What’s on your mind?
Understanding the Influence of Social Media on Authentic Leadership Dimensions and Education from the Millennials’ Perspective

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“Your heels tapping on the sidewalk make me think of the roads I never traveled, that stretch away like the boughs of a tree. You have reawakened the obsession of my early youth: I would imagine life before me like a tree. I used to call it the tree of possibilities. We see life like that way for only a brief time. Thereafter, it comes to look like a track laid out once and for all, a tunnel one can never get out of. Still, the old spectre of the tree stays with us in the form of an ineradicable nostalgia. You have made me remember that tree, and in return, I want to pass you it's image, have you hear its enthralling murmur.”

- Kundera (1999)
ABSTRACT

Social media has paved a new way for communication and interacting with others. 'What’s on your mind?', 'How are you feeling today?', 'Where are you?', 'Who are you with?'. These allusions lead back to status update questions of the largest social network to date. This thesis seeks to primarily understand, to which extent and if, social media usage influences authentic leadership dimensions and education from the millennials’ perspective. Additionally, it portrays results of an online based questionnaire conducted among students and alumni within the millennial generation.

Keywords: Millennials, Digital Natives, Leadership Development, Authentic Leadership, Social Media, Education.
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# TABLE OF CONTENT

ABSTRACT ..................................................................................................................... i
ACKNOWLEDGEMENT ................................................................................................. ii
TABLE OF CONTENT ..................................................................................................... iii
LIST OF EXHIBITS ......................................................................................................... vi

CHAPTER 1 – INTRODUCTION “Log in” ................................................................. 1
1.1 Research Problem .................................................................................................. 1
1.2 Thesis Purpose & Objectives ................................................................................ 4
1.3 Topic Justification .................................................................................................. 5

CHAPTER 2 – METHODOLOGY ............................................................................... 7
2.1 Grounded Theory Approach & Research Design .............................................. 7
2.2 Applied Methodological View ............................................................................. 9
2.3 Research Method .................................................................................................. 10
2.4 Data Collection ..................................................................................................... 11
  2.4.1 Secondary Data ............................................................................................... 12
  2.4.2 Primary Data ................................................................................................... 12
  2.4.3 Survey Design ................................................................................................. 13
2.5 Thesis Writing Process ........................................................................................ 15
2.6 Research Validity .................................................................................................. 16
2.7 Research Process .................................................................................................. 17

CHAPTER 3 – CONCEPTUAL FRAMEWORK ...................................................... 19

CHAPTER 4 – LITERATURE REVIEW .................................................................... 21
4.1 The Digital Generations: It’s Time to Adapt .................................................... 21
  4.1.2 The Digital Natives: A Fledgling Species ....................................................... 22
  4.1.3 The Millennial Generation ............................................................................. 24
4.2 Leadership ............................................................................................................. 30
  4.2.1 The Leadership Process ............................................................................... 30
DEDICATION ........................................................................................................... 94
REFERENCES ......................................................................................................... 95

APPENDICES ......................................................................................................... 111
APPENDIX 1 – ALQ Questionnaire Sample Items .............................................. 111
APPENDIX 2 – Additional Survey Outcomes ..................................................... 111
APPENDIX 3 – Questionnaire ............................................................................ 113
APPENDIX 4 – Country of Origin Ranked According to Amount of Participants ............................................................................................................. 104
APPENDIX 5 – Universities Ranked According to Amount of Participants ............................................................................................................. 105
APPENDIX 6 – Subjects’ Field of Study ............................................................... 106
LIST OF EXHIBITS

Exhibit 1 - Components of a Research Design ................................................8
Exhibit 2 - Survey Structure ............................................................................14
Exhibit 3 - Our Research Process ...................................................................17
Exhibit 4 - The Network Conceptual Framework ........................................19
Exhibit 5 - Cultural Difference Between Generations ................................26
Exhibit 6 - Different Denomination and Generation Features .......................29
Exhibit 7 - Structural Dimensions of the Experiential Learning Process ........46
Exhibit 8 - Kolb’s Learning Styles .................................................................46
Exhibit 9 - Social Media Triangle ................................................................50
Exhibit 10 - Web 2.0 MEME Map ..................................................................51
Exhibit 11 - Social Media Landscape ...............................................................52
Exhibit 12 - Social Media Categories ...............................................................53
Exhibit 13 - E-mail as an Exercise in Operant Conditioning .........................59
Exhibit 14 - Top 10 Universities Social Media Performance ..........................64
Exhibit 15 – Comparison of Social Media Use by Workplace employees and Faculty ........................................................................................................66
Exhibit 16 - Faculty Use of Social Media in Class and for Student Assignments ..................................................................................................................66
Exhibit 17 – Faculty Use of Social Media by Online Teaching Status ............67
Exhibit 18 - Faculty Class Use of Social Media by Site (a) & Faculty Use of Social Media for Student Assignments by Size (b) .................................67
Exhibit 19 - Snapshot of Survey Respondents ..............................................70
Exhibit 20 - Type of Mobile Phone Device .....................................................71
Exhibit 21 - Frequency of Activities Since Using Internet ............................72
Exhibit 22 - Mobile/Smart Phone Usage Behavior .......................................73
Exhibit 23 - Which Social Media Do You Use? (a) & Most Frequently Used Ones (b) ........................................................................................................73
Exhibit 24 - Access of Social Media Account on a Daily Basis ......................74
Exhibit 25 - Reasons for Registering on Social Media Platforms ....................74
Exhibit 26 - Amount of Contacts ....................................................................75
Exhibit 27 - Amount of People Contacted on Daily Basis ............................75
Exhibit 28- Activities on Social Media Platforms .........................................76
Exhibit 29- Map of Values ........................................................................77
Exhibit 30- Most Important Values ..........................................................78
Exhibit 31- Social Media and Self-awareness (Part I) ..............................78
Exhibit 32- Social Media and Self-awareness (Part II) ............................79
Exhibit 33- Social Media and Transparency ...........................................80
Exhibit 34- Social Media, Internalized Moral Perspective and Views .......81
Exhibit 35- Social Media and Education (Part I) ....................................82
Exhibit 36- Social Media and Education (Part II) ...................................82
Exhibit 37- Social Media and Education (Part III) ..................................83
Exhibit 38- Social Media and Education (Part IV) ..................................83
Exhibit 39- Social Media and Education (Part V) ...................................84
CHAPTER 1 – INTRODUCTION

“Log in”

During the last academic year of the Master Program we were able to deeply extend our knowledge, not only concerning our personal development but also because of the opportunity to modify and extend our frame of references through undergoing a topical research about our own generation. It was an opportunity to master a topic of our personal interest, which can also provide everyone with an insight into the millennial generation and the roles played by the technological influence to which they are constantly exposed.

1.1 Research Problem

The relationship between young people and new media is a really topical subject. The emerging millennial generation (Howe & Strauss 2000; 2007), a term used to name those who have entered or are about to enter the adult world at the beginning of the new millennium, has grown in an environment marked by the pervasive presence of new digital technologies. They represent a disruptive force, with an estimated population of 70 million people only in the United States. The force of numbers, combined with the increased power of new technologies, put them in the position to exercise a significant influence on lifestyles and consumption models.

The reference to the term “generation” is not casual: without excluding the biological and personal data (age and stage of life), this concept focuses on socio-cultural variables. In other words, the historical events whereof the individual is the witness and the cultural variables whereof the individual forms his youth. The
conviction is that the development of such experiences might be
decisive in creating a connection, a mutual identification between
people who, once they fully entered their adult life, continue to
cultivate values, imaginaries, and common expectations (Fabris
2008). Therefore, the generation is not an anonymous aggregation of
individuals who belong to the same age group, but a socio-
anthropological construct, characterized by specific “indicators” or
“labels” (common experiences, rituals and myths). In the millennials’
case, these elements seem to be identified in the final advent of the
Internet and in the triumph of digital culture (Ibidem). They are
accustomed to receive high-speed information and able to handle
multiple tasks in parallel (Prensky 2001a). Indeed, the ‘digital
natives’ move in a changing environment, marked on the one hand
by the convergence between different technological platforms, which
create an integrated communicative environment; on the other hand
they are influenced by the growth of active cultures, which are
characterized by an increasing users’ attention-seeking (Jenkins
2006). Therefore, it is not surprising that the relationship between
younger generations and new media is a subject matter.

In general, the discussion tends to focus on contradictory
extremities: on one side, we observed the skepticism of those who
see in the digital network a substitute for relationship, thus a virtual
surrogate of daily reality, an ambiguous space, defined by mediocrity
and inauthentic communication (Lovink 2008; Carr 2008; Keen
2007), while on the other side, we perceived the enthusiastic
adhesion to the idea of the network as a virtual horizontal society
animated by the logic of an equal exchange, where everyone has the
right of speech (Tapscott & Williams 2006; Jenkins 2006).

We now have seen that several conditions have an impact and
further divide generations. This is because the same conditions act
upon people of different ages in different ways (Walker-Smith &
Hence, each era is defined by different circumstances and represents an important force through our personality and therefore, our lives. In particular, leaders in each generation face several challenges that are quite different from those that confronted leaders in earlier generations and are also quite different from those that leaders in future generations will encounter. Probably, the last decade has been one of the most terrifying in history because of the shift about technology innovation, the crash of the global economy and increasingly more global businesses. Moreover, “it’s an era that cries out for new leadership and new thinking. And it’s an era that has left a generation of young leaders wondering how they can contribute even as they seek a life of meaning, passion and purpose” (Coleman, Gulati & Segovia 2011, n.p.). The shift in technology innovation brought as a consequence the introduction of information technology, which has not been only influencing leadership within organizations and firms but also individuals. It enables us to have access to information at any times and changed how information is gathered, saved and interpreted (Avolio & Kahai 2003). Moreover, many of today’s discussions and debates do not clarify which aspects of social media are effectively related to education, learning and knowledge.

As leadership students and members of the millennial generation ourselves we have carefully and critically reflected upon our ideas. Based on the literature research and our knowledge on leadership we formulated the following research question, which describes the guiding idea of our master thesis:

**To which extent and if, does social media usage influence the millennial generations’ authentic leadership dimensions and education?**
1.2 Thesis Purpose & Objectives

This thesis seeks to primarily understand, establish and present our observation about the millennial generation and social media usage. Given these two factors we further investigated whether a connection between social media, authentic leadership dimensions and education can be established. Additionally, we think that in order to have a deep understanding of today’s generation, it is also fundamental to understand their social media behavior and the appropriation of new technologies including digital consumptions practices and values.

The contribution of this master thesis as summarized below is to:

- understand the influence of social media on the millennial generation
- understand the influence of social media on authentic leadership dimensions from the millennials’ perspective
- understand the influence of social media on education from the millennials’ perspective

The conceptual framework, literature review and empirical findings will support and provide the possibility of answering the main research question.
1.3 Topic Justification

Our pre-understanding was shaped through different factors such as previous discussions with student colleagues, the program headmaster and our tutor within the Master Program Leadership and Management in International Contexts. Besides, the initial idea of writing about the millennial generation, our thesis topic generation phase initially has been precipitated by required course literature such as Bennis and Thomas’ (2007) work ‘Leading for a Lifetime’ or articles such as Shamir and Eilam’s (2005) ‘What’s your Story? – A life stories approach to authentic leadership’.

The starting process of the thesis project and literature review enabled us to gain a new perspective on external factors that influence individuals and creates internet technology usage awareness, in particular the concept of social media and social network applications.

We were fascinated by Bennis and Thomas’ (2007) oeuvre, which includes important lessons of different generations and how today and tomorrow’s leaders are shaped by crucibles. Since the beginning, it was evident that we were highly interested in doing research on something that concerns our generation and we are involved in. During our reading process, we realized that the millennial generation has been extensively researched (Strauss & Howe 1991, Twenge 2006, Pew Research Center 2010). Nonetheless, we do believe it is a stepping stone for our research.

We expected to encounter challenges of establishing a proposition and framing a research question. We were highly convinced that we formulated an optimal research question concerning leadership through the millennials perspective. However, soon we were
confronted with the feedback session and were inspired by the following statement from our initial literature review on research: “the topic is something that the researcher will have to live with for some time, so it has to be something of interest” (Corbin & Strauss, 2008, p.21). We realized that a focus solely on the perception of leadership from the millennials’ point of view, was not sufficient enough to awaken our personal interest for the long term.

We had to take a step forward to ask ourselves how to sufficiently narrow the problem down, in order to design a workable project. Finally, the idea of a new proposition emerged out of one of the core themes that were initially part of our research question, namely the influence of technology on millennials. Subsequently, the idea emerged out of investigating the effects of internet technology, leading us to the most current discussion within the field of internet technology, that is social media. The help of the tutors during the second feedback, a combination of personal experience, as well as mentoring, enabled us to give our research a precise direction, adding another important variable into our research that millennials are confronted with, which is the educational aspect.
CHAPTER 2 – METHODOLOGY

“Since we cannot change reality, let us change the eyes which see reality.”

- Kazantzakis (n.d.)

2.1 Grounded Theory Approach & Research Design

Given the fact that we have decided to put an emphasis on creating knowledge through an exploratory research, we oppose it as a grounded study, ‘grounded by theory’ or ‘undergrounded’ by data. The Grounded Theory Approach, does not focus on verification but emphasizes the generation of theory and aims to comprehend experiences of participants through acquiring their point of view (Glaser & Strauss 1967).

As described by Glaser and Strauss (1967), we could not have defined it in a better way: “each form of data is useful for both verification and generation of theory, whatever the primacy of emphasis. Primacy depends only on the circumstances of research, on the interests and training of the researcher, and on the kinds of material he needs for his theory” (Glaser & Strauss 1967, p.17). Hence, this explains that all data is usable for research. Furthermore, the notion of Grounded Theory implies that analyzing data whilst comparing it to secondary findings enables the research process to be grounded by theory (Glaser & Strauss 1967; Strauss & Corbin 1998; Arbnor & Bjerke 2009). It includes the conceptualization of abstract of time, people and place (Glaser 1965) and enables creators of knowledge to head towards a more flexible
research, whilst having the intention of depicting factive and true reality (Arbnor & Bjerke 2009).

With the help of literature and empirical research we wanted to conceptualize current occurrences leaning towards a more Glaserian approach, which claims that all data can be utilized, not only limited by qualitative data analysis. Nevertheless, this does not implicate an intention to adhere to a Glaserian position but merely serves as a description of the research nature of our thesis. Here, as researchers we have the sole responsibility to let the data speak for themselves.

Exhibit 1 - Components of a Research Design

The general model of a research design is highly influenced by the philosophy of the researchers itself, the methodology and the applied methods that help to collect the data (Birks & Mills 2010). As all the three variables are interconnected in the sense of the philosophy of
the researchers, it determines the methodology by the researchers and the methodology influences how data is collected (Birks & Mills 2010), as seen in the Exhibit depicted above. Since we believe that the use of modern technology nowadays can be of great advantage, it should reflect part of our philosophy and the view of our generation, as well as our personal preferences.

2.2 Applied Methodological View

“Methodology is a mode of thinking, but it is also a mode of acting. It contains a number of concepts, which try to describe the steps and relations needed in the process of creating and searching for new knowledge.”

- Arbnor & Bjerke (2009, p. 21)

This section discusses the three methodological views by Arbnor and Bjerke (2009) which are the systems view, the analytical view and the actors view, followed by an argumentation of the applied methodological view, which best describes the nature of this research. In order to support the methodology of our research and to emphasize the importance these views have for knowledge creators, the views are shortly presented.

