ORGANIZATIONAL IDENTITY AND COMMUNITY VALUES: DETERMINING

MEANING IN POST-SECONDARY EDUCATION SOCIAL MEDIA

GUIDELINE AND POLICY DOCUMENTS

Laura Anne Pasquini

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APPROVED:

Jeff M. Allen, Co-Major Professor and
    Interim Chair of the Department of
    Learning Technologies
Nicholas Evangelopoulos, Co-Major
    Professor
Mark Davis, Minor Professor
Kim Nimon, Committee Member
Herman Totten, Dean of the College of
    Information
Mark Wardell, Dean of the Toulouse
    Graduate School

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With the increasing use of social media by students, researchers, administrative staff, and faculty in post-secondary education (PSE), a number of institutions have developed guideline and policy documents to set standards for social media use. Social media platforms and applications have the potential to increase communication channels, support learning, enhance research, and encourage community engagement at PSE institutions. As social media implementation and administration has developed in PSE, there has been minimal assessment of the substance of social media guideline and policy documents.

The first objective of this research study was to examine an accessible, online database (corpus) comprised of 24, 243 atomic social media guideline and policy text documents from 250 PSE institutions representing 10 countries to identify central attributes. To determine text meaning from topic extraction, a rotated latent semantic analysis (rLSA) method was applied. The second objective of this investigation was to determine if the distribution of topics analyze in the corpus differ by PSE institution geographic location. To analyze the diverging topics, the researcher utilized an iterative consensus-building algorithm.

Through the maximum term frequencies, LSA determined a rotated 36-factor solution that identified common attributes and topics shared among the 24,243 social media guideline and policy atomic documents. This initial finding produced a list of 36

universal topics discussed in social media guidelines and policies across all 250 PSE institutions from 10 countries. Continually, the applied chi-squared tests, that measured expected and observed document term counts, identified distribution differences of content related factors between US and Non-US PSE institutions.

This analysis offered a concrete analysis for unstructured text data on the topic of social media guidance. This resulted in a comprehensive list of recommendations for developing social media guidelines and policies, and a database of social media guideline and policy documents for the PSE sector and other related organizations.

Additionally, this research stimulated important theoretical development for how organizations socially construct a semantic structure within a community of practice. By assessing the community of practice, comprised of PSE 250 institutions that direct social media use, a corpus of documents provided unstructured data to evaluate the community. The spontaneous participation and reification process of the social media guideline and policy document corpus reaffirmed that a corpus-creating community of practice can instinctively form a knowledge-sharing organization that provides meaning, values, and identity. These findings should stimulate further research contributions, and provides practitioners and scholars with tools to measure, understand, and assess semantic space for other artifacts developed within a community of practice in other industries, organizations, or distributed associations.

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CHAPTER 1

INTRODUCTION

As social online technologies become ubiquitous for learning and engagement in higher education, many institutions are developing and implementing policies or guidelines for specific social media applications. The post-secondary education (PSE) sector witnesses the impact social media has to their environment. Over 75% of the 2013 incoming higher education class surveyed indicated that social media use helped support their enrollment decisions (Uversity, 2013). In comparison, 41% of professors indicated they use social media as a teaching tool (Seaman & Tinti-Kane, 2013). Social media is a group of web-based applications that builds on ideological and technological roots of Web 2.0, or the interactive Internet, to create and exchange user generated content (Kaplan & Haenlein, 2010), and these applications are flourishing at higher education institutions. Social media is an electronic medium that accelerates and improves how people connect, communicate, and collaborate (Jue, Marr, & Kassotakis, 2009). It is critical to assess how PSE institutions guide and regulate the use of social.

Social media websites are designed to be organic. A number of PSE institutions have attempted to direct and moderate how students, staff, faculty, and administrators use social media platforms (Blankenship, 2011; Moran, Seaman, & Tinti-Kane, 2011). As researchers begin to evaluate and analyze social media guidance (Joosten, 2012) and policy content (Reed, 2013), a growing number of issues arise around social media instructional pedagogy, research sharing, information privacy, student development, and legal implications. Other concerns and questions surround social media strategy, including content development, audience focus, authentic interactions, institutional

marketing, and communication planning. Campus communities increasingly attempt to repurpose social media user-generated platforms to engage members, communicate, and interact in these social web spaces systematically.

In the United States alone, only 15% of adults over the age of 18 do not use the Internet or email (Zickuhr, 2013), and 65% of college students self-report as using social media (Duggan & Brenner, 2012). Social media application and platform use is increasing at PSE campuses (Duggan & Smith, 2013). This means research of social media guidance is critical as higher education assesses how these platforms are implemented, utilized, supported, and regulated within organizations. The PSE sector often adopts social media practices from corporate policy development (Ross, 2009a, 2009b), organizational governance and risk assessment (Scott & Jacka, 2011), legal advisement (Russell & Baer, 2009; McHale, 2012), and proclaimed experts in the field of social media strategy (Barger, 2011). A growing number of higher education institutions often review other academic and peer institutions' policies to identify their policy and guidelines for social media as well.

