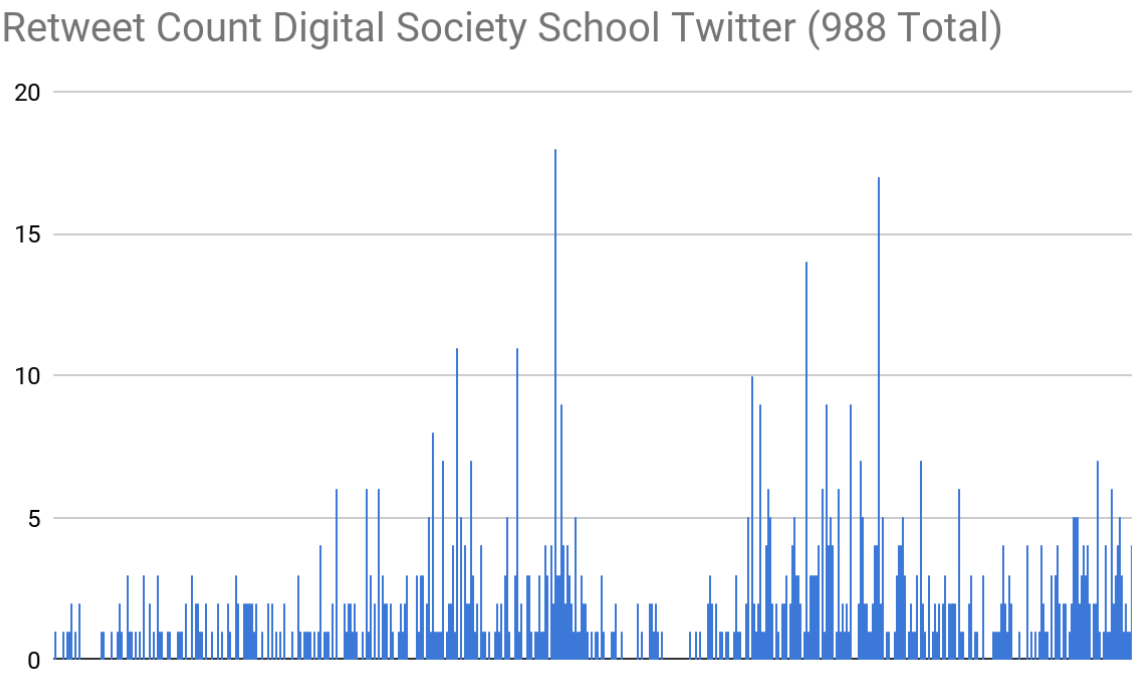
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	1	.6	.6	.6
	1	9	5.5	5.5	6.1
	2	6	3.7	3.7	9.8
	3	6	3.7	3.7	13.5
	4	12	7.4	7.4	20.9
	5	14	8.6	8.6	29.4
	6	10	6.1	6.1	35.6
	7	11	6.7	6.7	42.3
	8	12	7.4	7.4	49.7
	9	4	2.5	2.5	52.1
	10	6	3.7	3.7	55.8
	11	7	4.3	4.3	60.1
	12	9	5.5	5.5	65.6
	13	6	3.7	3.7	69.3
	14	4	2.5	2.5	71.8
	15	5	3.1	3.1	74.8
	16	5	3.1	3.1	77.9
	17	7	4.3	4.3	82.2
	18	2	1.2	1.2	83.4
	19	3	1.8	1.8	85.3
	20	1	.6	.6	85.9
	21	3	1.8	1.8	87.7

	22	2	1.2	1.2	89.0
	23	2	1.2	1.2	90.2
	24	3	1.8	1.8	92.0
	25	1	.6	.6	92.6
	26	1	.6	.6	93.3
	28	2	1.2	1.2	94.5
	33	1	.6	.6	95.1
	34	2	1.2	1.2	96.3
	35	1	.6	.6	96.9
	36	2	1.2	1.2	98.2
	57	1	.6	.6	98.8
	59	1	.6	.6	99.4
	75	1	.6	.6	100.0
	Total	163	100.0	100.0	