The first view, which is the analytical view, has the purpose of describing reality with the help of facts that can be isolated from other parts, whereas the systems view has the purpose to explain and understand reality, also taking into consideration factive reality (Ibidem, p.72). The third view, namely the actors view has the only purpose of understanding reality, whilst being part of reality. The knowledge creator in this case has to interactively approach the subject involved in the study by e.g. conducting dialogues (Arbnor & Bjerke 2009).
Given these three different methodological views, as knowledge creators we describe our research from the systems view, as Arbnor and Bjerke (2006) mentioned from an ‘objectivist-rationalistic conception of reality’, with the aim of creating models that are very close to reality, as being part of a system. In this case, we interpret the millennial generation, social media, authentic leadership dimensions and education as part of a whole system influencing each other. Applying a metaphor to this idea could mean that each of the factors could be represented through an electronic or digital device, as a component of a system, namely part of a network system that can be interconnected.

As previously mentioned, the systems view serves to explain and understand reality. It is a holistic picture, structured through patterns that fit and are interconnected with each other, factive but not summative of its parts (Ibidem, p. 76). Important questions that we could ask ourselves as knowledge creators in order to comprehend the systems view are: ‘What does it mean, if we look at things with structure?’ The creator of knowledge within systems view thus has to find patterns, factors and coherencies (Ibidem, p.87).

2.3 Research Method

Even though we were aware about the fact that the strengths of quantitative data collection methods could be simultaneously weaknesses of this method, we were determined to make use of it, in order to facilitate data collection from our participants. Although questionnaires and surveys have been known to have ‘little value for examining complex social relationships or intricate patterns of interaction’ (Marshall & Rossman 2006, p. 125), we were deliberately determined to make use of this method in order to be able to profit from modern technology, here social media.
Above all, we wanted to reach out and obtain understanding of the millennials, through the distribution of a web-based questionnaire on social media. This is also due to the fact that the use of social media would have increased the probability of obtaining a larger sample, through the use of our personal networks. Therefore, we were highly convinced that a quantitative method would have been the best fit to obtain an image concerning the social media behavior of the millennials.

One of the weaknesses quantitative methods possesses is the fact that it can be statistically manipulated. However, it is known to facilitate and speed up the process of data analysis, since order is imposed on the data before it is collected, unlike qualitative data collection, which has an unstructured nature. Furthermore, quantitative methods enable to retrieve numeric data and can help to explain patterns or interconnections, correlations, magnitude and variation (Dorowitz et al. 2008).

2.4 Data Collection

Our intention is to use the secondary data as part of our literature review and the primary data we collected as part of our exploratory research, in order to understand the social media behavior, the influence of social media on authentic leadership dimensions and education from the millennials’ perspective. Primary data were then collected through a survey among university/college/university of applied sciences students, as well as alumni worldwide, and secondary data are gathered from books, published articles, journals and lectures.
2.4.1 Secondary Data

“Secondary sources consist of analysis, interpretation or a restatement of primary sources. In other words, they interpret or discuss the meaning and context of primary sources” (Dolowitz et al. 2008, p. 90). It is of great importance in order to support in depth analysis of findings and prevents the overgeneralisation of research results (Ibidem). Above all, “no piece of research will be really considered legitimate or thorough”, if we do not demonstrate the knowledge of existing scholarship (Ibidem).

Since the beginning of the thesis construction, a workload of technical and non-technical literature had to be reviewed. The key sources that were used in order to retrieve secondary data were the library database of LNU, that provides overviews of books, electronic publications and e-books. Besides the LNU Library, online sources have been used in order to retrieve a larger array of secondary data. Here, we made sure to be careful about using ‘appropriate sources that has demonstrable authority’ (Dolowitz et al., 2008, p.92) and academic legitimacy such as the online scientific database of Sciencedirect, which offers journals, reference works, book series, e-books and handbooks.

2.4.2 Primary Data

The primary data that has been retrieved for the fieldwork has been executed with the help of the online survey platform Surveymonkey. Since one of our core themes within our research lies within the usage of social media, we would like to emphasize how we retrieved and lobbied participants for our survey. We mainly made use of social media applications and platforms, such as Linkedin and
Facebook. The latter proved to be the most successful inquiry method.

The functionality and options provided by Facebook, such as communicating through closed groups, was of great value for our fieldwork. Within Facebook, we communicated through a variety of groups such as our course group LNU Leadership and Management in International Context 2013, ESN Kalmar Fall, ESN Kalmar Spring and Freemovers Linnaeus University. Additionally, we utilized our personal network within Facebook and LinkedIn, creating the chance to share our survey via private messages, posting the link on our timelines (Facebook profiles), and starting discussions within our LinkedIn groups. This way, we were able to motivate people within our network to participate and to make use of our online social networks. Nevertheless, an individual approach through private messages was necessary to remind our contacts to promote our web-based questionnaire through their networks. In addition, we were available concerning questions about our questionnaire via Facebook or LinkedIn and we set up an external e-mail address, included in the introductory text of the survey, called leadership.lnu@gmail.com.

2.4.3 Survey Design

In gathering the survey data we have used the cross-sectional design, which “involves administering the survey once to a sample, obtaining data on the measure characteristics as they exist at the time of the survey” (Graziano & Raulin, 2013, p.324).

In order to discover relationships among variables, the type of survey that we have conducted can be called survey research. To conduct survey research, careful planning is necessary. Our major goal was
to discover social media behavior and the opinion of millennials concerning the influence of social media on authentic leadership dimensions and education. As previously mentioned, the data collected has been administered with the help of an online survey instrument, called Surveymonkey. This enabled us to collect and administer data, as the surveys were completed. The survey was structured into four parts (Exhibit 2). Within the introduction questions and Part I of the survey, participants were able to choose answers in form of multiple-choice answers and open-ended items. A copy of the questionnaire can be found in Appendix 3.

**Exhibit 2 - Survey Structure**

<table>
<thead>
<tr>
<th>INTRODUCTION</th>
<th>General demographic questions about the participant, such as gender, country of origin, university information.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PART I – Millennials and Social Media</td>
<td>Questions about the millennials’ social media behavior.</td>
</tr>
<tr>
<td>PART II – Social Media and Leadership Development</td>
<td>Questions about the millennials’ positioning concerning the influence of social media on their authentic leadership development.</td>
</tr>
<tr>
<td>PART III – Social Media and Education</td>
<td>Questions about the millennials’ opinion concerning the influence of social media on education.</td>
</tr>
</tbody>
</table>

Source: created by authors

For Part II and III of the survey, participants were asked to answer content items by using a five-point Likert scale from 1=strongly
disagree to 5=strongly agree. Here, we have asked the subjects about their opinion concerning the influence of social media on their leadership development, involving the authentic leadership dimensions, social media and education. In order not to confuse the participants, we want to underline that authentic leadership dimensions are to be considered as part of the leadership development process. Hence, we have chosen to refer to it as “leadership development”.

2.5 Thesis Writing Process

As the thesis writing can be an extensive process, due to the fact that it is an independent study, it requires a lot of motivation under little supervision (Murray 2011). Therefore, the writing process has to be very well thought out.

Since we were working in a duo, we integrated and divided the early writing tasks in the very early phase of our research according to Murray (2011), such as noting ideas during the desk research process, documenting, composing summaries, sketching a work plan and outlining our literature review and questionnaire structure. Therefore, we divided the writing process of our thesis into manageable phases and made use of ideas, brainstorm sessions to create and acquire knowledge.

Learning how to write collaboratively was one of our priorities. Moreover, we had to ask ourselves the ‘quality over quantity’ question as noted and emphasized by Murray (2011): “quality in the writing is far more important than the number of words. However, quality comes through many, many, many revisions. In the early stages of such a long writing project as a thesis, it is not appropriate to aim for the highest level of quality. Early stages, early writings
Drafting thus, was an essential part for our thesis development. In addition, we also strongly believe and agree with the fact that “writing a thesis is comparable to joining a debate” (Ibidem, p. 49) and that our ideas can be criticized or challenged at any times not as a result of weak argumentation or writing style, but rather the nature of our framework. The writing process was facilitated through keeping all these above factors in mind.

2.6 Research Validity

As the systems view describes the nature of our research approach best, the problem of validity compared to the actors view and analytical view is different, “because of the lower degree of generality and absoluteness of systems theory, the connections among theory, definitions and reality are not as strong as they are in the analytical case” (Arnbor & Bjerke 2009, p. 216).

As mentioned by Arnbor and Bjerke (2009), a research within the systems approach is of different nature, implying that findings do not have to be identical with existing theory. As knowledge creators we are the ones who determine whether the results of our research are sensible, whilst reflecting the system from as many perspectives as possible. In addition, executing our study within the real system, conveying empirical research, and secondary literature (Arnbor & Bjerke 2009).
2.7 Research Process

"Ithaca does not exist; only the voyage to Ithaca."

- Kazantzakis (n.d)

Looking in retrospect to the beginning phase of our thesis process, we can say that we have gone through an intense phase of literature research, collecting data and getting used to collaborating as a duo. Not only were we aware of the fact that living together, working together and maintaining a healthy working atmosphere could risk our friendship, but we were also aware that we were going to face a time of hard work marked by hours of brainstorm sessions, readings, discussions, conceptualizing and writing. However, we can only speak about the fact that living together facilitated our collaboration in a positive way. Therefore, we laid importance in exhibiting our entire research process (Exhibit 3) for the reader to understand which stages have led us to our findings.

Exhibit 3 - Our Research Process

Source: created by authors
Our research process can be divided into three major development phases:

Phase I: Initiation Phase
The initiation phase goes from “initial ideas” to the “literature review” stage. The “literature research” was a very intense phase of gathering and filtering secondary data sources to come up with a problem definition. After going through the “thesis proposal” evaluation and “literature review” process, we have decided to move into a more precise direction concerning the millennials, as previously mentioned in the section about our topic justification.

Phase II: Elaboration Phase
The elaboration phase started off with “Feedback #1” and ends with the “survey” initiation. “Feedback #1” enabled us to reformulate our “problem definition”, which lead us to a “focus alignment” before being confronted with “Feedback #2”. During these stages we laid importance in additional “literature research” and developed a “survey” for our primary data collection method. Besides, the conceptualization of the thesis design, here “Research design Re-alignment”, has taken place right before launching the survey.

Phase III: Final Phase
The very last phase of our research process comprises the “Data Analysis” and “Literature Review”. After the survey had been closed, we executed the data analysis and additional literature review. Based on the last two building blocks of our research process, we were able to compose and present our findings.
CHAPTER 3 – CONCEPTUAL FRAMEWORK

With the help of our own vision and within the process mapping of our thesis, we came up with the idea of using technological devices as symbols of the factors that we wanted to investigate.

Exhibit 4 - The Network Conceptual Framework

With this conceptual framework we deliberately have chosen a modern approach, that reflects and characterizes the entire mapping of our thesis. Since the main focus of this thesis lays within our generation, the millennials, it represents the largest device, the monitor in the conceptual framework. The second largest device is represented by the laptop, which is the symbol for leadership.
development/authentic leadership dimensions. The tablet stands for education and the smartphone for social media.

We have chosen these devices as symbols, because they make it possible to connect to the internet and any social media online. Above all, they are devices that we are constantly using and some of them are portable and enables us to stay connected to the internet at any times. But in order for these devices to be connected with the internet or to any social media, an internet network connection has to be established. This is represented by router on the right side of the Exhibit, symbolizing our thesis, trying to connect the devices to the internet, making it available for the audience, here symbolized by the globe. Nevertheless, it is not our intention to interconnect these devices or variables with each other but rather, as stated in our research question, should deliver an understanding of the influence of social media on millennials and their leadership development and education. The only job that the router/our thesis needs to fulfill here is thus to present the findings.

We have chosen the authentic leadership approach as part of our conceptual framework, while being fully aware that it discriminates the latter mentioned measure, from other related orientations, such as transformational leadership and ethical leadership (Walumbwa et al. 2008). However, we have chosen the authentic leadership approach, since it contains dimensions that are applicable to any individual. Therefore, we have incorporated ALQ components (Appendix 1) of Avolio (2007) in the questionnaire investigating the effect of social media on millennials.

Moreover, we believe that the choice of researching and pursuing an authentic leadership approach within the millennial generation during these fast-changing times is not only important, but it makes the difference for a brighter and virtuous future.
4.1 The Digital Generations: It’s Time to Adapt

The hypothesis of an immediate and spontaneous relationship between young generations and new digital technologies is an element whereon the most mindful observers are focusing their attention since a long time. Probably it happened when, at the end of the seventies, the computers left the professional context, for which they were originally conceived, to become personal and efficient tools, crossing the threshold of the first houses. Beside the obvious and predictable receptiveness of the newcomers, which characterizes young people and adolescents, it emerges an affinity that is played at a deeper level: from the beginning, the evolution of digital devices is designed in analogy with the generational flow. Moreover, since this phenomenon was born, we observe a constant and still open debate: on the one hand, there is the message of innovation, which usually accompanies the entry of a new generation on the history’s stage, on the other hand, there is the fear that the technological device is the one that marks time and the rules of change, absorbing every generations’ possibility to independently define the trajectories of their own future.

As the French historian Schmitt (1982) observes in those years, it seems that only young people are able to adapt to the constant
technological evolution, but considering that the time allotted to the technological evolution is infinitely shorter than the time allocated to human generations, each individual is forced, somehow or other, to rejuvenate himself periodically. Subsequently, if the traditional classification of the Western culture consecrates the pre-eminence of the fathers on their children, the increasing acceleration of the technological change seems to announce a new model in the relations between generations, which highlights the knowledge’s superiority of the children on their parents (Ibidem).

We think that it is therefore of great importance to investigate the role that digital technologies and new media play on the identity’s definition process of younger generation.

4.1.2 The Digital Natives: A Fledgling Species

The ‘Digital Natives’ generation (Palfray & Grasser 2008) is a subject of great interest that concern the educational context, with a conceptualization that focuses on the changes induced in the learning models since the development of new technologies. Today’s young and digital natives are accustomed to receive high-speed information and capable to handle simultaneous multiple processes, thus oriented to act upon a multitasking perspective. They love to keep in touch via social media and are often in search of instant gratification and frequent rewards. For this reason, Echo Boomers are identified by Prensky (2001a) as “digital immigrants”, those who belong to Generation X are seen as “digital adaptive” and millennials are defined as “digital natives”, because they are “native speakers of the digital language of computers” (2001a, p. 1). In his thesis, Prensky goes further, stating that digital technology, with its rapid impact on young people’s daily lives, has radically changed the structure of thinking (2001b). According to him, the brain of digital natives works differently from that of digital immigrants, and this
cause several problematic in formal educational settings, in which the ‘digital immigrant’ teacher proposes a learning method that is inappropriate to the way of speaking and thinking of his students. As it occurs, for example, to professional musicians that have to bone up on the study of an instrument for many hours a day, focusing for long periods of time, thus these are the same conditions to which today’s young people are exposed, spending many hours a day, every day, focusing on social media, practicing velocity and interactivity (Ibidem).

In any case, a background of shared experiences is not enough to talk about generation labels. It is essential to introduce a process of differentiation, which includes both the self-definition as a different group and the fact that identity “is never altogether separable from claims to be known in specific ways by others” (Calhous 1994, pp. 9-10).