Need for Study

Learning is a "social process, one very much influenced by the social groups that provide the resources to learn and the identity of the learner, who develops as he or she assimilates knowledge and information" (Brown, 2001, p. 21). Higher education institutions have experienced growth in these interconnected and social learning technologies. Thomas and Brown (2011) indicated that a new culture of learning grounds itself in providing peer-to-peer engagement, equal grounds, and learning in the collective. Both Vygotsky (1962) and Bandura (1977) introduced theories and laid the

framework for social learning and social learning research, which is utilized for formal education systems, and influence informal learning arenas. Social learning has, in more recent years, been augmented with the introduction of social media to enhance personal learning networks (Warlick, 2009) and develop communities of practice (Wenger, 1998). A number of social media platforms encourage creativity, knowledge sharing, collaboration, and connections to stimulate networking and social learning projects (Berthelemy, 2009). The PSE sector needs to harness the power and impact social media channels can infuse into their campus community; however a number of institutions are ignorant on how to effectively guide or provide effective policies for these platforms.

Social Media's Impact to Campus

Computer-mediated communication tools, like social media, provide higher education institutions with venues to participate, interact, and monitor communication discourse for instructional design (Paulus, Payne, & Jahns, 2009). On today's PSE campuses, both information and relationships create authentic opportunities, collaborative practices, and personalized learning environments (Smith, 2013). Social media platforms and applications provide institutional support for communication, connection, development, and learning in PSE; however, these emerging technologies are rarely guided, supported, or regulated.

Social learning permeates into employee retention and involvement (Scott & Jacka, 2011), faculty development, and institutional culture in higher education. Many of these social media applications do not capitalize on the power of shared networks, fluid information channels, knowledge dissemination, and communication outlets for

exchange. There are opportunities to utilize the social networks and platforms to encourage community cooperation and interaction. Social media creates a massive information network that provides unlimited access and resources in a space where information, ideas, learning, and passions grow (Thomas & Brown, 2011). Higher education institutions house a number of staff and faculty members who can harvest social media applications to make connections and identify collaborative involvement.

Personal learning networks provide skills, support, and growth for professional careers and individual development (Rajagopal, Joosten-ten Brinke, & Sloep, 2011). The connected learning environment is integrative, networks students with services and systems, facilitates success through design, and shares necessary resources to deepen knowledge acquisition (Smith, 2013). Social media, in particular, afford users venues to communicate with wider audiences than possible with spoken word (Vander Broek, Puiszis, & Brown, 2009). The amplification of these learning networks and connected educational environments can both empower and challenge higher education.

Examination of Social Media Guidance

Although social media use has increased in higher education (Brenner & Smith, 2013), the post-secondary guideline and policy documents that inform social media use have rarely been examined. Social media technologies constantly evolve and present pedagogical challenges to learning, so it is important to determine best practices for these technologies within the field of higher education. Aside from an internal review of social media for organization control (Papworth, 2009), it is critical that social media guideline and policy documents be reviewed to inform policy design and understand key attributes for implementation at PSE institutions.

A number of scholars and scholar-practitioners in higher education, have explored how social media practices impact learning, influence legal considerations, and are being used on campus by students (Hrastinski & Aghaee, 2012; Greenfield, 2010; Mastrodicasa & Metellus, 2013). Higher education students, staff, and faculty increasingly identify the need for community standards, expectations, and guidance for social media platforms. Over one-third of faculty members have utilized social media for teaching (Seaman & Tinti-Kane, 2013) and research indicates student learning engagement increases and results in academic success (Junco, Heiberger, & Loken, 2011). In considering the current state of social media guidance, it is critical for the higher education sector to consider the community currently supporting and directing social media platforms for teaching, learning, communication, and research. An understanding how PSE institutions implement and provide policies, regulations, tips, resources, and guidelines to inform social media use on campus is needed.

Social media guidelines and policies, at the organizational level, is a key piece of actualizing "the impact of organizational norms, policies, strategies and practices that shape adoption strategies" (Mergel, Mungar, & Jarrahi, 2012, p. 152). Kaplan and Haenlein (2010) provided a set of recommendations, which included the selection of social media platforms, content alignment of online activities, accessibility needs, and the creation of an integrative communication plan. Other suggestions for effective social media use noted in campus social media guidelines include being interesting and active, presenting a professional demeanor, being authentic and honest, and demonstrating humility (Kaplan & Haenlein, 2010). Many of these guiding documents often are developed in the likeness of other academic institutions and corporate

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strategies. Due to the increased social media use in higher education, this research

provides a succinct summary of the current social media guidelines and policy

documents from the PSE community.

Significance of the Study

This study analyzed publically accessible, online social media guideline and

policy documents from PSE institutions. This research attempts to bring clarity to the

field of social media guidance in higher education by synthesizing and summarizing

existing documents from a corpus-creating community (Evangelopoulos & Polyakov,

2014). Using text analysis, specifically latent semantic analysis (LSA), this study

provided topics, themes, and categories existing in the latent semantic structure of

social media guideline and policy text documents from the PSE sector.

Research Methods

This study analyzed a social media guideline and policy document database

representing 250 PSE institutions. The database contained social media guideline and

policy documents from various institutional type, geographic locations, and degree

types, which are further explained in the sampling section of Chapter 3. Text documents

were created that guide social media from department, division, school, or entire

campus-level were included. As part of the analysis, to interpret the longer text

documents, atomic documents are developed. An atomic document is a segment of text

from a complete document that makes one single point and occurs by separation of

bullet points, numbered lists, questions, headings, sub-headings, and paragraphs. The

researcher analyzed 24,243 atomic documents derived from the social media guideline and policy database to summarize how social media is being guided in higher education.