Appendix M - Descriptives Twitter







Statistics

		commentCount	likeCount	retweetCount	
N	Valid	800	800	800	
	Missing	0	0	0	
Mean		.09	2.18	1.24	
Median		.00	1.00	1.00	
Std. Deviation		.315	3.075	1.908	
Range		2	37	18	
Minimum		0	0	0	
Maximum		2	37	18	
Percentiles	25	.00	.00	.00	
	50	.00	1.00	1.00	
	75	.00	3.00	2.00	

commentCount

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	735	91.9	91.9	91.9
	1	58	7.2	7.2	99.1
	2	7	.9	.9	100.0

	Total	800	100.0	100.0	

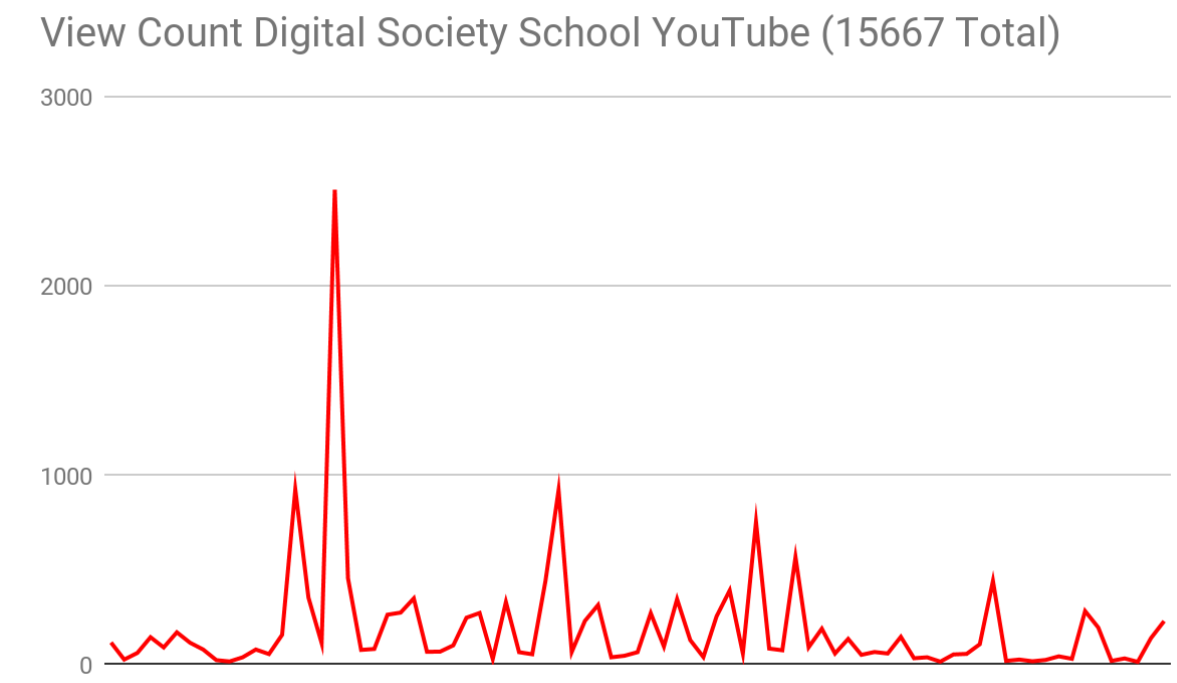
likeCount

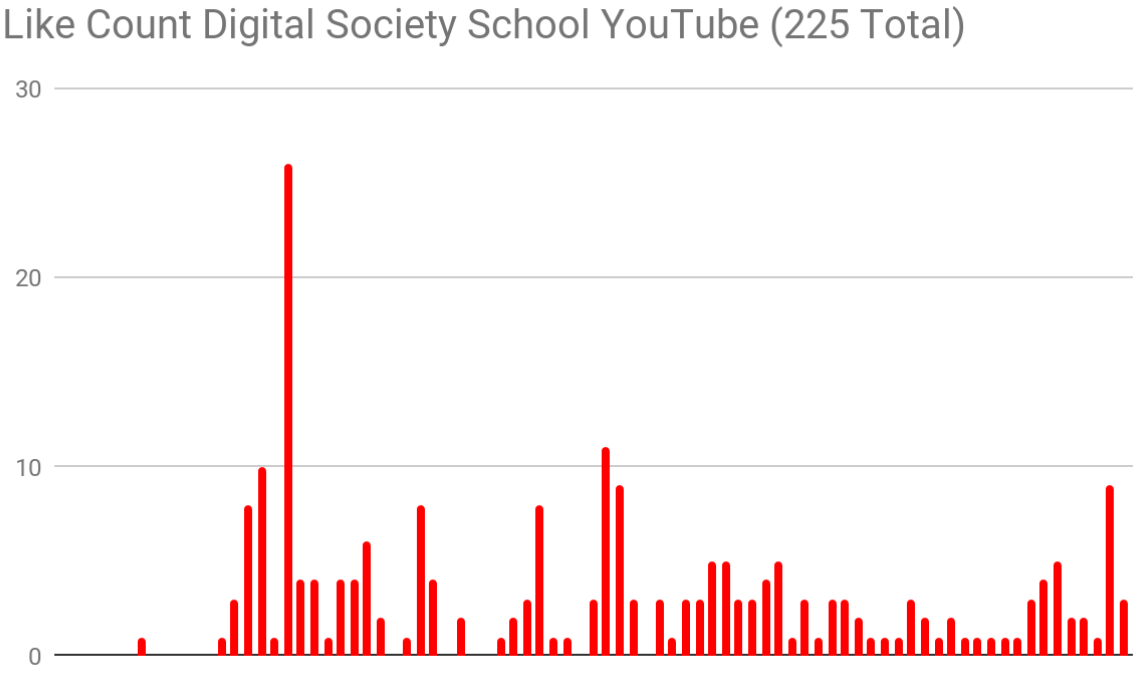
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	283	35.4	35.4	35.4
	1	152	19.0	19.0	54.4
	2	113	14.1	14.1	68.5
	3	76	9.5	9.5	78.0
	4	50	6.3	6.3	84.3
	5	33	4.1	4.1	88.4
	6	38	4.8	4.8	93.1
	7	20	2.5	2.5	95.6
	8	11	1.4	1.4	97.0
	9	9	1.1	1.1	98.1
	10	3	.4	.4	98.5
	11	3	.4	.4	98.9
	12	2	.3	.3	99.1
	13	3	.4	.4	99.5
	14	1	.1	.1	99.6
	27	1	.1	.1	99.8
	30	1	.1	.1	99.9
	37	1	.1	.1	100.0
	Total	800	100.0	100.0	