The process of generationing, defined by Sibak and Vittadini (2012) as “the result of the interaction between contextual and fixed traits (such as historical, cultural and social events and experiences) and a cultural process of identity formation developed over time (including narratives, performances and rituals)” (Ibidem, n.p.), also involves a sort of shared “reinvention” of the past. As Hobswan (1983) writes about traditions, the past is reinvented as a tool to determine the belonging to a group. The Spanish sociologist Castells argues: “The construction of identities uses building materials from history, from geography, [...] from collective memory [...] But individuals, social groups and societies, process all these materials, and rearrange their meaning” (1996, p. 7).

In short, those who recognize themselves in the same generation, not only have something in common, they have a common sense, the so-called “we sense” and “they begin to share a picture of ‘their time’ or
a script of the drama of their collective development in the course of ‘their’ historical phase” (Corsten 1999, p. 252).

As we will see in section 4.3.2, based on the potential cognitive impact of an intensive use of technology, the studies concerning this field are still at an early stage, to such an extent that Anderson (2007) calls for the emergence of “neuroscience of children and media” (p. 77), in order to investigate scientifically the potential impact that an intensive use of digital media can have on young people’s cerebral development.

4.1.3 The Millennial Generation

“Boomers have given them the confidence to be optimistic about their ability to make things happen, and Xers have given them just enough skepticism to be cautious... If you want to remember just one key word to describe Millennials, it’s realistic.”


The lifestyle of the millennial generations’ members seems to glean significant stimulus since the success of new technologies, able to go along with the wishes of brevity and velocity, and animated by the insatiable desire for instant gratification and frequent rewards (Trendwatching 2006). Millennials are mainly focused on the “here and now” and use to live in a preparedness universe where the imperative is to ‘capture the opportunity’. Many existing researches about the millennials were conducted in the United States. The work of Howe and Strauss (2000) is of great interest, inasmuch they interpret the American history as a sequence of different generations, attributable to four fundamental archetypes: the artist, the prophet, the nomad, and the hero. Each
archetype gives rise to its opposite, or, in other words, each generation defines its own distinctive features as opposed to what were perceived to be the excesses of the previous generation.

It follows that those loyal, sensitive and respectful adults belonging to the Silent Generation, who lived the dramatic experience of the Second World War (those born between 1925 and 1942 that can be assimilated to the artist’s archetype), are followed by the idealism of the disenchanted Boomers (1943-1960), the optimism’s spoiled children of the immediate post-WWII period who grew up in an era characterized by a conscience revolution (protests against the war in Vietnam, movements for equal opportunity and civil rights, etc.). It is a ‘prophetic’ disposition that has its negative counterpart in the pragmatic and disenchanted attitude of individuals who belong to the Generation X (1961-1981), inclined to distrust institutions and collective movements in order to seek individually their own way of life, in line with the ‘nomad’ epithet. According to this scheme, it is expected that the millennial generation (1982-2000), develops the hero archetype and tends to be optimistic, teamwork oriented, close to their parents and with a confident feeling about the future.
According to Howe and Strauss’ observation concerning the millennials’ culture, some distinctive traits of this generation are revealed: these individuals have grown up with the feeling of ‘being special’ and wanted children who grew up central to their parents’ sense of purpose. Furthermore, “these helicopter parents have often sheltered them, a practice that tends to extend the students’ adolescence and delay their development of independence” (Price 2009, n.p).

As Twenge (2006) affirms, “compared to Boomers [the millennial generation] is twice as likely to agree with the statement ‘there is no single right way to live’” (p. 19). Hence, they appear self-confident, happy about their existence and optimistic about the future. They have an aptitude to work in team, due to the new educational models that emphasize a collaborative and egalitarian learning; they appear to be strongly committed in achieving professional goals and live under constant pressure because they have internalized the
idea, within the family, that success is the natural consequence of individual efforts (Howe & Strauss 2007).

Twenge (2006) describes also the concept concerning the negative outcome of an overemphasis on self-esteem that has been an increase in narcissism, in which individuals are “overly focus on themselves lack empathy for others” (Ibidem, p. 68).

Although there are different opinions concerning the interpretation of the millennial generation, the traits of optimism, self-confidence, and teamwork orientation, in particular, seem to be confirmed by the enthusiasm of young generations towards new technologies (Tapscott 1998, 2009; Prensky 2001a) and the participatory nature of social media’s usage (Jenkins 2006).

According to Wilson and Gerber (2008), the millennials have also an open attitude towards the other, due to the fact that they are accustomed to live in a multi-cultural environment, in which geographical limitations are no longer interpreted as barriers, due to the digital networks (Wilson & Gerber 2008).

The data gathered by the Pew Research Center in 2010 offer empirical evidence about this perspective. Thus, the main generational signs are to be identified with the definitive arrival of the Internet and with the triumph of the digital culture (Fabris, 2008).

As Price points out, the millennial are “the first generation to be fully raised in the aftermath of the technological revolution in which information has been readily available to them with the click of a mouse. This environment has driven them to be demanding educational consumers with no tolerance for delay” (Price 2009, n.p.)

What Twenge (2006) is trying to highlight is the hallmark of the millennial generation, defined in her book as “Generation Me”,

Guía Tina Bertoncini & Maria Teresa Schmalz
identified in the growing gap between expectations and reality. According to her studies, since their childhood millennials are put on a pedestal, incited to believe in themselves and to always seek for the best, they have become young ‘adultescents’ today, or rather “adults not yet adults”. Insecure and narcissistic, they nurture dreams, unlimited desires, and they are put to the test by the difficult economic environment in an increasingly competitive world (Ibidem).

There are also curious proposals to mark them with the expression “Thumb Generation” (Tréguer & Segati 2003), because today’s young people are used to hold with both hands sophisticated technological devices, using their thumbs to dial phone numbers, write text messages, press joystick’s buttons or access other features.
## Exhibit 6 - Different Denomination and Generation Features

<table>
<thead>
<tr>
<th>Denomination</th>
<th>Time frame</th>
<th>Features</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation Y</td>
<td>1977-1994</td>
<td>Familiarity with the use of computers, the Internet and digital technologies.</td>
<td>Unknown</td>
</tr>
<tr>
<td>Boomers</td>
<td>Beginning of the ‘80</td>
<td>Renewed interest in children and increase in the rate of births.</td>
<td>Lancaster and Stillman (2002)</td>
</tr>
<tr>
<td>Thumb Generation</td>
<td>1985-</td>
<td>Using thumbs to interact with mobile devices, such as mobile phones, iPods, games.</td>
<td>Tréguer and Segati (2003)</td>
</tr>
</tbody>
</table>

Source: Elaborated and created by authors
In sum, the plurality of labels used to define the millennial generation as well as the uncertainty in identifying the chronological limits that separate the last generation from the others (Exhibit 6), consider worthwhile a clearer definition of the concept and a more careful understanding of how young people integrate new technologies and media in everyday life. The feeling is that terms such as “Net Generation” and “Digital Natives” hide a potential misunderstanding, an oversimplification: the risk of a “reductio ad unum” that fails to grasp the many facets of experiences and situations which, at a closer look, are much more varied and complex.

4.2 Leadership

"I think we've been choosing boards of directors and many wrong leaders for the wrong reason. We choose people for their image, their charisma, their style and we should be choosing them for their integrity, for their character, and their substance."

- George (n.d.)

4.2.1 The Leadership Process

According to Murphy (1941) leadership has been defined as a sociological process, which involves the influence exercised by one person (the leader) over more, in order to achieve common goals. Hence, it is not a psychological phenomenon because it is sociological in nature. However, it is clear that the figure of an absolute leader does not exist, as this position in practice depends on different situations and needs. Furthermore, the concept of leadership is often defined and strongly connected to a process based on interaction.
The concepts of “leader” and “leadership” are not isolated when used in the study and analysis of groups. In particular, we can see how the structure of a group is deeply tied to the power of its respective leader. The leader has a unique role in the group and is identified by a higher status and the ability to exercise power or at least influence group members. Therefore, Murphy argued that it is a function of the interaction of two different variables, the situation and the person, where the situation includes followers and the context. Hence, Friedler argues that: “the most important lesson we have learned over the past forty years is probably that the leadership of groups and organizations is a highly complex interaction between an individual and the social and task environment. Leadership is an ongoing transaction between a person in a position of authority and the social environment” (1996, pp. 241-251).

This fluid nature of the leadership process, allowed Smircich and Morgan (1982) to define the phenomenon of leadership from a different point of view, which consists in defining what leaders do for the groups that they are a part of. According to them, leaders confer meaning to specific events for others. As written in their article, some people “emerge as leaders because of their role in framing experience in a way that provides a viable basis for action (Smircich & Morgan 1982, p. 257), for example, by activating meaning or inventing images. When implementing these peculiar competences, leaders can frame and change situations and being able to enact a system of shared meaning that provide a basis for organized action (Ibidem). Therefore, the authors strengthen Murphy’s perception of a sociological leadership process, which is realized by the interaction between the leader, the follower and the common situation (the context). As stated by various scholars, due to its specific nature, leadership is “a social influence relationship, interactive between two or more people dependent upon one other for the attainment of certain mutual goals, bound together within a group situation.
Leadership is a dynamic and working relationship, built over time, involving an exchange between leader and follower in which leadership is a resource embedded in the situation, providing direction for goal attainment” (Murphy 1941; Hollander & Julian, 1969; Smircich & Morgan 1982).

4.2.2 E-Leadership

When talking about e-leadership, the context is definitely an important factor. As we have seen before, today our generation is observing a more rapid and extensive proliferation of Information Technology throughout organizations that was anticipated a few years ago. If we have a look at the Internet Economy Indicators (Barua & Whinston 2000), the Internet Economy has grown at an incredibly high rate and has had a great impact on the Western economy than the entire Industrial revolution, which began in the eighteenth century (Avolio et al. 2000). This IT-enabled economy is creating a new context for leadership because the key factors of this new environment are real-time information availability, greater knowledge sharing with stakeholders, and the use of this information and knowledge to build “customized” relationships (Avolio et al. 2000). This wide accessibility of information affects the leaders’ knowledge structures and it also changes the nature of leadership (Shamir 1997).

As Avolio et al. (2000) argues: “rapidly changing customer demands have led to more work being done in temporary project teams. These project teams are often virtually configured, where individuals work at a distance from each other in different countries, cultures, and organizations” (p. 617). Therefore, members of virtual teams will have to communicate each other via IT that enables a one-to-one or one-to-many communication. We think that the challenge that the leader is facing nowadays is to play a proactive role in incorporating
human and information technology systems in their organizations. Here, the term e-leadership is used to integrate the new emerging environment for examining leadership. E-leadership can be defined as a “social influence process mediated by AIT (Advanced Information Technology) to produce a change in attitudes, feelings, thinking, behaviour, and/or performance with individuals, groups, and/or organizations” (Ibidem, p. 617).

Leadership is defined by Northouse (2007) as “a process whereby an individual influences a group of individuals to achieve a common goal”. Therefore, it follows that both leadership and e-leadership are a social influence process among individuals and groups. However, the key difference between leadership and e-leadership is that “e-leadership takes place in a context where work is mediated by information technology” (Avolio & Kahai 2003). They propose that leadership mediated by information technology can exhibit exactly the same content and style as traditional face-to-face leadership, especially as virtual interactions become more visual (Ibidem). Nevertheless, the most important thing that we must consider is that e-leadership ultimately is not about connecting technology, but about connecting people (Annunzio 2001).

4.2.3 Towards an Authentic Leadership Approach

"Something ignited in my soul,
Fever or unremembered wings,
And I went my own way,
Deciphering that burning fire."

- Neruda (n.d.)

A theory of authentic leadership emerged in several years from the intersection of the leadership, ethics, and positive organizational
behaviour and scholarship literatures (Avolio et al. 2004; Cameron, Dutton, & Quinn 2003; Cooper & Nelson 2006; Luthans 2002; Luthans & Avolio 2003). Accordingly to the growing field of positive psychology (Seligman 2002), authenticity can be defined as “owning one’s personal experiences, be they thoughts, emotions, needs, preferences, or beliefs, processes captured by the injunction to know oneself and behaving in accordance with the true self” (Harter 2002, p. 382).

Also Bennis (1992) defines the concept of authentic leadership, affirming that: “leadership without perspective and a point of view is not leadership, and of course it must be your own perspective, your own point of view. You cannot borrow a point of view any more than you can borrow someone else’s eyes. It must be authentic, and if it is, it will be original, because you are original” (p. 122).

A theme that can be found in many articles emphasizes the notion that leadership is a relational phenomenon (Pierce & Newstrom 2011). As Garrett and Portman (2005) argue: “in relational-culture theory, authenticity aligns well with the concept of courage, the strength to be who one is and to seek one’s vision. Authenticity is a genuineness of honesty of self in the relationship. This genuineness means a sense of belonging in and experiencing fully in relationship to others” (p. 289).

Every leader has to first come to terms with himself. We cannot influence others if we are not able to influence ourselves first. It is the principle of self-determination. Hence, discovering one’s authentic leadership requires a commitment to develop oneself; “like musicians and athletes, you must devote yourself to a lifetime of realizing your potential” (George 2007, p. 132). Moreover, the journey to authentic leadership starts with understanding the story of one’s life. As the novelist Barth wrote, “the story of your life is not
your life. It is your story”. Hence, George writes, “it is your personal narrative that matters, not the mere facts of your life. Your life narrative is like a permanent recording playing in your head. Over and over, you replay the events and personal interactions that are important to your life, attempting to make sense of them to find your place in the world” (Ibidem).

As George et al. (2007) observes, when seventy-five members of Stanford Graduate School of Business’s Advisory Council were asked to advocate the most important skill for leaders to develop, the answer was self-awareness. He writes, “yet many leaders, especially those early in their careers, are trying so hard to establish themselves in the world that they leave little time for self-exploration. They strive to achieve success in tangible ways that are recognized in the external world, money, fame, power, status, or a rising stock price. Often their drive enables them to be professionally successful for a while, but they are unable to sustain that success. As they age, they may find something is missing in their lives and realize they are holding back from being the person they want to be. Knowing their authentic selves requires the courage and honesty to open up and examine their experiences. As they do so, leaders become more humane and willing to be vulnerable” (2007, p. 3-4).

In sum, the authentic leader is the one who is fully aware of the “true north” (George & Sims 2007) on his personal compass of values and principles. Therefore, he fully understands their scope: he drives with the heart, establishes significant long-term relationships and cultivates his development with scrupulous self-discipline also with the help of a support team, which is not a business team, but the one he creates around him with the important people of his life.
4.2.4 Authentic Leadership Development: The Components to Become an Authentic Leader

According to Avolio, Gardner and other scholars (Avolio & Gardner 2005; Gardner et al., 2005; Gardner, Avolio, & Walumbwa 2005; Ilies et al. 2005), authentic leadership is seen as the combination of four different but interconnected components, as outlined in Exhibit 7, that are necessary for an individual to be considered an authentic leader: self-awareness, relational transparency, balanced processing of information, and internalized moral perspective.