The social media guideline and policy database contained text documents from the PSE sector representing 10 different countries. The researcher gathered social media guideline and policy documents from October 2013 until February 2014, and only included publicly accessible electronic documents in this database. The social media guideline and policy database represented a compilation of text documents with various labels including policies, guidelines, regulations, protocols, best practices, beliefs, rules, strategies, and tips. Strategies were included as search term, for the purpose of this social media guideline and policy database, because a number of higher education institutions have borrowed it from the corporate sector's practices for social media use (Barger, 2011). This social media document database was analyzed using LSA and SAS Enterprise Text Miner software. Further explanation of the research methodology, including the contents of the social media guideline and policy document database and LSA for text mining techniques, is explained in Chapter 3.

<div align="center">Research Questions</div>

This research study analyzed social media guideline and policy documents that are currently being utilized in higher education. This research assessed and summarized online, published documents from the PSE community to determine key categories and factors that are being included around the topic of social media. The texting mining technique, using LSA, was directed by the following research questions:

R1. What content related factors are relevant to structuring the body of textual data in retrieved electronic social media guideline and policy documents from the PSE sector?

R2. Does the distribution of topics analyzed in the corpus differ by PSE institution geographic location?

Theoretical Framework for Developing a Semantic Structure of Meaning Through a Community of Practice

Social media platforms and applications have great implications for learning, teaching, and research in higher education. Learning is a social process often influenced by social groups providing resources, knowledge, and information (Brown, 2001). Social media allows users to construct meaning, collaborate through shared experiences, and develop social projects rather than individual outcomes (Prawat & Floden, 1994). Based on results from studies about social presence (Lowenthal, 2009; Short, Williams, & Christie, 1976) and media richness (Daft & Lengel, 1983), it is clear social media applications and platforms provide PSE institutions the opportunity to engage the campus community. At issue, very few PSE institutions actually guide social media use intra-institutionally.

Text analysis of social media guideline and policy documents allows for topic extraction; however, such analysis provides information about the semantic structure from the artifacts. To identify a common core of meaning, the construction of meaning requires interpretation of the semantic information from the words used in the social media and guideline documents (Kintsch & Mangalath, 2011) to understand information

about this community of practice. Therefore, four assumptions formed the structure of the theoretical framework that guided this study. These assumptions are explicated in the following four subsections.

Assumption 1: The community of social media guideline and policy administrators in PSE is a community of practice.

Increasingly, innovations both nurture and contribute to communities of practice, where engagement in social practice is spontaneous, self-organizing, meaning making, and fluid (Wenger 1998). It is through participation in informal communities, Wenger (1998) believed, groups share activities and social interactions, construct identities, and exercise sense or meaning making. Participation in communities of practice, such as membership within the PSE sector, results in sharing diverse information and knowledge among group members and to the benefit of the individual organization. The ability to examine the social capital and knowledge being distributed in higher education is critical to make meaning of PSE institutional practices.

As use of social media in higher education increases, it is critical to examine the policies and guidelines being used on campus. Social capital and networks best explain the process of creating and sharing knowledge in organizations (Nahapiet & Ghoshal, 1998). To further this notion, Nahapiet and Ghoshal (1998) believed communities to be useful entities for transferring tacit knowledge, exchanging narratives, and preserving rich information. The network of information among PSE institutions allows for communication flow, ease of connectivity, organic growth, and rapid iteration for the improvement social media guidance.

Assumption 2: The community of practice, social media guideline and policy administrators in PSE, have built a semantic structure with a shared understanding of how social media guidelines and policies should be.

Knowledge is constructed through complex processes of social negotiation and interpretation shaped by the access to resources, reputation, networks, and those involved in developing the knowledge (Greenhow, Robelia, & Hughes, 2009). The social constructivist nature of knowledge itself has not changed (Prawat & Floden, 1994); however, the broad impact of social media has increased knowledge fluidity and information sharing in the PSE sector. Knowledge around social media guidance continues being created at the local institutional level and among peer institutions in various global regions.

As higher education organizations embrace emerging technology and social media innovations to exchange information, a governing body of textual information has been developed and shared between various PSE institutions. Argote (1996) indicated organizational knowledge could depreciate when individuals leave their organizations or technologies might become inaccessible or difficult to use. This fact is relevant to the database of textual documents currently describing use, protocols, and best practices for social media platforms. Through the analysis of the current knowledge documents guiding and directing social media, common themes and shared ideas allowed members of multiple organizations to transfer and benefit from the curated knowledge from a number of higher education organizations (Argote, 1996). Figure 1 demonstrated how PSE institutions participated with the corpus and one another.
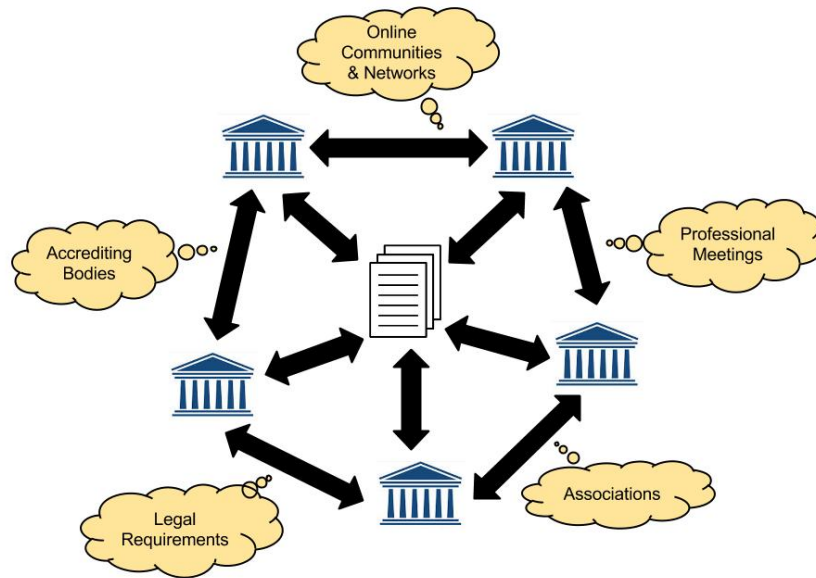
Figure 1. Participation in the corpus-creating community of practice.