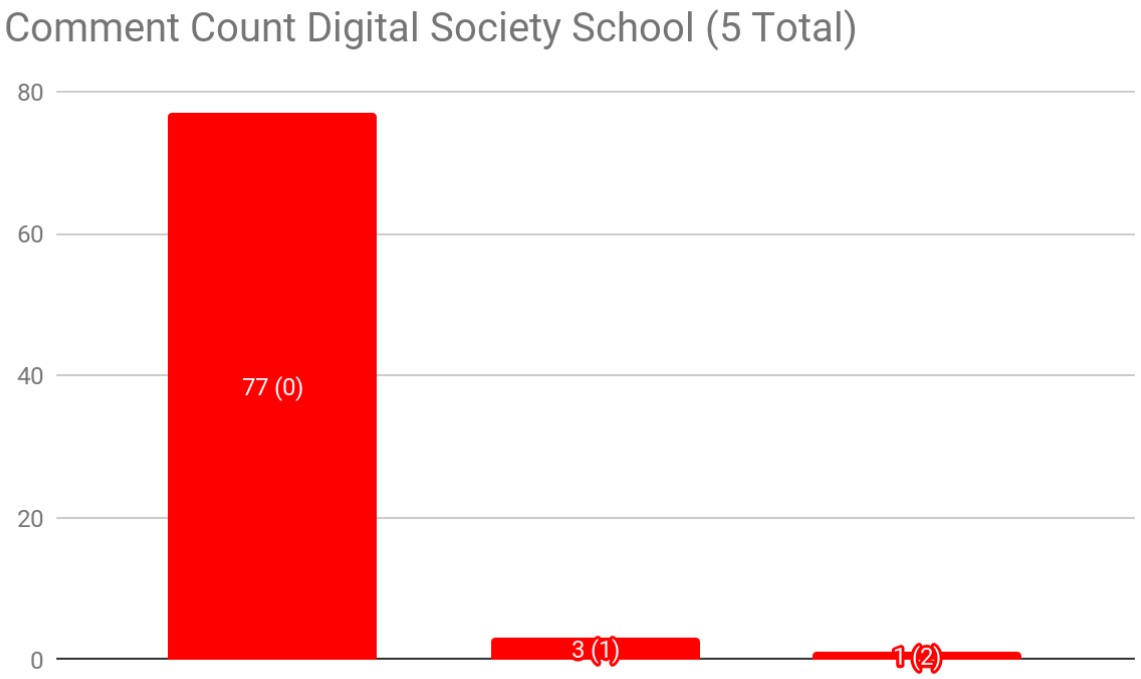
retweetCount

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	375	46.9	46.9	46.9
	1	192	24.0	24.0	70.9
	2	105	13.1	13.1	84.0
	3	59	7.4	7.4	91.4
	4	26	3.3	3.3	94.6
	5	17	2.1	2.1	96.8
	6	10	1.3	1.3	98.0
	7	5	.6	.6	98.6
	8	1	.1	.1	98.8
	9	4	.5	.5	99.3
	10	1	.1	.1	99.4
	11	2	.3	.3	99.6
	14	1	.1	.1	99.8
	17	1	.1	.1	99.9
	18	1	.1	.1	100.0
	Total	800	100.0	100.0	

Appendix N - Descriptives YouTube







Statistics			
	viewCount	likeCount	commentCount
N	Valid	82	82
	Missing	0	0
Mean	191.06	2.74	.06
Std. Error of Mean	35.254	.401	.032
Std. Deviation	319.239	3.634	.287
Range	2508	26	2
Minimum	0	0	0
Maximum	2508	26	2
Percentiles	25	46.25	1.00
	50	84.00	2.00
	75	249.75	3.25

viewCount					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	1	1.2	1.2	1.2
	15	1	1.2	1.2	2.4
	16	1	1.2	1.2	3.7
	17	1	1.2	1.2	4.9
	18	1	1.2	1.2	6.1
	20	2	2.4	2.4	8.5
	24	1	1.2	1.2	9.8
	25	1	1.2	1.2	11.0
	27	2	2.4	2.4	13.4
	30	1	1.2	1.2	14.6

31	1	1.2	1.2	15.9
33	1	1.2	1.2	17.1
34	1	1.2	1.2	18.3
39	3	3.7	3.7	22.0
40	1	1.2	1.2	23.2
44	1	1.2	1.2	24.4
47	1	1.2	1.2	25.6
52	1	1.2	1.2	26.8
54	1	1.2	1.2	28.0
55	1	1.2	1.2	29.3
56	1	1.2	1.2	30.5
57	1	1.2	1.2	31.7
59	2	2.4	2.4	34.1
60	1	1.2	1.2	35.4
62	1	1.2	1.2	36.6
66	2	2.4	2.4	39.0
67	2	2.4	2.4	41.5
68	1	1.2	1.2	42.7
69	1	1.2	1.2	43.9
76	1	1.2	1.2	45.1
78	1	1.2	1.2	46.3
80	2	2.4	2.4	48.8
83	1	1.2	1.2	50.0
85	1	1.2	1.2	51.2
91	1	1.2	1.2	52.4
92	1	1.2	1.2	53.7
96	1	1.2	1.2	54.9
102	1	1.2	1.2	56.1
108	1	1.2	1.2	57.3
114	1	1.2	1.2	58.5
116	1	1.2	1.2	59.8
117	1	1.2	1.2	61.0
130	1	1.2	1.2	62.2
136	1	1.2	1.2	63.4
140	1	1.2	1.2	64.6
145	1	1.2	1.2	65.9
147	1	1.2	1.2	67.1
158	1	1.2	1.2	68.3
171	1	1.2	1.2	69.5
190	1	1.2	1.2	70.7
196	1	1.2	1.2	72.0
230	1	1.2	1.2	73.2
231	1	1.2	1.2	74.4
248	1	1.2	1.2	75.6
255	1	1.2	1.2	76.8
264	1	1.2	1.2	78.0
272	1	1.2	1.2	79.3
273	1	1.2	1.2	80.5
275	1	1.2	1.2	81.7
283	1	1.2	1.2	82.9
315	1	1.2	1.2	84.1
331	1	1.2	1.2	85.4
346	1	1.2	1.2	86.6
350	1	1.2	1.2	87.8
354	1	1.2	1.2	89.0
392	1	1.2	1.2	90.2
440	1	1.2	1.2	91.5
442	1	1.2	1.2	92.7