Exhibit 7 - Strategies for increasing authentic leadership

<table>
<thead>
<tr>
<th>Authentic leadership component</th>
<th>Selection criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>Positive self-concept</td>
</tr>
<tr>
<td>Unbiased processing</td>
<td>Emotional Intelligence</td>
</tr>
<tr>
<td><em>(Balanced processing)</em></td>
<td></td>
</tr>
<tr>
<td>Authentic behaviour/acting</td>
<td>Integrity</td>
</tr>
<tr>
<td><em>(Internalized moral perspective)</em></td>
<td>Learning goal orientation</td>
</tr>
<tr>
<td>Relational authenticity</td>
<td>Self-monitoring</td>
</tr>
<tr>
<td><em>(Relational transparency)</em></td>
<td>Self-esteem</td>
</tr>
<tr>
<td></td>
<td>Past positive relationships</td>
</tr>
<tr>
<td></td>
<td>Past behaviour interview</td>
</tr>
</tbody>
</table>

* Source: Revised descriptions of the authentic leadership components (Ilies, et al., 2005, p.389), Source: created by authors

As various scholars affirm (Walumbwa et al. 2008), self-awareness refers to “demonstrating an understanding of how one derives and makes meaning of the world and how that meaning making process
impacts the way one views himself or herself over time. It also refers to showing an understanding of one’s strengths and weaknesses and the multifaceted nature of the self” (p. 95). Hence, self-awareness is related to the understanding of our own values, motivations, feelings, capabilities, and weaknesses. It allows us to understand things in depth through a positive self-concept and emotional intelligence, in order to take better decisions.

The second dimension, relational transparency is then referred to showing one’s authentic self to others, which is opposed to a distorted and fake self (Ibidem). This behaviour encourages “trust through disclosures that involve openly sharing information and expressions of one’s true thoughts and feelings while trying to minimize displays of inappropriate emotions” (p. 95). Balanced processing refers to “leaders who show that they objectively analyse all relevant data before coming to a decision. Such leaders also solicit views that challenge their deeply held position” (Ibidem).

Ultimately, internalized moral perspective refers to an internalized model of self-regulation (Ryan & Deci 2003). The ability of self-regulation is therefore the process by which the leader aligns his values to the actions he intends to take. This turns out to be critical to the extent that he, leading by example, has to show consistency between what he says and what he does in order to establish an honest and transparent relationship with followers. Without a doubt, an effective leadership cannot be based on false and manipulative attitudes or inconsistent behaviour that call forth conflict with personal values.

Finally, this proposed view of the authentic leadership suggests that: “authentic leaders show to others that they genuinely desire to understand their own leadership to serve others more effectively” (Ibidem, p. 96). To continue, authentic leaders, “act in accordance
with deep personal values and convictions to build credibility and win the respect and trust of followers. By encouraging diverse viewpoints and building networks of collaborative relationships with followers, they lead in a manner that followers perceive and describe as authentic” (Ibidem).

4.2.5 The Authentic Leadership Questionnaire

In order to measure the effects of social media on an authentic leadership approach, a personal elaboration of the Authentic Leadership Questionnaire* (ALQ) was used (Avolio et al. 2007). The ALQ, and so our survey is based on four components: self-awareness, relational transparency, balanced processing, and internalized moral perspective.


4.3 Technologies and Education: Homo Differently Sapiens

Men have always felt the necessity to develop technologies that could facilitate information’s recovery and reprocessing. Hence, these technologies have had necessarily an impact on education, generally strengthening it. With the development and diffusion of digital technologies this process experienced a strong acceleration and today’s technological devices utilized to know and learn have become more affordable and widespread. Even children and young people access digital equipment at an increasingly early age, through which are able to retrieve content and to exchange information on their own.
Digital technologies appear to have an impact both on the development and reinforcement of certain cognitive abilities, and on the motivation to learn.

4.3.1 Technologies and Cognitive Processes

Digital media are able to offer development opportunities for different cognitive abilities, with particular reference to visual-spatial ones. The intensive usage of digital technologies is yet a recent phenomenon and, as we mentioned above (see 4.1.2), studies in this area tend to chase thesis formulated by technology’s experts. The main areas on which researchers are focusing concern if and how the use of computers and the Internet for interactive games, information’s search and communication in informal contexts can influence the principal cognitive abilities.

In 2008, the CERI (Centre for Educational Research and Innovation) realized a study named ‘New Millennium Learners’ with the specific aim of describing the research developments concerning the effects of technology on school-age learners in the United States and Europe. The ultimate goal of this project was to achieve useful guidance and recommendations for the elaboration of new educational approach on the part of educational institutions. In the report’s introduction, it is stressed that “no matter how attractive the label of NML might be, by no means should it be used to describe a generation-wide phenomenon because the effects of digital technologies on learners are deeply influenced by factors such as age, gender, and socioeconomic status” (Ibidem, p.18). It follows an overview of the most important studies concerning the controversial field of the impact of technology on the main cognitive abilities. In this regard, the research suggests that “there is enough evidence to claim that an unduly neglected issue such as the role of digital
technologies has to be taken seriously both by educational institutions and policy makers. Neither gender nor socio-economic status seems to be at the forefront of current educational research on technology. But they should be, as both issues challenge the prevailing homogeneous and comfortable assumptions regarding the positive effects of technologies that the common policy discourse usually contains” (Ibidem, p. 20).

We list below the main conclusions attained by this report, utilizing, in some cases, reflections from other studies.

**Visual abilities.** According to the report of the CERI, the majority of the scientific research seems to agree on the fact that visually oriented technologies have further developed a natural human inclination to visual information in young people. The capacity of visual orientation, spatial representation and informations’ recognition contained in images are definitely enhanced by interactive games, if they are frequently and intensively practiced. It is not proven yet that these capacities involve automatically a portability of these skills in other contexts (Ibidem).

**Memory abilities.** The technologies’ use seems to have negative consequences on the way in which the memory ability is perceived. According to the report, teachers and parents frequently denounce the familiarity with the network and search engines. Moreover, Wikipedia seems to have modified the attitude of young people towards information’s availability and approachability. The perception towards the need to memorize information seems to be changed, since in people’s eyes they appear to be always available online.

**Multitasking.** The technological devices available to most of the people, allow to monitor simultaneously many things and to interconnect them with each other. This possibility seems to have
developed a new way of learning based on the ability to perform more tasks in parallel. With regard to this aspect, the study of the CERI shows how the neurological research, currently, keep on sustaining that the human’s brain capacities are not unlimited and that the concentration oriented to perform a task decreases when another is introduced. For this reason, we mention here another study conducted by the Kaiser Family Foundation (2010) on young Americans, as it provides a measure of the degree of media’s exposure of today’s young people. While observing the average daily time spent by children between 8 and 18 years old in 2009 with technological equipment, the study revealed an astonishing result: the exposure observed, equal to 7 hours and 38 minutes per day, hid another reflection. The researchers realized that, in the same hours, the media’s exposition was more concentrated (estimated around 10 hours and 45 minutes) because of multitasking: children were, apparently simultaneously, listening to music, using computer, and texting with the phone, clearly with the TV on. Several studies argue that the multitasking ability has always existed, and that it is concretely realized only when the cognitive activity is associated with mechanical abilities (such as, for example, talking while driving). Now, according to these studies, if young people already manifest a tendency to process more things in parallel, the result is inevitably a decrease of efficiency and, therefore, a bigger chance of generating errors (Meyer & Kieras 1997).

Concentration and deep interpretation. There are several statement from teachers that reveal a growing critical situation concerning these two skills in today’s young people. The topic is explored by Carr (2008), who describes a phenomenon that is occurring nowadays: the Internet makes people more superficial and incapable of deep interpretation. This idea implies an important change in the way of understanding and experiencing the reading. While in the
past reading a book or a long article was a relatively simple activity, now, people who usually use the network as an educational source, claim to lose concentration after a few pages. The network has become for many the tool par excellence to access information, but media are not just passive channels of information, because “they supply the stuff of thought, but they also shape the process of thought. My mind now expects to take an information the way the Net distributes it” (n.p.).

Hence, although there is a predilection to glorify technological progress, there is also a reverse trend to presume the worse of every new tool. In Plato's Phaedrus (427-347 B.C.; trans. Jowett 2006) for example, Socrates complains the development of writing as a substitute for knowledge. To use Socrates’ own words: “O most ingenious Theuth, the parent or inventor of an art is not always the best judge of the utility or inutility of his own inventions to the users of them. And in this instance, you who are the father of letters, from a paternal love of your own children have been led to attribute to them a quality which they cannot have; for this discovery of yours will create forgetfulness in the learners’ souls, because they will not use their memories; they will trust to the external written characters and not remember of themselves. The specific which you have discovered is an aid not to memory, but to reminiscence, and you give your disciples not truth, but only the semblance of truth; they will be hearers of many things and will have learned nothing; they will appear to be omniscient and will generally know nothing; they will be tiresome company, having the show of wisdom without the reality” (p. 66) and again “if men learn this, it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within themselves, but by means of external marks. What you have discovered is a recipe not for memory, but for reminder. And it is no true wisdom that you offer your disciples, but only its semblance, for by telling them of many
things without teaching them you will make them seem to know much, while for the most part they know nothing, and as men filled, not with wisdom, but with the conceit of wisdom, they will be a burden to their fellows” (trans. Hackforth 1952, p. 157).

4.3.2 Technologies and Motivation to Learn

Nowadays, it is a cliché to say that learners’ motivation, involvement and interest are enhanced by the use of technologies in the classroom, as young students find it more pleasant to learn through them rather than through a traditional method (e.g. textbooks and teacher’s lessons). Actually, as we will see, the relationship between technology and motivation to learn is a subject matter between those who argue that technologies are a motivational ‘tout court’ tool and those who alternatively subordinate their effectiveness to other factors.

As mentioned before, technologies are considered a powerful, essential, and motivational tool by some expert, while others have a cautious approach therein, assuming that technology is not in itself a factor that boosts motivation, because the key element has to be found in the way in which the teacher uses it to organize the learning experience (Jonassen et al. 2008).

Reiners et al. (2005) propose an extensive literature review concerning the positive relationship between technology’s integration in school and increase of learners’ motivation, followed by a likewise extensive report of studies that appoint the teacher a key role, identifying as a critical factor the use of the different tools. McCombs (2000) argues that the problem of the research on the relationship between technology and motivation is that the focus is given on technology and not on the learner. Willingham (2010) in turn, argues
that the ability to involve technology depends on the way in which it is employed, mentioning a study on the usage of an interactive whiteboard for teaching mathematics, which showed that the majority of the people showed enthusiasm for this technological tool, but that only a small number of them arouse their interest in the subject treated. However, other studies agree on the fact that the motivation to learn is affected by a concrete development when technologies “have a real purpose and provide meaningful learning situations” (Reiner et al. 2005, p. 7).

4.3.3 The Experiential Learning Process

One of the main theorists of the experiential learning is David Kolb. Experiential learning theory offers “a fundamentally different view of the learning process from that of the behavioral theories of learning based on an empirical epistemology” (Kolb 1984, p. 20). This learning approach is called “experimental” to emphasize the important role experience plays in learning process (Ibidem). In other learning models (Lewin 1948; Dewey 1938; Piaget 1966), learning is defined as a “process whereby concepts are derived from and continuously modified by experience. No two thoughts are ever the same, since experience always intervenes” (Kolb 1984, p. 26). Learning is also “a continuous process grounded in experience” (Ibidem, p. 27) as knowledge is constantly originated from and tested out in the learner's experience. As Dewey (1938) affirms in his studies on the nature of human consciousness “what [an individual] has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations which follow. The process goes on as long as life and learning continue” (Ibidem, p. 44).
In the book *Experiential Learning* by Kolb (1984), he stresses the fact that one of human’s fundamental characteristics is the ability of adaptation, encompassed in Freire’s (1974) concept of praxis, defined as “reflection and action upon the world in order to transform it” (p. 36). Moreover, this ability of adaptation evolves in the learning process, since “learning is the major process of human adaptation. This concept of learning is considerably broader than that commonly associated with the school classroom” (Kolb 1984, p. 32). In addition, it is clear the presence of a deep relationship between learning and knowledge, as Kolb observes, “in my own research and practice with experiential learning, I have been impressed with the very practical ramifications of the epistemological perspective. In teaching, for example, I have found it essential to take into account the nature of the subject matter in deciding how to help students learn the material at hand. Trying to develop skills in empathic listening is a different educational task, requiring a different teaching approach from that of teaching fundamentals of statistics. Similarly, in consulting work with organizations, I have often seen barriers to communication and problem solving that at root are epistemologically based, that is, based on conflicting assumptions about the nature of knowledge and truth. The theory of experiential learning provides a perspective from which to approach these practical problems, suggesting a typology of different knowledge systems that results from the way the dialectic conflicts between adaptive modes of concrete experience and abstract conceptualization and the modes of active experimentation and reflective observation are characteristically resolved in different fields of inquiry” (Ibidem, pp. 37-38).

Kolb divides the process of experiential learning in four cycles that include four adaptive learning modes, defined as concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). The four modes are placed in two
different dimensions (concrete experience and abstract conceptualization on one side, active experimentation and reflective observation on the other), which represent two opposed adaptive orientations. The structural basis of the learning process lies in the transactions that take place through these adaptive modes (Exhibit 7 & Exhibit 8).

**Exhibit 7 - Structural Dimensions of the Experiential Learning Process**

![Structural Dimensions of the Experiential Learning Process](source)

**Exhibit 8 - Kolb’s Learning Styles**

![Kolb’s Learning Styles](source)
Hence, the learning process can, at various times, be influenced by one or more of these processes that interact simultaneously, moving from a structural basis to another depending on the circumstances. This means that the learning process varies from person to person because each individual activates an adaptive process that tends to emphasize his own predispositions. In order to measure these predispositions, Kolb developed a Learning Style Inventory (LSI), in which the styles identified are not conceived as fixed personality traits, but as structures that result from individual modes of one’s learning structure. These structures, in turn, are defined as adaptive modes that allow us to achieve some sort of stability through the transaction patterns with the environment (Kolb 1984).

4.4 Social Media

Since the worldwide introduction of social media around two decades ago, it has enabled people to communicate and interact with each other and has given them the chance as consumers to get affiliated with social media of their choice (Nielsen 2012).

However, social media has evolved into a wider form of media, which can be distinguished from other traditional mass media such as television, newspapers, film, or radio. Social media relies exclusively on digital-based communication channels and applications. In addition, they have relative low barriers to entry, such as low cost, simple production processes and easy accessibility of tools for publishing and distributing content of any kind, which are used both for businesses and for individuals. Whereas traditional mass media production, such as the once previously mentioned, require extensive resources for production processes to realize publications. In addition, mass media, such as television are increasingly relying on the linear communication of a broadcast. Whereas the communication of social media happens to a closer real-time factor,
to generate and attract attention and coverage (Komus & Wauch 2008).

Companies have begun to use social media for their own purposes. It produces entirely new forms of cooperation, such as in the case of Black & Decker, who animated its staff to utilize video platforms for training, or the Austrian jewelry manufacturer Swarovski, who animated its customers to create and submit designs on open platform. Also PR crises such as in the case of BP during the environmental disaster in the Gulf of Mexico can be seen early in the social network (Geißler 2010).

4.4.1 Components of Social Media

There have been a lot of discussions about the terminology ‘Social Media’, which is often equated with the technological term Web 2.0 or World Wide Web (Schüring 2010). However, clear definitions of the term social media and underlying basic concepts such as Web 2.0 and social software are still under discussion (Komus & Wauch 2008).