Figure 1 shows how ideas were utilized, shared, edited, and remixed from the social media guideline and policy document corpus, and how information was distributed between one another. Other periphery factors, such as legal requirements, associations, professional meetings, accrediting bodies, and online communities and networks, may have also impacted how this community of practice participated with the documents. Knowledge transfer and sharing of social media guidance is critical for the survival and sustainability of information at the individual PSE institution, and within the higher education sector, as a community of practice.

Assumption 3: Published and accessible social media guideline and policy documents are artifacts that reify the ideas from the community of practice.

The community of social media guideline and policy administrators in PSE institutions has brought ideas into the physical world through published text documents.

These artifacts serve as a form of reflection for the community, as a whole, as expressed values that were contributed by this community of practice. These artifacts serve as a process of reification as the PSE community engaged in meaning making and congealed these ideas through the production of objects (text documents) into the physical world (Wenger, 1998). Wenger (1998) described this *thingness* in the community and reification process as the "negotiation of meaning . . . the interplay of participation and reification that makes people and things what they are" (p. 72). In a shared community of practice, members negotiate meaning through common documents they make, design, name, describe, and perceive to be true in the community from the corpus (Wenger, 1998; Wenger & Snyder, 2000). As the semantic structure for social media guideline and policy documents increase, this is the reification of the process and product of the semantic structure for the PSE community to determine meaning and understanding (Evangelopoulos & Polyakov, 2014). Abstraction helped to determine the semantic structure of the social media guideline and policy community; whereas the concrete measures are determined by the documents that comprise the corpus (Brown & Duguid, 2001; Wenger, 1998; Wenger & Snyder, 2000). The reification process of the social media guideline and policy document corpus among PSE institutions in illustrated in Figure 2.

In Figure 2, the PSE institutions demonstrated the value given to the body of knowledge in the corpus. This corpus is viewed as the fundamental reference point on informing social media guideline and policy document development for the PSE sector. PSE institutions regard the collective documents as the foundational structure to guide the larger corpus-creating community.
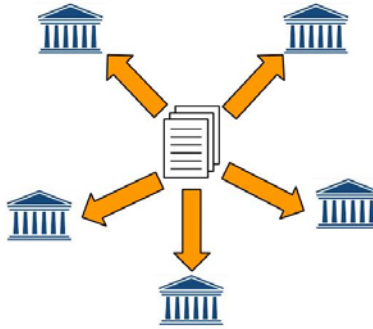
Figure 2. Reification process in the corpus-creating community.

Assumption 4: Analysis of the collection of social media guideline and policy documents by an appropriate text analytic method uncovers the components of the semantic structure of meaning.

Communities of practice are influential in looking at how knowledge is created and transferred (Brown & Duguid, 2001; Wenger, 1998). Higher education, with regard to the direction of social media guidance, is a growing community of practice interested in social media applications and platform use. Retna and Ng (2011) found that a community of practice is an effective mechanism for promoting knowledge transfer both within itself and to broader organizations. Increasingly, the collective community, benefits by its members voluntarily contributing knowledge, effort, and time (Wasko & Faraj, 2005). A number of PSE institutions have also shared social media guidelines and policy documents in the public domain via their institutional websites.

For this study, the researcher analyzed text documents originating from PSE institutions, specifically from staff, faculty, and administrators directing communications, marketing, public relations, policy, learning, and similar divisions within 250 PSE institutions. The socially constructed components of meaning commonly shared by the

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PSE members of the community of practice yielded spontaneous creation, structuration, and articulation.