	457	1	1.2	1.2	93.9
	568	1	1.2	1.2	95.1
	754	1	1.2	1.2	96.3
	921	1	1.2	1.2	97.6
	925	1	1.2	1.2	98.8
	2508	1	1.2	1.2	100.0
	Total	82	100.0	100.0	

commentCount

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	78	95.1	95.1	95.1
	1	3	3.7	3.7	98.8
	2	1	1.2	1.2	100.0
	Total	82	100.0	100.0	

likeCount

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	0	18	22.0	22.0	22.0
	1	21	25.6	25.6	47.6
	2	8	9.8	9.8	57.3
	3	15	18.3	18.3	75.6
	4	7	8.5	8.5	84.1
	5	4	4.9	4.9	89.0
	6	1	1.2	1.2	90.2
	8	3	3.7	3.7	93.9
	9	2	2.4	2.4	96.3
	10	1	1.2	1.2	97.6
	11	1	1.2	1.2	98.8
	26	1	1.2	1.2	100.0
	Total	82	100.0	100.0	

Appendix O - Content Pillars

Content Pillars					
	Facebook	Instagram	LinkedIn	Twitter	YouTube
People in the Spotlight	5	5	4	4	1
DSS Month view	1	1	0	1	1
Spotlight the Track	0	0	2	0	1
Project Kickoff	0	0	2	0	1
DTIP Content	0	0	1	0	0
Events through our Lens	3	4	4	4	4
Events (own or faculty)	5	4	5	5	4
Courses	4	3	5	5	1
Partner in the Spotlight	2	1	2	3	2
Method Monday	2	5	5	3	0
Recruitment	3	1	5	0	0
Podcast	3	5	5	5	0
Culture Shots	5	5	2	5	4

Appendix P - Community Heuristics

Community Heuristics			
	Yes	No	Semi
1.2. Purpose: Visibility	3 (60%)	2 (40%)	0 (0%)
1.3. Purpose: Idealism	1 (20%)	3 (60%)	1 (20%)
2.1. Moderation: Moderators	1 (20%)	3 (60%)	1 (20%)
3.1. Members: Deep Profiling	1 (20%)	4 (80%)	0 (0%)
3.2. Members: Lifecycle	0 (0%)	3 (60%)	2 (40%)
3.3. Members: Recruitment	1 (20%)	1 (20%)	3 (60%)
3.4. Members: Virtual Co-presence	0 (0%)	3 (60%)	2 (40%)
4.1. Common ground: Subgroups	1 (20%)	4 (80%)	0 (0%)
4.2. Common ground: Subgroups	1 (20%)	4 (80%)	0 (0%)
4.3. Common ground: Diversity	5 (100%)	0 (0%)	0 (0%)
4.4. Common ground: events	3 (60%)	0 (0%)	2 (40%)
4.5. Common ground: rituals	1 (20%)	2 (40%)	2 (40%)
5.1. Contribution: Request list	2 (40%)	1 (20%)	2 (40%)
6.1. Platform: Reputation	3 (60%)	0 (0%)	2 (40%)
6.2. Platform: Motive	1 (20%)	3 (60%)	1 (20%)
6.3. Platform: Aesthetics	2 (40%)	0 (0%)	3 (60%)