As depicted in the Exhibit 9, the components of social media can be based on three key elements, which are described as communities and networks, contents and Web 2.0 (O’Reilly 2005a; Ahlqvist et al. 2008). The content relates to user-generated pictures, videos, information updates, reviews and such, that users can share and publish (Halonen & Heinonen 2008). As the first word in social media reveals, it deals with being ‘social’ and enables individuals to interact with others within a certain community or a platform (Ibidem).
To be precise, the two components ‘communities and networks’ and ‘contents’ refer to a number of social networking sites and applications, such as Facebook, LinkedIn and Twitter, and Myspace or video sharing sites e.g. Youtube. Additionally, blogging platforms such as Wordpress, Typepad, Blogspot and a number of other chat programs (e.g. Skype, MSN messenger) are also linked to web-based communication platforms (Talug 2012, p. 4431).

The third component within the Social Media Triangle, which is Web 2.0 encompasses therefore not only the web as an open platform, but also all potential uses, which describes itself as the opportunities and risks arising from the involvement of users, their contributions, experiences, and ideas, referred to as ‘User Generated Content’ (Komus & Wauch 2008).

Given the broad opportunities for ‘User Generated Content’, the characteristics of Web 2.0 can include an array of different advantages, such as having the ability to harness the collective in intelligence of users. The more users contribute, the more importance and value is added to a site, simultaneously renewing the environment for communication and collaboration. Non-experts are enabled to act as developers themselves, with the help of simple and user-friendly programming techniques and tools, such as in wikis, blogs, RSS, and podcasts (O’Reilly 2005b; Lai & Turban 2008).

The elimination of software upgrade cycles makes everything a ‘perpetual beta’, creating new opportunities for the exchange of content and media, facilitated through networks which act as platforms (Andersen 2007; Lai & Turban 2008).
4.4.2 What is Web 2.0?

Empowerment of individuals is a key part of what makes open source work, since in the end, innovations tend to come from small groups, not from large, structured efforts.

- O’Reilly (n.d.)

Web 2.0 is a headword that is used for a number of interactive and collaborative elements of the Internet, specifically the World Wide Web. O’Reilly introduced it during a brainstorm session with MediaLive International and was documented in the form of a diagram as the ‘Web 2.0 MEME Map’ (Exhibit 10). Here, the user does not only ‘consume’ the contents, but is additionally acting as a content creator (O’Reilly 2005b; Andersen 2007; Kaplan & Haenlein 2010). The concept is postulated on the basis of several numbers of software products, which helps to distinguish them as part of a newer generation of the Web (Andersen 2007).

However, the use of the term decreases in favor of the concept of social media (Schürig 2010). In other words ‘Web 2.0 is an umbrella term that attempts to express explicitly the framework of ideas that underpin attempts to understand the manifestations of these newer
Web services within the context of the technologies that have produced them’ (Andersen 2007, p. 4).

Exhibit 10 - Web 2.0 MEME Map

Source: O’Reilly (2005); Komus & Wauch (2008)

4.4.3 Different Forms of Social Media

Social media applications can be generally divided into four categories of functionality type, which are: publishing, sharing, networking and discussing, as shown in the Exhibit 11, illustrated by Cavazza (2013). Various applications of these technologies can be combined by means of social media aggregation.

Nowadays, blogs, forums, social networks, wikis and podcasts are the most common social media technologies (Bundesverband Digitaler Wirtschaft 2008; Kilian 2010). As demonstrated by Cavazza
(2013) the most common social media applications are Facebook, Twitter and Google, as being part and center of the ‘social media ecosystem’. Exhibit 12 shows the different categories according to Morgan et al. (n.d.) of social media and its applications.

Exhibit 11 - Social Media Landscape

Source: Cavazza (2013)
## Exhibit 12 - Social Media Categories

### Communication
- **Blogs:** Blogger, ExpressionEngine, LiveJournal, Open Diary, TypePad, Vox, WordPress, Xanga, Live Journal, Over-Blo
- **Microblogging:** FMyLife, Foursquare, Jaiku, Plurk, Posterous, Tumblr, Twitter, Qaiku, Yammer, Google Buzz
- **Location-based social networks:** Foursquare, Gowalla, Facebook places, The Hotlist
- **Social networking:** ASmallWorld, Cyworld, Facebook, Hi5, LinkedIn, Viadeo MySpace, Orkut, Tagged, XING, VKontakte, Qzone, RenRen, Mixi
- **Events:** Eventful, The Hotlist, Meetup.com, Upcoming
- **Information Aggregators:** Netvibes, Twine (website)
- **Online Advocacy and Fundraising:** Causes, Kickstarter
- **Mobile applications:** Skype, Kik, WhatsApp, SnapChat, WeChat, Sina Weibo, Tencent Weibo, KakaoTalk, Line

### Collaboration/authority building
- **Wikis:** PBworks, Wetpaint, Wikia, Wikimedia, Wikipedia, Mahalo
- **Social bookmarking (or social tagging):** CiteULike, Delicious, Diigo, Google Reader, StumbleUpon, folkd
- **Social news:** Digg, Mixx, NowPublic, Reddit, Newsvine, MyWeboo
- **Social navigation:** Trapster, Waze
- **Content Management Systems:** Wordpress
- **Document Managing and Editing Tools:** Google Docs, Syncplicity, Docs.com, Dropbox

### Multimedia
- **Photography and art sharing:** deviantArt, Flickr, Photobucket, Picasa, SmugMug, Zoomr, BetweenCreation, Delicious, Tumblr, Instagram, Pinterest, TheFancy
- **Video sharing:** sevenload, Viddler, Vimeo, Vine, YouTube, DailyMotion, Metacafe, Nico Nico Douga, Openfilm, TubeMogul
- **Livecasting:** Justin.tv, Livestream, OpenCU, Skype, Stickam, Ustream
- **Music and audio sharing:** ccMixter, Deezer, Pandora Radio, Last.fm, MySpace Music, ReverbNation.com, ShareTheMusic, The Hype Machine, Spotify, Soundcloud
- **Presentation sharing:** scribd, SlideShare

### Reviews and opinions
- **Product reviews:** epinions.com, MouthShut.com
- **Business reviews:** Customer Lobby, Yelp, Inc.
- **Community Q&A:** Askville, EHow, Stack Exchange, WikiAnswers, Yahoo! Answers

### Entertainment
- **Media and entertainment platforms:** Cisco Eos
- **Virtual worlds:** Active Worlds, Forterra Systems, Second Life, The Sims Online
- **Game sharing:** Kongregate, Miniclip

### Brand monitoring
- **Social media measurement:** Attensity, Statsit, Sysomos, Vocus

Source: Morgan, Jones & Hodge (n.d.), created and updated by authors
4.4.4 The Origins of the Network Society

Given the current findings about social media, tracing back the origins of societal changes and developments and the influence on technology on social history, lays the foundation of a better understanding of Social Network Usage and Networks.

Manuel Castells identifies the network with the organizational form of the Information Age (Castells 2001). Although the social networks are certainly not new, their emergence as a dominant dimension of social organization, the Network Society, is due in part to the technological developments of the last generation and in part to the new forms of participation and relationship that are allowed by technological innovation.

The reason behind the Social Network Theory (Barnes 1954; Milgram 1967, Granovetter 1973) is the possibility to study a social system through the network of relationships from which the social system is composed. The value of a social network is founded, therefore, on the one hand by its extension, and on the other hand in the way in which the interaction between individuals is able to shape or modify the relationship and behavior. Hence, the “networking” becomes an “element of a specific form of social organization in which the speed of information, computation and data transmission becomes the fundamental resource to promote productivity and power” (Castells 2004, p. 10). The efficiency of a network is shared through processes of different nature according to an interactive model, which involve the different ties by which the network is made.

According to a famous study by Granovetter (1973), the value of a network is given by the strength of the “weak ties” inside of a network. Moreover, the individuals included in the weak ties, formed by acquaintances are “less likely to be socially involved with one
another than are our close friends (strong ties). Thus the set of people made up of any individual and his or her acquaintances comprises a low-density network (one in which many of the possible relational lines are absent) whereas the set consisting of the same individual and his or her close friends will be densely knit” (p. 202).

The Network Society mentioned by Castells, is based on these theoretical premises and it therefore appears as a new interpretative paradigm that needs to be studied through a balanced study about the relationship between technology and society. According to the interpretation of Castells (2001), “internet is considered to be the fabric of our lives”. He continues: “if information technology is the present–day equivalent of electricity in the industrial era, in our age the Internet could be likened to both the electrical grid and the electric engine because of its ability to distribute the power of information throughout the entire realm of human activity” (p.1).

Furthermore, as new technology of energy generation and distribution made possible the factory and the large corporations as the organizational foundations of industrial society, the Internet is the technological basis for the organizational form of the Information Age: the network. As we said before, it is a set of interconnected nodes and it has extraordinary advantages as organizing tools because of its intrinsic flexibility and versatility, which are critical factors in order to survive and prosper in a fast changing environment. That is probably why networks are proliferating in all domains of the economy and society. Nowadays, the introduction of information and communication technologies, and particularly the Internet, enables networks to expand their flexibility and versatility, thus asserting their evolutionary nature. At the same time, these technologies allow the coordination of tasks and management complexity. The result is an unprecedented combination of flexibility and task performance, of coordinated decision-making
accomplishment and horizontal communication that provide a superior organizational form for human action.

The Internet is a communication tool that allows, for the first time, the communication of “many to many” on a global scale. As the diffusion of the printing press in the West society created what McLuhan (1962) called the “Gutenberg Galaxy”, we now have entered a new world of communication that Castells (2001) calls the “Internet Galaxy”.

In addition, subsequently also Carr (2008) focuses his reflection on the impact of technology on society and he argues: “if the electric dynamo was the machine that fashioned twentieth century society - that made us who we are - the information dynamo is the machine that will fashion the new society of the twenty-first century” (p.15).

On the technological side, the growth of fast communication and connection has allowed us to exploit the potential of a vast and flexible environment, in which we can develop the interactive and bi-directional fruition, communication, entertainment and education (Ferri 2004). This interactive environment is the reason of the transition from a society based on the exchange of information, to a social system centred on the production and horizontal sharing of knowledge (Butera et al. 2008). This knowledge is capable to be extended to the entire human society and, as McLuhan said: “all media are extensions of some human faculty-psychic or physical” (1962, p. 26).

The growing connection between the Internet and daily life needs then to be investigated, in order to avoid of falling apart into the vices of easy determinism, first and foremost the technological one.
Since the improvement of our condition will depend on what people do, including you and us, it seems increasingly necessary to focus the attention on the users rather than on the technology used. The departure point of this literature analysis is that people, institutions, society and companies, transform technology, any technology, by adopting it, by modifying it, by investigating it. And we think that this is the fundamental lesson from the social history of technology, and in particular, this is even more the case of the Internet, the technology of communication and social networks.

4.4.5 The Alteration of (the Modern) Mind

The current technological revolution is not only redefining how we communicate but how we reach and influence people. As Small and Vorgan (2008) affirm, “besides influencing how we think, digital technology is altering how we feel, how we behave, and the way in which our brains function” (p. 1). The consequences of this revolution lead to a deeply divided brain gap between millennials and older generations’ minds (Ibidem). The two authors point out the sensitivity that our brains experience when we are exposed to computers for only one hour a day. Nevertheless, their findings raise some questions. What happens, for the example, to the brains when they spend several hours daily with high-tech devices?

Neuroimaging studies suggest that our brains are not built to maintain partial continuous attention and “eventually, the endless hours of unrelenting digital connectivity can create a unique type of brain strain” (p. 18). Moreover, recent studies show that many people who have been working on the Internet for several hours a day without breaks “report making frequent errors in their work. Upon signing off, they notice feeling spaced out, fatigued, irritable, and distracted, as if they are in a “digital fog”. This new form of
mental stress, what I term techno-brain burnout, is threatening to become an epidemic” (p. 18). The problem of the technological exposure to digital media is that our brains, when under this kind of stress, automatically signal the adrenal gland to secrete adrenaline and cortisol. In a short period of time, “these stress hormones boost energy levels and augment memory, but over time they actually impair cognition, lead to depression, and alter the neural circuitry in the hippocampus, amygdala, and prefrontal cortex—the brain regions that control mood and thoughts” (p. 18-19). The result is that the brain structure could even be reshaped when exposed to a persistent “techno-brain burnout” (Ibidem).

The suggestion given by the authors is of taking control of our brain’s evolution starting taking control of our neural circuitry by “making informed choices about the quantity and quality of your brain’s technological exposure” (p. 21). This is not an easy task, since both millennials (and Digital Natives in general) and Immigrant master new technologies and social media, taking advantage of their efficacies and efficiency. However, this is something we will certainly need to face. When we think of addiction, we tend to associate it with drugs abuse or alcoholism. Nevertheless, researches show that “the same neural pathways in the brain that reinforce dependence on those substances can lead to compulsive technology behaviors that are just as addictive and potentially destructive” (p. 47). Probably part of the appeal that new technologies give us is the sense of control we have over them. This direct and instant command we have over our devices empowers us (Ibidem). However, it is important to point out that it is not “the Internet itself that is addictive, but rather the specific application of choice. People can get hooked on database searching, online dating, Web shopping, porn sites, or even checking their email” (p. 50).
In order to provide the reader with a concrete example on how even apparently harmless email could be addictive, we report here how one gets hooked through email use as reported in the book “iBrain: Surviving the technological alteration of the modern mind” (2009):

**Exhibit 13 - E-mail as an Exercise in Operant Conditioning**

EMAIL AS AN EXERCISE IN OPERANT CONDITIONING

Let’s say you open your first few emails, and the messages are negative (unwanted spam, annoying jokes or chain letters from so-called friends), or perhaps a reminder of work you have been avoiding. You may feel like giving up email altogether. The faces below represent the negative emotional neural networks tweaked by these emails:

😊😊😊😊

Then suddenly you get an email that thrills you—a big raise at work or a note from your wife that your son got straight A’s.

😊😊😊😊

That happy face email will excite an entirely different cluster of neural circuits, causing dopamine to surge through your brain. That consequence reinforces future behavior to check email. Now you are probably willing to open many more emails, hoping for a future happy face.
Operant conditioning, wherein the consequence of a behavior reinforces future behaviors, is a very powerful mechanism. It drives addictions and compulsive behaviors. Consider whether all your emails elicited a happy face neural network:

😊😊😊😊😊😊😊😊

Email would not have the same charge—it would be no different from stepping into a nice warm shower or taking money out of an ATM. It would be a positive experience each time (unless, of course, you have no money in your account).

Source: Small & Vorgan 2008, p. 54-55

To conclude, the technological and social media revolution is not only influencing our brains and behaviors but directly the way in which young individuals develop their sense of self-esteem and identity (Ibidem). In other words, the “essential elements that dictate people’s actions and define their humanity” (p. 78).

4.4.6 Millennials and Social Media Network (SNS) Usage

“Technological change and generational change often go hand in hand. That’s certainly the story of the millennials and their embrace of all things digital.”

- Pew Research Center (2012, p. 25)

The rapid development of information technology and the associated new digital communities and networks has an immense impact on our communication behavior. Recent findings by Ellison, Steinfield and Lampe (2007) exhibit the popularity of social networking sites
(SNS) such as Facebook, among college students and millennials. Among other studies, they additionally claim that SNS usage online intensely affects the preservation of present social ties, and the emergence of additional connection. Besides, SNS enables individuals to connect with others outside their present social group or geographical locations, liberating them to form communities outside their geographical reach (Wellman et al. 1996; Ellison, Steinfeld & Lampe 2007).