Based on social media management from the higher education community, Evangelopoulos and Polyakov (2014) proposed a comprehensive theory of latent semantic structure applicable to research corpus-creating communities (CCC) of practice. The database of guidelines and policies, or the corpus, emerged from a CCC involving the documents and artifacts that represent the population (Evangelopoulos & Polyakov, 2014). Figure 1 identified how this research examined the emergent semantic space of the social media in higher education's CCC whose documents created unprompted representations of this group.
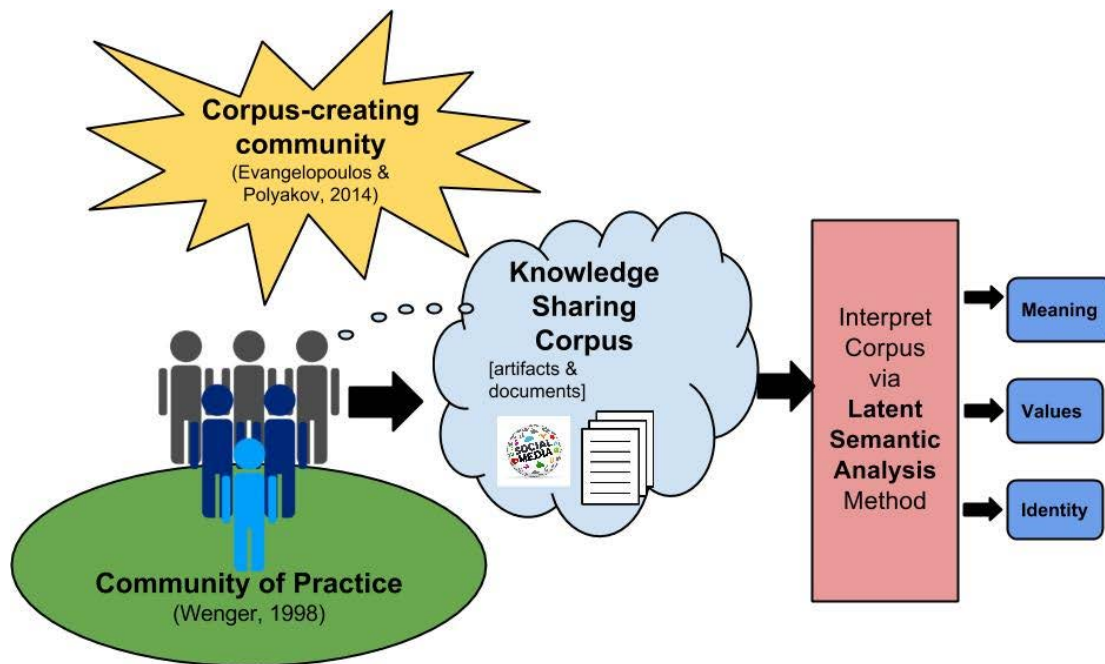
Figure 3. Framework for uncovering the semantic structure of meaning, values, and identity.

A central part of this theoretical framework development using a latent semantic structure involves a community maintaining a collection of documents, or a corpus, as a central role in shaping the identity and constructs of the corpus (see Figure 1). The characterizations of the social media guideline and policy document database (i.e., corpus) for this particular study are both fragmented and diverse; however, the CCC represents various institutional characteristics (student population, degree type, specialization focus, etc.), geographical regions, and various textual document contributions to the corpus.

Within this corpus a number of stakeholders from PSE institutions have contributed to these artifacts, including, academic affairs (e.g. faculty and staff), legal and institutional governance, public relations, marketing and communications, information technology department, fundraising and advancement, and the student affairs division (e.g. students and support staff). Often a social media guideline and policy administrator and/or committee curated and developed institutional documents, and participated in contributing to the corpus-creating community of practice. Through a reification process, the social media guideline and policy administrator has deemed this corpus to be of value and a central reference point for the community of practice.

Higher education exhibits an absence of unified, comprehensive, and systematic research for the development of social media protocols. Despite the increase of social media guideline and policy documents, a growing number of higher education administrators and faculty continue searching for support to regulate social media use and its impact on their institutions (Blankenship, 2011). By identifying key themes, topics, and content related factors developed by the CCC, this study's results offered a

starting point for assessment and understanding of how the PSE sector guides social media across institutions.

Definitions

For the purpose of this study, the operationally defined terms for this research topic were social media, guideline and policy documents, and post-secondary and higher education.

Social Media

In thinking about social media technologies, social media platforms and applications represent "virtual places where people share; everybody and anybody can share anything anywhere anytime" (Joosten, 2012, p. 14). Social media is often used synonymously with the term social network sites (SNS). Ellison (2007) defined social network sites as:

Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. (p. 210)

Social media is also composed of the group of Internet-based applications and technology that allow the creation and exchange of user generated content (Kaplan & Haenlein, 2010). In considering language and terminology around the definition of social media, related search terminology included *social networking*, *Web 2.0*, *Web 3.0*. These terms applied to the application of user generated content or other specific social media applications (e.g., Facebook, Twitter, etc.) for which there are guideline and policy

documents from PSE institutions. There are a broad number of social media applications and platforms available, which lead to the broad use of the term social media. The social media definition includes websites, applications, networks, and/or platforms; however, the research included the review of current document text that was guiding and directing use but not necessarily specific platforms or applications. Social media, social networking sites, Web 2.0, and application specific names (e.g., WordPress, Instagram, etc.) were the primary search terms used to locate policy and guideline documents about directing, monitoring, and regulating social media use in PSE institutions.

Post-Secondary and Higher Education

The study was focused on guideline and policy documents from PSE or higher education institutions. Higher education institutions eligible for this study included public, private, and non-profit campuses from any institution around that provided retrievable, English-text documents. PSE and higher education institutions were the commonly used to reference community colleges, colleges and/or universities conferring associate, vocational/technical, bachelors, masters, doctoral, and professional degrees.

Text documents analyzed from the PSE corpus originated from various course delivery models including online, blended, and face-to-face. The PSE sample represented doctorate-granting universities, baccalaureate colleges and universities that were public and private, two-year associate degree conferring colleges, master's colleges or universities, special focus institutions, and education governing bodies. As the development of social media guideline and policy documents is a recent phenomenon in higher education, all PSE categories were included as part of document

review during an Internet search. Social media guideline and policy text documents

might be found within more than one division, department, or unit at an institution; the

researcher was inclusive of all units who guided social media (i.e., faculty, school,

college, or division) to broaden the scope and create a robust corpus for text mining

analysis. Specific PSE institutions included in this study are listed and itemized by

attributes in Appendix A.

Guideline and Policy Documents

      For the purpose of this study, only accessible, published documents found online

from PSE institutions were included in the social media guideline and policy document

database. A general online search was conducted on broad search engines (e.g.,

Google). However, PSE institutional websites were individually investigated using the

following terms to focus the search: *social media, social media guidelines, social media*

policy, social media directory, and *social media index*. Often one of the first few search

terms retrieved a policy or guideline document related to social media.

      Other terms considered for the search to build the guideline and policy database

included *social media strategy*, *social media regulations*, *social media handbook*, or

other tips, beliefs, rules, or tools provided on this subject of study. During PSE website

searches, most institutions identified an item related to this research via the search

terms *social media* or *social media guidelines*. The key feature for all retrieved

documents was online access (HTML, PDF, or Word document) and publicly availability

for public consumption.

Limitations

The findings might provide researchers with further questions, such as areas to study and gaps for social media guideline and policy development. Document analysis of social media guidance from various PSE institutions may not provide a complete picture of how social media might be used, reviewed, or monitored at each PSE campus, and some policy and guideline text may only pertain to a certain geographic locations or specific institutions. I did not provide complete answers to what specific social media platforms are most effective, or how social media is utilized for learning, teaching, and research in higher education. Nonetheless the state of social media guideline and policy text documents was summarized for the study. Beyond text mining and document analysis to identify key insights and themes, this study provided higher education institutions a broader understanding of current social media guidelines and policies.

LSA possessed limitations due to the nature of dimension reduction of the original dataset. The determination of dimension factors is based on a subjective judgment. Another limitation to this technique is that LSA has orthogonal characteristics, which meant that multiple occurrences of words from different factors (topics) are usually prevented. Since orthogonal characteristics of dimension factors were present, the words in a certain topics were likely to have strong relationships with words in that topic but limited connections to words identified in other topics (Lee, Song, & Kim, 2010). Due to the orthogonal nature of LSA methods (Visinescu & Evangelopoulos, 2014), this text mining technique might prevent multiple occurrences of words in

different topics and be unable to resolve polysemy issues regarding the coexistence of many possible meanings for a word or phrase.

Delimitations

Based on the research design, little influenced the validity of the study. I followed the LSA methodological recommendations for this type of text mining procedure (Evangelopoulos, Zhang, & Prybutok, 2012). Documents for this study were limited to accessible publications that could be retrieved online via a public website search. Only the textual content of social media guideline and policy documents were analyzed. Related images, screenshots, videos, photos, or URLs included in the guideline and/or policy documents were not included in the analysis for this study.

This study is delimited to the higher education sector; however application and impact of this study could easily be mirrored to meet the needs of other industries including K-12 education, non-profit organizations, and corporate environments. Other delimitations included text analysis for primarily English speaking countries, and the scope of this study did not include social media guideline and policy documents in the PSE sector from the following continents: South America, Asia, Africa, or Antarctica.

Chapter Summary and Dissertation Overview

Chapter 2 presents the review of the literature with a discussion of current research including sections on social media adoption, social media and higher education, social media and guidance, and social media policy use in higher education.

Chapter 3 outlines the methodology of this research study and includes an

introduction, appropriateness of the research design, research questions, population, sampling, data collection, instrumentation, data coding and analysis, validity and reliability, and ethical considerations.

Chapter 4 presents the results of the analysis of the social media guideline and policy database, specifically the demographics of the database, the text mining analysis findings, and the assessment of the social media database. The results are divided into two sections. The first section deals with topic extraction and discussion of data from the observations from the social media guideline and policy database. The second section deals with the cluster analysis and topics identified from LSA to determine the semantic structure of meaning, and how these topics related to their geographic origins.

Chapter 5 outlines the researcher's conclusions and discusses implications related to the adoption, management, and challenges for guiding social media within higher education institutions. In addition, this section provides the results from the LSA text mining analysis of the social media database and provides suggestions for future research, development, and use of the topics discovered in the social media guidance higher education corpus-creating community. Chapter 5 also presents limitations and implications for future research in this area.

CHAPTER 2

LITERATURE REVIEW

Social media is the emerging communication landscape being adopted within public and private agencies due to the widespread use among citizens (Margo, 2012). Companies, industries, and organizations are increasingly using social media applications to engage and interact with others. For higher education, online social networking and social media platforms create rich experiences for improving educational achievement, student engagement, and collaboration (Greenhow, Robelia & Hughes, 2009). Social media influences how researchers, instructors, and learners interact with educational content and one another.

To meet the challenges of today's learner, a growing number of international post-secondary education (PSE) instructors incorporate social media platforms in pedagogical practice and to supplement face-to-face classroom learning (Chapman & Russell, 2009; Dohn, 2009; Joosten, 2012). Increasingly, higher education institutions consider implementing policies to address concerns related to marketing, brand management, privacy, academic integrity, and pedagogical practice. Many PSE institutions have found new challenges and opportunities based on the social media utilization by their campus stakeholders. Social media is transforming the way communication on campuses functions with regard to instruction, student support, and research. Learners are now expected to develop digital literacy that includes continuous discovery, digital curation, network development, and connected engagement to take responsibility for learning (Danciu & Grosseck, 2011). New learning models have emerged, with the influence of social media, to empower learners and allow post-

secondary instructors to become facilitators of the educational experience.