However, SNS usage additionally induces other assertions about the millennials, which are of less positive nature. Studies have been indicating that millennials are more narcissistic compared to previous generations (Trzesniewski, Donnellan, & Robins 2008; Twenge et al. 2008). Moreover, SNS usage facilitates the promotion of narcissism and fosters the exhibition of idleness, giving narcissistic millennials the possibility of displaying a self distorted image of themselves to the external world (Bergman et al. 2011). Yet, Bergman et al. (2011) claim that millennials do not always seek attention or use SNS to uphold their self-esteem, but rather prefer to communicate through SNS, whereas preceding generations rather favor the use of classical communication methods such as sending letters or using the telephone.

4.4.7 Social Media, Millennials and Education

The dissemination and use of knowledge have changed enormously in the last centuries. The development of writing was a decisive step to store knowledge about people, time, space and transport. Over time, scientists, writers, journalists and publishers spread a new variety of relevant and irrelevant information; the access to the design of mass media was de facto limited to this very manageable group. Journalists, writers, and scientists were able to publish their information and their view on things. But for other groups these
barriers were still very high, therefore their views and their potential added value for creating knowledge remained hidden (Komus & Wauch 2008).

With the new social software systems and the content generated by users in Web 2.0 the printing press in the figurative sense is now all inexpensive and easily at disposal. Nevertheless, it can be seen that with the new media, the world changed in many other fields influencing the daily life of individuals and businesses (Ibidem), as well as the educational context. As Talug (2012) argues: “to meet this new trend social media can offer an engaging an educational arena by their main tools. As mentioned by researchers motivation for active learning, independence from time and location, engagement among students and faculty, offering the student ability to repeat course content as much as desired, interactivity and instant feedback what are present on social media might attract attention of students and improve their skills in educational playground” (Ibidem, p. 4434).

Many of today’s discussions and debates do not clarify which aspects of social media are effectively related to education, learning and knowledge. A study on the use of Facebook by British students showed that most of the students’ interactions had no connection with their academic studies (Selwyn 2009). As a result, while social media can theoretically support a collective learning approach and the production of knowledge, this has not been demonstrated yet. In this sense, Hosein, Ramanau and Jones (2010) make a convenient distinction between ‘living technologies’ (those that students choose in everyday life and for fun) and ‘learning technologies’ (those uses mainly for study purposes). Hence, while an overlap between the two categories can occur, we should not erroneously assume that all the daily life aspects associated with the social media’s use have an educational value. Indeed, most of social media’s uses are perhaps
better described as part of normal things of life (Shirky 2008), rather than particularly creative, collective, and friendly activities. At the current stage of studies, it is scarcely demonstrated that these applications are used in a particularly innovative, participatory, and interactive way (Selwyn 2012). Recent empirical studies concerning the use of social media by students show a lack of what might be considered an authentic or useful and active learning activity. In fact, these studies show a surprising lack of sophistication or advanced use of social media among college students (Head & Eisenberg 2010; Margaryan, Littlejohn & Vojt 2011).

These data certainly call into question the vision of a student’s generation that learn today through the “co-creation” of knowledge in social media. It seems that, despite the undoubted potential for a collective activity, the social media environments are more often appropriate for a passive content’s usage. This can be easily observed in the ways in which most of Facebook, YouTube, and Wikipedia users prefer to collect pre-existing content created by others, rather than create and share their own (Selwyn 2012). Furthermore, as Selwyn (2012) argues, “social media are socially disruptive technologies that prompt a range of deeply ideological (rather than purely technical) questions about the nature of institutionalized education [...] Universities clearly need to continue to consider, for example, the practical challenges of how to assess students’ collaboratively authored work or how best to design blended curricula [...] and need to play an important role in supporting students’ supposedly self-directed activities, providing students with a good core and governance in ‘arranging the furniture’ of technology-based learning” (p. 6).
4.4.8 Social Media Usage within Universities

The introduction of social media application has not only taken place within corporate environments but also within higher education institutions.

A report by the social media consulting company Sociagility (2012) on social media effectiveness revealed the highest ranked universities, which are best at using social media platforms such as Facebook, YouTube or Twitter. The list consists of universities from the U.S. and U.K. such as Harvard, University of Pennsylvania, Massachusetts Institute of Technology, University of Michigan and Stanford University (Exhibit 14). The study is based on attractiveness, visits, followers, interaction, comment reactions, trust and reach (Ibidem). However, the report also mentions that "it must be acknowledged that many of the U.S. institutions dominating the rankings are very large and very well-funded compared to their U.K. counterparts, and that sheer size and volume of activity may boost some individual attribute scores, like 'popularity' and 'network.' Success breeds success" (Ibidem, p. 8).

Exhibit 14 - Top 10 Universities Social Media Performance

<table>
<thead>
<tr>
<th>Rank</th>
<th>University</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Harvard University</td>
<td>USA</td>
</tr>
<tr>
<td>2</td>
<td>University of Pennsylvania</td>
<td>USA</td>
</tr>
<tr>
<td>3</td>
<td>Massachusetts Institute of Technology</td>
<td>USA</td>
</tr>
<tr>
<td>4</td>
<td>University of Michigan</td>
<td>USA</td>
</tr>
<tr>
<td>5</td>
<td>Stanford University</td>
<td>USA</td>
</tr>
<tr>
<td>6</td>
<td>University of California, Berkeley</td>
<td>USA</td>
</tr>
<tr>
<td>7</td>
<td>University of Oxford</td>
<td>UK</td>
</tr>
<tr>
<td>8</td>
<td>University of Sheffield</td>
<td>UK</td>
</tr>
<tr>
<td>9</td>
<td>University of Wisconsin-Madison</td>
<td>USA</td>
</tr>
<tr>
<td>10</td>
<td>University of Texas at Austin</td>
<td>USA</td>
</tr>
</tbody>
</table>

Source: Sociagility (2012)
Social media has facilitated processes within Universities such as the distribution of videos for recruitment efforts, through YouTube or promotion activities with the help of Blogs. In addition, faculties within universities are able to blog about their research, teaching and programs to obtain the attention of potential students or academic staff (Reuben 2008). According to Franklin and Van Harmelen (2007), blogs enable to build up a base of knowledge through posts and comments of a group of students lead by a teacher. In addition, blogs can be utilized for news, feedback to students and course announcements enabling students and teacher to keep track of new learning material. Examples of educational uses for social media include also the use of media sharing services such as podcasts, which can provide students with introductory lectures or additional recorded learning material. This allows students to review the lectures once more, to reinforce their learning. Besides, students who were unable to attend important lectures have the possibility to listen to the lectures (Ibidem). In other words, learning material that is supplied by the lecturer is accessible at any time. Video recorded seminars and lectures, which can be hosted on video sharing platforms such as YouTube or Google Video, gives student the ability to also critique and comment on each others work, making learning outcomes more fruitful (Ibidem).

Another study executed by Pearson, Babson Survey Research Group and Converseon under Moran, Seaman and Tinti-Kane (2011) about how today’s higher education faculty use social media present (Exhibit 15) that “more than 90% of faculty use social media either for professional purposes or in their classes—or both” (p. 9).
Moreover, the study reveals that faculty does make considerable use of social media in their teaching. As shown in Exhibit... almost two-thirds of all teaching faculty have used social media in their class sessions “I have used in class”, and 30% have posted content for students to view outside class “I have posted content for class” (Ibidem). The level of integration of social media into course related activities such as assignments show strong evidences (Exhibit 16). “Over 40% of faculty have assigned students to read or view social media as part of course assignments, and 20% have assigned students to comment on or post to social media sites. In total, 80% of faculty report using social media for some aspect of a course they are teaching” (Ibidem, p. 12).
Faculty who make use of teaching online are more likely to be active on social media, by posting content for students, assigning students to read/view and comment on social media platforms (Exhibit 17). At the same time, faculty who teach online are more likely to integrate social media within their courses (Ibidem).
According to Moran, Seaman and Tinti-Kane (2011) the usage of social media sites is not equally distributed (Exhibit 18). Online video is the most common social media, used in classes and outside classes for additional learning (Exhibit 18 a). Here again, the popularity of podcasts and blogs are emphasized, which are the two following popular social media types. Facebook and Twitter are commonly used for personal usage and are barely integrated within course related activities. An almost similar case applies to the usage of different social media sites for the integration of student assignments (Exhibit 18 b), where online video, podcasts, blogs and wikis are used. For in class purposes and student assignments, social networking sites such as Facebook and Twitter are not commonly used (Ibidem).
CHAPTER 5 – SURVEY RESULTS & DATA ANALYSIS

5.1 Survey Results

The idea of a survey emerged as we began to gather information about the topics involved in our work. We wanted to measure the prevalence of the elements of theoretical nature we discussed so far, in order to develop an understanding. The research phase is based on an online questionnaire distributed among university students and alumni. The web-based survey enabled us to obtain a sample of 315 subjects, of which 264 (83.8%) questionnaires were valid. The average age of the participants is 26, ranging from 18-31 years old. The choice of this age range is justified by the approach of this study, which aims to understand the usage of new technologies and social media within the millennial generation. The survey was spread through the use of social media, which allowed us to get a rather diversified sample. In addition, we polled 85 different universities (see Appendix 5) among 37 countries (see Appendix 4); thus the survey is not meant to represent attitudes of millennials around the world.

Our research aims to provide an understanding of the relationship between millennials and social media rather than to establish the appropriateness of generational labels or temporal limits identified to distinguish one generation from the other. Moreover, the structure of the questionnaire is divided into three sections (see section 4.4.3) focused on different thematic:

- *The appropriation of new technologies:* this part aims to understand the path of adoption of new media and digital devices, and the time allocated to media’s consumption;
• **Digital consumptions practices and values**: this part aims to provide an understanding of the values and meaning conferred to new communication technologies the millennials have available (mobile phone and smartphone, web and social networks);

• **Authentic leadership dimensions**: this part aims to understand the millennials’ perspective concerning the influence of social media on the authentic leadership dimensions described in the previous chapter (4.2.3 Authentic Leadership Development). The components investigated are self-awareness, transparency, balanced processing, and internalized moral perspective.

• **Social media and education**: this part aims to understand the millennials’ point of view concerning social media and online learning, creation of knowledge, education effectiveness and quality.

Finally, the newness of the topic and the multidimensional nature of the research justify the exploratory approach of this study.

---

**Exhibit 19 - Snapshot of Survey Respondents**

Source: created by authors
5.1.1 The Appropriation of New Technologies

The first part of our questionnaire aim to identify the process of appropriation of new technologies. It turns out that the smartphone is the most commonly used type of mobile phone device, since 83% of the respondents own one (Exhibit 19).

![Exhibit 20 - Type of Mobile Phone Device]

Source: created by authors

The data presents that the majority of the people pay attention to offline relationship (Exhibit 21): only 8% go out with friends less than before, while 67% keep the same rhythm and 25% even go out more than before. In particular, the time allocated to television since the introduction of the Internet experience a drastic reduction: 71% of the respondents watch TV less than before.
5.1.2 Digital Consumptions

From the analysis of the questionnaires emerges that the phone is not primarily used as a device to call, but as a tool to send and receive “text messages”, an activity that involves 94.6% of the respondents (Exhibit 22).

Moreover, the phone is used in several other ways: as a digital camera (75,7%), to access online social media (69,9%), send and receive e-mail (63,9%), surf the web (60,8%), listen to music (58,1%), watch pictures and videos (49%), as a portable device to play games (33%), and video call (19,3%).
Particularly significant are the data concerning the social media use (Exhibit 23 a), where almost the totality of respondents are registered on Facebook (99%), being the social media (Exhibit 23 b) most frequently used (96.2%), followed by the people signed up on YouTube (80%), Skype (78.6%), LinkedIn (36.9%), Twitter (29.2%), and Google+ (25.8%).
In addition, the data reveal (Exhibit 24) that the majority access their social media accounts 3 to 5 times a day (30,1%), followed by 5 to 10 access a day (28,7%), and more than 10 access a day (21,2%).

The reasons for registering on social media platforms (Exhibit 25) consist mainly on keeping in touch with friends (91,8%), find and get back in touch with old friends (59,2%), and entertainment purposes
(42.9%). Nevertheless, only 19% of them, registered to participate in discussions. Moreover, the data indicate that the amount of contacts (Exhibit 26) is fairly large. In 31.8% of the cases it consists of 301 to 500 individuals, in 25.7% consists of 151 to 300, and in 30.1% of the cases higher than 501 units.

Exhibit 26 - Amount of Contacts

![Exhibit 26 - Amount of Contacts](image)

Source: created by authors

However, actually the number of people, which we keep in touch with through social media, is way more restrained: 67.7% of the cases contacts 1 to 5 people on a daily basis.

Exhibit 27- Amount of People Contacted on Daily Basis

![Exhibit 27- Amount of People Contacted on Daily Basis](image)

Source: created by authors
Particularly interesting are the data that emerged concerning the activities millennials do on social media: 64.3% of them share posts, 60.8% watch videos and browse picture, while 37.8% contribute in a discussion to give his opinion.

Exhibit 28- Activities on Social Media Platforms

Source: created by authors

5.1.3 A Millennials’ Map of Values

In order to shine a light on the value-related perspective of the respondents, we refer to a “map of values” (Exhibit 29). On this map the proposed values we investigated are placed: everything that concerns the need for security and protection is therefore placed on the right hand side of the map, and everything that concerns the need of self-realization is represented on the left hand side of the map.
### Exhibit 29- Map of Values

<table>
<thead>
<tr>
<th>Self-realization &amp; Esteem</th>
<th>Security &amp; Belonging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience different emotions everyday</td>
<td>Feel safe</td>
</tr>
<tr>
<td>Have success</td>
<td>Fulfils one’s responsibilities</td>
</tr>
<tr>
<td>Have a lot of money</td>
<td></td>
</tr>
</tbody>
</table>

#### Source:
Maslow (1970), re-elaborated and created by authors

The analysis of the results obtained shows that the values indicated (Exhibit 30) more often are, in range, “have a life full of experiences” (69,6% of the respondents), “enrich your knowledge” (68,2%), “travel, meet new people and discover new cultures” (68,2%), and “have success” (43,9%). To follow, “to be highly regarded from your family/the people around you” (38,2%), the need to “feel affection” (37,5%) and “feel safe” (35,8%), “fulfil one’s responsibilities” (31,4%), “have an intense social life” (29,1%) and “experience different emotions everyday” (24,3%). Finally, the minority opinion concerns the material well being, to “have a lot of money” is important only to 12,2 % of the people.
5.1.4 Authentic Leadership Dimensions

The second part of the questionnaire examines the millennials’ perspective with respect to authentic leadership dimensions. Observing their level of agreement concerning *social media and self awareness*, the first authentic dimension, it is particularly interesting to see that the majority only agreed on the fact that *social media makes them aware of their impact on people*, while disagreed on the fact that *social media gives them the opportunity to reflect on their strengths and weaknesses* (Exhibit 31), and makes them aware of their emotions and personal goals or personality (Exhibit 32).

**Exhibit 31– Social Media and Self-awareness (Part I)**

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media makes me aware of my impact on people.</td>
<td>8%</td>
<td>35%</td>
<td>28%</td>
<td>24%</td>
</tr>
<tr>
<td>Social media gives me the opportunity to reflect on my strengths and weaknesses.</td>
<td>4%</td>
<td>24%</td>
<td>31%</td>
<td>33%</td>
</tr>
</tbody>
</table>
With the analysis of the second dimension, transparency (Exhibit 32), a different trend emerges, since the majority agreed with most of the statements presented. Indeed, they think that social media usage increases the chance to represent a distorted self-image to others, but at the same time they make sure to represent nothing but their real self, especially with the people they are close to.