A Brief Overview of Social Media

Social media is a classification for a wide variety of popular technologies that are open, facilitate interactivity, and encourage connectivity. In the broadest terms, social media spaces exist for user-generated content and social sharing online. Although an increasing number of applications and platforms can be classified as social media, the dominant features of these sites involve their user-driven nature leading to their widespread adoption. The term social media refers to online materials produced by the user for communication, collaboration, and interaction (Bozarth, 2010). Social media can often refer to websites, tools, platforms, and applications. Much of social media is categorized as Web 2.0, which refers to the advent of mostly free that allow individuals to create, publish, and share content online (Bozarth, 2010). Overall, social media permits individuals to connect with each other online to share ideas, create content, and instantly make connections (Bingham & Connor, 2010). These instant online environments provide connections to diffuse information and build networks.

In the United States alone, Duggan and Smith (2013) found that 73% of online adults use a social media network of some kind. Social networking applications, such as Facebook and Twitter, are considered to be the most popular types of online social media and are used by individuals with public profiles within a bounded system among a list of other users with whom they share connections (Boyd & Ellison, 2007). Other popular social media include video sharing (e.g., YouTube or Vimeo), blogging (e.g., WordPress or Blogger), and photo sharing (e.g., Flickr or Instagram). Facebook has 1

billion users, and YouTube has 4 billion views per day (Duggan & Brenner, 2013).

Twitter has 500 million total users, and Google+ has 400 million registered users

(Duggan & Brenner, 2013). As of August 2012, 69% of online adults used social

networking sites, and 92% of 18 to 29 year olds used social networking sites (Duggan &

Brenner, 2013). Moore (2011) reported 71% of online adults as using video-sharing

sites, and 15% of online Americans use Twitter, with 8% using it daily (Brenner & Smith,

2013). Twitter use among adults doubled in 1 year (Rodriguez, 2011).

Impact of Social Media in Higher Education

Social media platforms are gaining in popularity and becoming a mainstream way

for students, staff, and faculty in higher education to communicate and share

information. Since social media technologies allow for a hands-on, interactive approach

for engagement, it is no wonder why these applications thrive in the PSE environment.

Instructional needs have been enhanced by the availability of teamwork and

collaboration that social media platforms provide for learners (Silius, Kailanto, &

Tervakari, 2011). This means the role of the instructor and administrator on campus is

altered to infuse interdisciplinary experiences and activities to facilitate group

discussion, problem solving, active reading, and critical thinking that involves peer-

learning, collaboration, and life/event experiences (Danciu & Grosseck, 2011).

Knowledge and information channels have the ability to be distributed, flipped, and

blended, and with the community of practice developing common social media policies,

it is critical to share this guidance broadly (Wenger, 1998; Argote, 1996).

Beyond the academic and instructional setting, the PSE sector has witnessed an increase of social media use for recruitment and admissions (Uversity, 2013), orientation and transition programs, fundraising (Council for Advancement and Support of Education [CASE], 2014), student activities, and campus-wide events. A number of student-led initiatives and groups utilize social media platforms to interact, advertise, increase connection, and promote engagement in their organizations (OrgSync, n.d.). Even administrative personnel have implemented and used social media platforms to enhance professional development, connect to learning networks, and support job functions. Finally, a growing number of emerging scholars, researchers, and faculty in higher education have established online identities by participating in academic social networks (Kimmons & Veletsianos, 2014) and developing peer-review publications via social media platforms (Daniels, 2013).

PSE institutions have considered innovative ways to develop faculty, students, and staff with engaging new technologies for learning (Kukulska-Hulme & Jones, 2011). The connected features of social media have inspired a growing number of educators to consider the impact these technologies can have on learning. Web 2.0 provides the ability to collaborate in a virtual community culture for social and innovative learning and has motivated students to socially engage and collaborate with their peers (Llorens & Capdeferro, 2011). Based on the recent social media survey by CASE (2014), Facebook is the most widely used social media platform on PSE campuses (90%) followed by Twitter (58%), LinkedIn (36%), YouTube (22%), Instagram (14%), and blogs (8%). Educational organizations need to consider what processes and guidelines best

meet the needs of campus stakeholders including students, staff, faculty, administrators, alumni, employers, and community partners.

Institutions make decisions about effective implementation and support for social media users while considering costs and implications. A growing number of faculty and instructors, instructional designers, and staff have been exploring how social media technologies can successfully enhance student learning and support institutional goals (Bennett, Bishop, Dalgarno, Waycott, & Kennedy, 2011). For example, Facebook supports similar instructional functions such as being an interactive learning management system and group collaboration forum, user sharing of resources and ideas similar to online class' discussion board, and fostering interaction beyond the classroom environment (Wang, Woo, & Quek, 2012). With the growth of social media use, comes a new opportunity for interaction, community development, collaboration, and engagement beyond formal learning environments.

About Social Media Guidelines and Policies

Many organizations have adopted social media applications for internal and external use for productivity, communication, or brand management (Barger, 2011). Hanna, Rohm, and Crittenden (2011) identified a number of companies now recognizing the importance of using social media platforms; however, companies rarely know how to deploy these social, online spaces within their organizations. Other specific concerns for social media on PSE campuses include privacy issues (Joosten, Pasquini, & Harness, 2013) and government regulations, such as the United States Family Education Rights and Protection Act (Joosten, 2012; U.S. Department of Education, n.d.). For use and

practice, organizations need to know how to utilize social media applications with target audiences and stakeholders (Cutis, Edwards, Fraser, Gudelsky, Holmsquist, & Thornton, 2010).