They also make it sure to share information and expressions of their true thoughts and feeling, but most of them disagree on the fact that social media enables them to narrow the gap between how they view themselves and how others view them (Exhibit 33).
The third and the fourth dimensions concerning an authentic leadership approach, show that millennials demonstrate beliefs that are consistent with their actions and enable them to take input from different points of view and how these views may fairly and objectively shape their interpretation and decisions regarding a particular challenge or opportunity (Exhibit 34).
5.1.5 Social Media and Education

The third part of the questionnaire is meant to observe the millennials’ perspective in the matter of social media and education. With respect to the data we obtained, it is possible to argue that most of the people agreed with the following statements (Exhibit 35): “I am optimistic about social media and online learning” and “social media has a great influence on online learning.”
In addition, they agreed with the following statements (Exhibit 36): “I only connect to specialized information nodes and sources when required”, “social media has an increasing influence on e-learning” and that they “utilize social media practices to support the collective creation of knowledge amongst university students and wider community”. However, they have expressed a neutral opinion on the fact that social media “can strengthen and improve the current form of higher education institution” (Exhibit 37).

### Exhibit 35- Social Media and Education (Part I)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am optimistic about social media and online learning.</td>
<td>11%</td>
<td>49%</td>
<td>25%</td>
<td>12%</td>
<td>3%</td>
</tr>
<tr>
<td>Social media has a great influence on online learning.</td>
<td>12%</td>
<td>37%</td>
<td>27%</td>
<td>21%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: created by authors

### Exhibit 36- Social Media and Education (Part II)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I only connect to specialized information nodes and sources when required.</td>
<td>7%</td>
<td>41%</td>
<td>30%</td>
<td>21%</td>
<td>2%</td>
</tr>
<tr>
<td>Social media has an increasing influence on e-learning.</td>
<td>7%</td>
<td>48%</td>
<td>30%</td>
<td>14%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: created by authors
Furthermore, the predominance of the individuals agreed on the fact that the usage of social media technology improves “student to student interaction”, “student to teacher interaction” (and “student involvement” (Exhibit 38).
However, millennials show a neutral perspective concerning the facts that its usage could improve “academic outcomes”, “student learning”, “education effectiveness”, and “education quality” (Exhibit 39).

Exhibit 39 - Social Media and Education (Part V)

<table>
<thead>
<tr>
<th></th>
<th>Improves academic outcomes</th>
<th>Improves student learning</th>
<th>Improves education effectiveness</th>
<th>Improving education quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>6%</td>
<td>6%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Agree</td>
<td>22%</td>
<td>28%</td>
<td>25%</td>
<td>18%</td>
</tr>
<tr>
<td>Neutral</td>
<td>42%</td>
<td>32%</td>
<td>35%</td>
<td>36%</td>
</tr>
<tr>
<td>Disagree</td>
<td>24%</td>
<td>29%</td>
<td>29%</td>
<td>32%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>6%</td>
<td>5%</td>
<td>7%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: created by authors
5.2 Data Analysis

One could speculate about the fact that the time dedicated to the network is time stolen to other more effective forms of relationship and commitment, which leads to a sort of “abstraction” from real life. However, the data that has been gathered contradicts this a priori assumption. Surprisingly, the majority of the people still pay attention to offline relationship, since 67% go out with friends, 70% do sport activities, and 57% read books same as before the internet usage. Furthermore, 83% of the respondents own a smartphone device, which increases the possibility to access the Internet at any time. This is reflected through the results concerning the question on smartphone usage behavior, where 69.9% of the participants access online social media, 63.9% send out and receive e-mails, and 60.8% surf the web. Hence, one can say that the smartphone usage behavior of the millennials contributes and increases social media activity, which is demonstrated within the question concerning how often the subjects access their social media account on a daily basis. As the data shows, 80% of the millennials access their social media account at least 3 to 5 times a day and almost half of the sample (49.9%) access their accounts 5 to 10> a day.

The results of the study confirmed that the majority of the participants (99%) are registered on one of the largest social network site to date, which is Facebook. Since social networks are one of the most common social media technologies used (Bundesverband Digitaler Wirtschaft 2008; Kilian 2010), being part and center of the social media ecosystem (Cavazza 2013), it is therefore not surprising to encounter this result. In spite of the fact that 61.9% of the millennials have at least 300-1000> contacts, more than half of the subjects (67,7%) only keep in touch with 1-5 contacts on a daily basis. Therefore, it is questionable whether they are adding contacts on their social media platforms for the purpose of keeping in touch
with friends (91.8%) or just for the sake of having a large amount of contacts.

In addition, we noticed that YouTube is the second most frequently used social media, with 80% of the sample, whereon 64.3% watch videos as part of their preferred activity on social media platforms. With this regard, we have seen before that online video is the most common social media used in classes and outside classes (Moran, Seaman and Tinti-Kane 2011). Moreover, millennials who participated in the survey are optimistic about social media and online learning and believe in the great influence that it has. Almost half of the sample agreed that social media practices could support the collective creation of knowledge among university students and wider community. Millennials agreed also upon the fact that social media improves student-to-student interaction, student to teacher interaction, and student involvement (e.g. participating in discussion). Therefore, it is self-evident that, according to our participants, social media is more than welcome to be an integral part of new methods of learning.

Walumbwa et al. (2008) describe self-awareness as related to the understanding of our own values, motivations, feelings, capabilities, and weaknesses and allows us to understand things in depth through a positive self-concept and emotional intelligence, in order to take better decisions. Regarding the results concerning the first authentic leadership dimension, our main findings show that millennials do not agree that social media has an influence on their self-awareness concerning emotions and personality. This is particularly debatable, because at the same time they admitted that social media increases the chance to represent a distorted or authentic self-image to others. Here 72% of the subjects agreed and strongly agreed that social media has an influence on the second authentic leadership dimension, namely transparency. Furthermore, 51% claimed that they represent nothing but their real self,
including 55%, who find it important to let people know, especially with the people they are close to, who they truly are.

The third authentic leadership dimension, which concerns internalized moral perspective, refers to an internalized model of self-regulation (Ryan & Deci 2003). The ability of self-regulation is therefore the process by which a person aligns his values to the actions that he or she intends to take. Therefore, the individual has to show consistency between communication and action towards others, in order to establish an honest and transparent relationship with followers. As the majority of the participants pay considerable attention on sharing information and expression of their truth thoughts and feelings, we do believe that they are deeply aware of the influence that social media does not only play on emotions, but also on their own personality. As Bennis (1992) describes the concept of authentic leadership, “leadership without perspective and a point of view is not leadership, and of course it must be your own perspective, your own point of view. You cannot borrow a point of view any more than you can borrow someone else’s eyes. It must be authentic, and if it is, it will be original, because you are original” (p. 122).

Finally, the fourth dimension concerning views show that millennials (49%) demonstrate beliefs that are consistent with their actions and enable them to take input from different points of view and how these views may fairly and objectively shape their interpretation and decisions regarding a particular challenge or opportunity.

To conclude, we assume that millennials give the impression of being generally aware about the influence of social media on their leadership development. However, we believe that it is questionable the fact whether millennials are aware that social media revolution is not only altering our minds by influencing our brains and behaviors but directly the way in which we young individuals develop our sense of self-esteem and identity (Small & Vorgan 2008).
CHAPTER 6 – DISCUSSION

The contribution of this master thesis, as argued in the introduction is lead by four main objectives: (a) understand the influence of social media on the millennial generation, (b) understand the influence of social media on authentic leadership components from the millennials’ perspective, (c) understand the influence of social media on education from the millennials’ perspective. In order to accomplish these goals, empirical data has been gathered.

The era in which one grew up and lived has a significant impact on one’s kind of leadership. In the previous era, experience was a determining factor of leadership while the present day and age is often dominated by doubt and uncertainties due to the rapid technology, which has grown in leaps and bounds. The millennial generation, our generation, on the other hand, is considered as the era of possibility, a renaissance era based on creativity, unlimited chances, speed and rapid enrichment through strong innovation. It is an era of many possibilities and opportunities. Starting from this approach and focusing the attention with great acuteness on the differences between the time within different generations, Bennis and Thomas (2007) come up in their book with a meaningful conclusion. At the end of their research, the qualities that are identified as crucial leadership characteristics turn out to be the ability of adaptation, the ability to involve others in a shared vision in addition to strong integrity. We think that integrity is an important feature that present generations should take more into consideration as a fundamental trait of any leader. A leader can be very successful but lack in fairness. Noteworthy leaders are those who carry out their ambitions with a moral and authentic approach (Ibidem). Moreover, once the essential qualities to exercise leadership had been identified, the authors realized that these qualities
characterized the leaders of all cultures and all time periods. This involves attributes that support and define the leader not only in the digital age but also in any historical period, whether it is in a public or business context. Every potential leader has to first come to terms with himself since we cannot influence others, if we are not able to influence ourselves first. Hence, discovering one’s authentic leadership requires a commitment to develop oneself: “like musicians and athletes, you must devote yourself to a lifetime of realizing your potential” (George 2007, p. 132).

Although much has been said about the importance of authentic leadership, empirical research on the topic has been limited and has to be treated with caution. Moreover, an authentic leadership construct has not yet been precisely defined or adequately measured. This is due to the difficulties involved in measuring authentic leadership behavior (Cooper et al. 2005; Walumbwa et al. 2008). In spite of our findings, it is needless to say that the attempt can be seen as an initial step.

In our society, knowledge is increasingly supported by new technologies, where there is a chance to interact rapidly with a great number of people. Nevertheless, there is an increasing distance that divides young people, millennials who are part of “digital natives”, and adults, considered “digital immigrants”. These two terms illustrate the cognitive, communicative and behavioral changes induced by new technologies and social media, omnipresent in the lives of digital generations since an early stage.

Our findings exhibit that millennials believe that social media has not only a great influence on online learning, but are also optimistic about the implementation of social media in this context. In other words, they believe that the influence of social media can strengthen and improve the current form of higher education. Although all that
opens the need to reflect upon the “degree” of knowledge that this way of communicating bring with it and to what extend it can contribute to the development of knowledge. This new relational universe is changing the way in which knowledge and culture develop. We are tending towards a model of “convergence culture” (Jenkins 2006), which rotates around the concept of “collective intelligence” (Levy 1990, 1999), whereon “no one knows everything, everyone knows something, all knowledge resides in humanity” (Ibidem, p. 20).

The technological tools used by millennials are an integral part of their individual and social identity. One only needs to think about social networks, such as Facebook: these tools are proposed not only as a connector to not lose sight with their acquaintances, but also as a convergence tool between people who share the same passions, a wellspring of resources to develop interests and relationships.

The technology of the current adult generation was television, therefore, an analogue model that establishes roles, responsibilities, distribution and consumption of knowledge. With the explosion of the p2p (peer-to-peer), the idea of a network where there is no hierarchy and everything is shared, the roles are called into question and everyone is considered an active part in the knowledge production.

In view of the progress of new technologies and social media, and the impact they have on individual’s social nature, we gather the necessity of a critical review of the education and higher educational institutions’ role. This is especially important because the principle of its “mission” is that of being at man and society’s service, in order to contribute in developing a fruitful dialogue and positive interaction between these indivisible entities. Moreover, we believe they should adopt and implement new organizational models, new
methodologies, new services, new knowledge, new skills, and new quality’s standard.

As we already mentioned, for the first time in history, a generation of young people “know more” than their parents and teachers: they move with greater ease and confidence than older generations in facing an overwhelming innovation (Schmitt 1982). Therefore, probably students should be no longer represented as “tabulae rase”: the contrast between the traditional systems of production and reproduction of knowledge and the “democratization” of knowledge access produced by the network society is explicit and considerable. Nevertheless, it is important to bear in mind that the knowledge, patrimony of a professional social class that decides what, how and when to deliver that knowledge to others and how to evaluate the results, is a matter; the circular knowledge, or the peer-to-peer exchange offered by the internet, is another.

In any case, the transition from an “unidirectional” knowledge (from one to many) to a circular and “multidimensional” knowledge (many to many), could appear as a leap into the unknown. Thus, this is a contrast that education institutions will inevitably need to learn, maybe redefining theories and practices, and experimenting new teaching and learning styles. The new educational technologies, social media included, are a big challenge for everyone, since they open a large and unprecedented scenario: those who will be able to accept the challenge will probably enjoy the fruits of the “tree of knowledge”.
CHAPTER 7 – LIMITATIONS & FURTHER RESEARCH

“Log out”

Notwithstanding the achievement of our personal goals that we see in our thesis, we are aware of the deficiencies and limitations of our research. Hence, this chapter serves to provide the reader with an explanation of the above mentioned, including their scope in how far they influenced the quality and results of our study.

To begin with, in the course of the thesis process, we had to cope with several re-alignments of our focus (as described in section 2.7). In addition, the outcome of our survey comprised a rather small sample size. We believe that, if the questionnaire would have been developed and launched at an earlier stage, it would have been of greater value, increasing the chances of obtaining a larger sample size.

Secondly, as we had to cope with time constraints, we were not able to accomplish a statistical analysis. However, if this limitation would not have existed, we would have opted for a stratified random sampling, dividing the population into strata, here “alumni” and “students”. This, leading to an opportunity to understand whether there are differences within their social media behavior and their perception of the influence of social media on their leadership development dimensions and education.

Additionally, we would have also opted for a correlational analysis of the data, based on the random sampling method in combination with a broader range of ALQ scales and factors concerning education.

In order to highlight new lines of study and further expand the long range of new technologies and social media, characterized today by a process of open boundaries, it is wise to consider the emerging
issues. This phase is under constant and overwhelming development, as it is affected by technological developments and social context’s transformation. Furthermore, de facto, our work attention was focused on the contextual dimension, or the consumption’s manners of the technological artefacts, rather than the textual one, or the symbolic universe aroused by social media. Nevertheless, the potentiality offered by social media involves several aspects: not only those of connectivity and participation, but also those of textual production, in other words, the semiotic approach of the online world.
DEDICATION

Meine liebe Maria, precious friend and companion of a thousand adventures, together we experienced moments of joy and fun, but also hard work, sharing common ambitions and dreams that will always remain in my heart. I hope that we will continue to do so. We now confront an exquisitely exciting but cruel moment, the one that Kundera calls the ‘tree of possibilities’. Sooner or later, we are all assailed, sometimes even paralyzed, by incertitude: the moment of choice, wherein you need to relentlessly defoliate the tree until you come across your branch. Don’t forget: “Audentes fortuna iuvat”.

Guia

Dear Guia,

Through the last months of intense thesis work and spending the majority of our time together like an old married couple, as thesis partners, housemates and true friends, I can say that we have developed a special friendship that we both can be very proud of. I am very grateful that fate has brought us together on this marvelous journey. It has been truly inspiring and has significantly contributed to who I am today. Grazie ancora per i momenti passati assieme, momenti che non dimenticherò mai.

“What we call the beginning is often the end. And to make an end is to make a beginning. The end is where we start”
– T.S. Eliot

“La Mary”
REFERENCES


Bennis, WG 1992, ‘On becoming a leader’, Wilmington, MA7 Addison-Wesley.


Bundesverband Digitaler Wirtschaft (BVDW) 2009, ‘Social-Media-Kompass’, viewed 10 April, 2013,
http://social-network
marketing.info/sites/default/files/BVDW%20Social%20Media%20Kompass%202009.pdf


George, B (n.d.), viewed, 12 May, 2013,  
http://blog.gaiam.com/quotes/authors/bill-george?page=1


Kilian, K 2010, ‘Was sind Social Media?’, Absatzwirtschaft Online, pp. 61, viewed 7, April, 2013, http://www.absatzwirtschaft.de/content/k=UGu6CVw%252beU45VqRl3ToqVxFAZFmJtUZE%252bl8%252bQ7b%252bqVRPzPZY173kmOHxUeAidvh1oRd0AxVZS1E%253d;showblobm


Parker, JE 2001, ‘Socrates on Technology’, LiberalArtsOnline 14 May, (Vol. 1, No. 3.).


Raines, C & Arispensger, A 2010, ‘Millennials at Work’ Text available at the following website:
http://www.generationsatwork.com/articles_millennials_at_work.php

Reuben, R 2008, ‘The use of social media in higher education for marketing and communications: A guide for professionals in higher education’, viewed 13, May 2013, 


Selwyn, N 2009, ‘Faceworking: exploring students’ education-related use of Facebook’, in Learning, Media and Technology , 34, 2, pp. 157–74.
Selwyn, N 2012, ‘Social media in higher education’, This essay was first published in The Europa World of Learning 2012. For further information visit www.worldoflearning.com.


Social Media and Networking in PSP 3.0, viewed 10 April, 2013, http://www.publishers.org/events/28/


APPENDICES

APPENDIX 1 – ALQ Questionnaire Sample Items

Authentic Leadership Questionnaire Sample Items Self-Awareness

Self-Awareness
1. Seeks feedback to improve interactions with others.
2. Accurately describes how others view his or her capabilities.

Relational Transparency
3. Says exactly what he or she means.
4. Is willing to admit mistakes when they are made.

Internalized Moral Perspective
5. Demonstrates beliefs that are consistent with actions.
6. Makes decisions based on his/her core beliefs.

Balanced Processing
7. Solicits views that challenge his or her deeply held positions.
8. Listens carefully to different points of view before coming to conclusions.

Source: Walumbwa et al. (2008)

APPENDIX 2 – Additional Survey Outcomes

Additional Results Social Media and Self-awareness

<p>| Social media facilitates my exposure to others and gain insight on how I view myself. |</p>
<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7%</td>
<td>32%</td>
<td>33%</td>
<td>22%</td>
</tr>
</tbody>
</table>

<p>| Social media has a positive effect on my self-awareness. |</p>
<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3%</td>
<td>32%</td>
<td>39%</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Additional Results Social Media and Transparency

With the help of social media I can communicate my true intentions and desires to others.

- Strongly agree: 4%
- Agree: 28%
- Neutral: 28%
- Disagree: 28%
- Strongly disagree: 12%

Additional Results Social Media and Views

Through social media I receive different point of views that challenges my deeply held positions.

- Strongly agree: 4%
- Agree: 32%
- Neutral: 35%
- Disagree: 20%
- Strongly disagree: 9%

Additional Results Social Media and Education

Social media is an integral part of education.

- Strongly agree: 9%
- Agree: 28%
- Neutral: 29%
- Disagree: 27%
- Strongly disagree: 7%
APPENDIX 3 – Questionnaire

The impact of social media on leadership development and education

For our master thesis we are currently conducting an exploratory research on the millennial generation, namely university/college/university of applied sciences students and alumni born in 1982 and after.

Please help us measure the effect of social media on leadership development and education by providing your invaluable feedback by completing this brief 15-minute survey.

Your answers are completely anonymous and confidential, and will only serve for the data analysis of the thesis project.

Please make sure to click “DONE” on the last page to submit your survey!

If you have any questions, please do not hesitate to contact us at:

leadershipeducation.lnu@gmail.com
The impact of social media on leadership development and education

**1. Gender**
- Male
- Female

**2. Are you currently enrolled at a university?**
- Yes
- No

3. Name of University

4. Field of study

**5. Country of origin**

**6. Age**
The impact of social media on leadership development and education

Part I - Millennials and Social Media

7. How long have you been using these devices/tools?

<table>
<thead>
<tr>
<th>Device</th>
<th>I do not use it at all</th>
<th>less than 1 year</th>
<th>1 to 3 years</th>
<th>3-5 years</th>
<th>6+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skype</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facebook</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify)

8. Since you are using internet...

<table>
<thead>
<tr>
<th>Activity</th>
<th>Less than before</th>
<th>Same as before</th>
<th>More than before</th>
</tr>
</thead>
<tbody>
<tr>
<td>You do sport activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You watch TV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You read books</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You go out with friends</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Please indicate which type of mobile phone you are currently using.

- Smartphone
- Mobile phone

Other (please specify)

10. I generally use my phone to...

- Call
- Video call
- Play games
- Send/receive text messages
- Send/receive e-mail
- Take pictures
- Watch pictures and video
- Listen to music
- Surf the web
- Access an online social network

Other (please specify)
### The impact of social media on leadership development and education

#### 11. Which of the following social media do you use?

- [ ] Facebook
- [ ] Twitter
- [ ] LinkedIn
- [ ] You Tube
- [ ] Skype
- [ ] Google+
- [ ] MySpace
- [ ] Other (please specify)

#### 12. Which of the following social media sites do you use more often?

- [ ] Facebook
- [ ] Twitter
- [ ] LinkedIn
- [ ] You Tube
- [ ] Skype
- [ ] Google+
- [ ] MySpace
- [ ] Other (please specify)

#### 13. How often do you access your social media accounts on a daily basis?

- [ ] Not at all
- [ ] Once a day
- [ ] Twice a day
- [ ] 3-5 times a day
- [ ] 5-10 times a day
- [ ] 10+ times a day
14. Please indicate the reasons why you registered on social media platforms.
- Find old friends
- Find new friends
- Entertainment purposes
- Participate in discussions
- Keep in touch with friends
- Check people’s profiles
- Promote activities (e.g. business)

15. Please state the amount of contacts/followers you have on your most frequently used social media account.
- 1-50
- 51-150
- 151-300
- 301-500
- 501-800
- 801-1000
- 1000+

16. How many people do you usually contact on a daily basis via social media?
- 1-5
- 6-10
- 11-20
- 20+

17. Which of the following activities do you usually do on social media?
- Sign online petitions
- Answer online surveys
- Contribute in a discussion/share my opinion
- Share posts
- Watch videos
- Browse pictures
- Buy online services or products
The impact of social media on leadership development and education

18. What are the most important values for you?

- Have an intense social life
- Fulfill one's responsibilities
- Have success
- Feel affection
- Have a lot of money
- Feel safe
- Have a life full of experiences
- To be highly regarded from your family/the people around you
- Enrich your knowledge
- Travel, meet new people and discover new cultures
- Experience different emotions everyday
### The impact of social media on leadership development and education

#### Part II - Social media and leadership development

19. Please indicate your level of agreement for the following statements concerning social media and self-awareness.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media has an effect on my self-awareness/helps me to examine my own conscious thoughts and feelings.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>Social media has a positive effect on my self-awareness.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>Social media gives me the opportunity to reflect on my strengths and weaknesses.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>Social media facilitates my exposure to others and gain insight on how I view myself.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>Social media makes me aware of my impact on people.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>Social media makes me aware of my personality.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>Social media makes me aware of my emotions.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>Social media makes me aware of my personal goals</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
</tbody>
</table>
The impact of social media on leadership development and education

20. Please indicate your level of agreement for the following statements concerning social media and transparency.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think social media usage increases the chance to represent a distorted self-image to others?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On social media platforms, I make sure that I represent nothing but my authentic self.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I find it very important for others, to whom I am close to, to see the real me, both the negative and positive aspects.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social media enables me to narrow the gap between how I view myself and how others view me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I share information and expressions of my true thoughts and feelings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With the help of social media I can communicate my true intentions and desires to others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Please indicate your level of agreement for the following statements concerning social media and views.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media helps me to objectively analyze information before coming up with a decision.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Through social media I demonstrate beliefs that are consistent with my actions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Through social media I receive different point of views that challenges my deeply held positions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Through social media I am able to take input from diverse points of view and consider how these views may fairly and objectively shape my interpretation and decisions regarding a particular challenge or opportunity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The impact of social media on leadership development and education

Part III - Social media and education

22. Please indicate your level of agreement concerning the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am optimistic about social media and online learning.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Social media has a great influence on online learning.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Social media is an integral part of education.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

23. Please indicate your level of agreement concerning the usage of social media technology within your educational setting.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>It improves student to student interaction</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>It improves student to teacher interaction</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>It improves student involvement (e.g. by participating in discussions)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>It improves academic outcomes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>It improves student learning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>It improves education effectiveness</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Improving education quality</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

24. Please indicate your level of agreement for the following statements concerning social media and education.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I only connect to specialized information nodes and sources when required.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Social media can strengthen and improve the current form of higher education institution.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Social media has an increasing influence on e-learning.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Utilizing social media practices to support the collective creation of knowledge amongst university students and wider community.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
APPENDIX 4 – Country of Origin Ranked According to Amount of Participants

1. Italy
2. Germany
3. The Netherlands
4. Philippines
5. Sweden
6. France
7. USA
8. Russia
9. Belgium
10. China
11. Spain
12. Costa Rica
13. Finland
14. Greece
15. India
16. Pakistan
17. Austria
18. Afghanistan
19. Australia
20. Bangladesh
21. Belarus
22. Canada
23. Faroe Islands
24. Indonesia
25. Iran
26. Jamaica
27. Japan
28. Lithuania
29. Macedonia
30. Malta
31. México
32. Portugal
33. Romania
34. Serbia
35. South Korea
36. Sri Lanka
37. United Kingdom
## APPENDIX 5 – Universities Ranked According to Amount of Participants

1. Linnaeus University
2. Bergamo University
3. University of Milan
4. Università Cattolica del Sacro Cuore
5. Tilburg University
6. Bocconi University Milan
7. Colegio de San Juan de Letran
8. Maastricht University
9. Plekhanov Russian University of Economics
10. Polytechnic University of Milan
11. Fontys University of Applied Sciences
12. HAN University of Applied Sciences
13. University of Bonn
14. University of Cologne
15. University of Saint La Salle
16. Adamson University
17. Avans University of Applied Sciences
18. De La Salle University
19. East China University of Science and Technology
20. École de Commerce Européenne Lyon
21. Inholland University of Applied Sciences
22. Lyceum of the Philippines University
23. Polytechnic University of the Philippines
24. Ruhr University Bochum
25. Seattle University
26. University of Florence
27. Wageningen University
28. Aristoteleio University of Thessaloniki
29. Bielefeld University
30. Chalmers University
31. Copenhagen Business School
32. Datamex Institute of Computer Technology
33. Erasmus University Rotterdam
34. George Washington University
35. Georgetown University
36. HafenCity Universität Hamburg
37. IMC FH Krems
38. IULM University of Milan
39. Jian Hu University
40. Johannes Gutenberg University of Mainz
41. King Saud University Saudi Arabia
42. Lund University
43. Miami University of Ohio
44. Naples Eastern University
45. Nordhausen University of Applied Sciences
46. Nyenrode Business University
47. Philippine Normal University
48. Prairie View A&M University
49. Radboud University Nijmegen
50. Rhein-Sieg-Akademie für Kunst und Design
51. San Francisco State University
52. Savonia University of Applied Sciences
53. Saxion University of Applied Sciences
54. Southern Cross University
55. Technical University of Munich
56. Universidad Autónoma de Guadalajara
57. Universidad Autonoma de Madrid
58. Universidad de Cádiz
59. Universidad Latina de Costa Rica
60. Université Catholique de Louvain
61. University of Antwerp
62. University of Applied Sciences and Arts of Southern Switzerland
63. University of Applied Sciences Bremen
64. University of Applied Sciences Cologne
65. University of Applied Sciences Edith Stein
66. University of Applied Sciences Hof
67. University of Belgrade
68. University of Cambridge
69. University of Costa Rica
70. University of Glasgow
71. University of Hohenheim
72. University of Jyväskylä
73. University of Milan Bicocca
74. University of Oldenburg
75. University of Palermo
76. University of Passau
77. University of Pavia
78. University of Pisa
79. University of Siena
80. University of Sydney
81. University of Trento
82. University of Trieste
83. University of Wismar
84. University of Wyoming
85. University Valladolid
**APPENDIX 6 – Subjects’ Field of Study**

1. Agricultural Sciences  
2. Agronomy  
3. Anthropology  
4. Archaeology  
5. Architecture  
6. Art  
7. Banking and Financial Services  
8. Biology  
9. Biology and Ecology  
10. Business  
11. Business Administration  
12. Business Communication  
13. Business Communication and Digital Media  
14. Business Economics  
15. Business in Convention and Event Management  
16. Computer Programming  
17. Computer Science  
18. Conservation & Restoration  
19. Consumer sciences/Marketing  
20. Controlling  
21. Dentistry/Oral Surgery  
22. Design  
23. Economics  
24. Economics and Management  
25. Education  
26. Educational Management  
27. Electrical Engineering  
28. Engineering  
29. Engineering Management  
30. English Language  
31. Entrepreneurship  
32. Ethology  
33. European Public Affairs  
34. Financial Economics  
35. Gender Studies  
36. Geology  
37. History  
38. Holistic medicine  
40. Industrial Engineering  
41. Informatic Engineering  
42. Information Technology  
43. International Affairs  
44. International Business  
45. International Business and Finance  
46. International Business and Economics  
47. International Business and Finance  
48. International Business and Languages  
49. International Business and Law  
50. International Business and Management  
51. International Business Organization  
52. International Business Strategy  
53. International Cultural and Business Studies  
54. International Development  
55. International Management  
56. International Relations  
57. International Trade  
58. Journalism  
59. Languages  
60. Latin American Studies  
61. Law  
62. Leadership and Management in International Context  
63. Linguistic Mediation  
64. Management  
65. Management Engineering  
66. Management of Innovation and Business Development  
67. Management, Economics and Quantitative methods  
68. Marketing  
69. Marketing and Sales  
70. Marketing Management  
71. Mathematics  
72. Mathematics and Computer Science  
73. Mechatronics  
74. Media  
75. Medicine  
76. Molecular Biology  
77. Nautical Science  
78. Nordic Studies  
79. Nursing  
80. Organisation & Leadership development  
81. Peace and Development  
82. Pedagogy  
83. Pharmacy  
84. PR & Corporate Communication  
85. Product Design  
86. Psychology  
87. Public Administration  
88. Social Media and Web Technology  
89. Social Sciences  
90. Sociology  
91. Spanish  
92. Spanish/Social Psychology  
93. Strategic Management  
94. Supply Chain Management  
95. Tax and Business Consulting  
96. Theology  
97. Tourism  
98. Tourism and Recreational Management  
99. Translation and Interpreting  
100. Veterinary Medicine
Linnaeus University – a firm focus on quality and competence

On 1 January 2010 Växjö University and the University of Kalmar merged to form Linnaeus University. This new university is the product of a will to improve the quality, enhance the appeal and boost the development potential of teaching and research, at the same time as it plays a prominent role in working closely together with local society. Linnaeus University offers an attractive knowledge environment characterised by high quality and a competitive portfolio of skills.

Linnaeus University is a modern, international university with the emphasis on the desire for knowledge, creative thinking and practical innovations. For us, the focus is on proximity to our students, but also on the world around us and the future ahead.

Lnu.se
Linnaeus University
SE-391 82 Kalmar/SE-351 95 Växjö
Telephone +46 772-28 80 00