In contrast to brand development and external impacts in the private sector (Barger, 2011), the public sector's adoption of social media tools tends to be focused on objectives internally, service delivery, bureaucratic barriers, and slow progress with change (Serrat, 2010). More importantly, organizations consider social media policies and guidelines to be a method of protection for personal and professional reputations (Lehavot, Barnett, & Powers, 2010) and an approach to safeguard against legal implications (Scott & Jacka, 2011). Often rules and regulations discourage participation and rarely provide opportunities to support training, development, or learning within an organization (Bozarth, 2010). There is an overwhelming interest in establishing best practices to guide social media use (Joosten, 2012) and hiring dedicated staff members to increase the success of using social media on campus (CASE, 2014). From these growing issues, social media guideline and policy documents are likely to influence participation by campus users and the PSE community.

Higher education institutions need to consider how social media guidance and utilization can impact instruction, research, administration, and other functions. Those responsible for social media guidelines and policies are predominantly influenced by corporate culture and regulations for social media use at work (Fuchs-Kittowski, Klassen, Faust, & Einhaus, 2009). As social media use increases in the PSE sector, so do challenges about not guiding emerging technologies and online mediums. Lack of privacy and perceived loss of control over individual use of social media are two

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growing concerns within organizations (Fuchs-Kittowski et al., 2009). To effectively

implement and utilize social media within higher education, administration and faculty

leaders need to determine how to guide and prepare colleagues not ready to embrace

the implementation of social media (Li, 2010). The commitment to adopt any form of

guideline or policy is often a reason why a number of organizations fail when

implementing social media platforms (Farhoomand, Tuunainen, & Yee, 2000), which led

to the imperative for this research study to share common trends and themes found in

current social media guideline and policy documents.

Review of Research: Social Media in Higher Education

Emerging research and interest how higher education institutions guiding the use

of social media is growing (Joosten et al., 2013; Reed, 2013). However very few studies

have been conducted to investigate publicly accessible social media guideline and

policy documents for determining their purposes or examining what these documents

entail (McNeill, 2012). As social media use increases in the PSE sector, faculty and staff

have become expected to understand and know how to apply social media to education

(Collis & Moonen, 2008). The gap in understanding social media guidelines and policies

is revealed through the assessment of current textual documents that inform best

practices for higher education.

Recent Research Approaches

Unfortunately many social media guidelines and policies in higher education do

not focus on instruction, learning curriculum, or research practices, but rather aimed at

the institutional brand and broadcasting messages (Joosten et al., 2013). In addition,

universities and colleges remain primarily concerned about the legal liabilities and implications imposed by social media use on campus (Lindsay, 2011). PSE institutions have considered policy and guidelines to regulate student athletes' behaviors (Woodhouse, 2012), privacy concerns (Barnes 2006), course communication using social networking sites (Roblyer, McDaniel, Webb, Herman, & Witty, 2010), learning policies related to technology (Hemmi, Bayne, & Land, 2009), and judicial implications for academic dishonesty (Brown, 2008). The development of guidelines, policies, and strategies for PSE has been primitive and often grassroots (Rodriquez, 2011; Joosten, 2012), and a number of institutions still struggle with defining effective social media practices (Best Colleges Online, 2011). Students, staff, and faculty in higher education operate in unfamiliar social media territory. Understanding knowledge sharing through social media use might help to inform and educate developers of social media applications and benefit the PSE sector.

Recent researchers have examined how social media applications engage and impact learning outcomes (Bennett et al., 2011), influence communication and marketing practices (Constantinides & Zinck Stagno, 2011), affect adjustment and interventions on campus (DeAndrea, Ellison, LaRose, Steinfield, & Fiore, 2011), impact college search and decision of students (Nyangau & Bado, 2012), answer concerns about digital privacy and fair use (Rodriguez, 2011), create online instructional scaffolding with self-regulated learning and student ownership (Rourke & Coleman, 2011), offer online learning communities to supplement face-to-face courses (Hung & Yuen, 2010), provide mentoring for professional programs (Patel, Roberts, Miller, Ziegler, & Ostapchuk, 2012), and facilitate first year student transition (Jenkins, Lyons,

Brigstock, & Carr, 2012) or student motivation to learn with social media (Tay & Allen, 2011). From the above studies and literature review, it was not clear that there are any specific guidelines or direction for PSE institutions to select when considering development of a social media policy. As the colleges and universities are complex and manage everything from student development, to research growth, and curriculum needs, it was apparent that previous social media research methods did not address the holistic needs for guiding training and development, faculty support, protect users legal rights, and develop digital literacy development.

Social Media Guideline and Policy Research in Higher Education

Although social media guidance has emerged at a select number of higher education institutions, a review for direction and support for policy design and pedagogy is necessary. Mergel et al. (2012) suggested two ways to implement social media guidance: (a) creating a social media policy before using social media or (b) experimenting with social media within an organization to generate and apply guidance. Security and privacy were two of the primary concerns for social media use among higher education organizations (Wandel, 2009; Joosten et al., 2013).

Social media platforms and applications possess unique characteristics with greater implications than traditional learning technologies. These applications are open, primarily free to use, and organic in nature. Also, social media platforms are built from principles of interactivity that allow users to connect with each other, gather news and information, and create and share content. The functionality of social media provides opportunities to enhance the effectiveness of institutional processes while also providing challenges. Since "many social media tools are not institutional enterprise systems,

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educators are concerned about using them in the classroom. At the heart of this concern are "issues related to student behavior online, information privacy, and student identities" (Joosten, 2012, p. 79). Concerns arise from lack of control and ownership of these systems. A number of PSE institutions have begun to consider the legal implications and challenges of social media platforms as related to their students, staff, and faculty who interact in these connected, online spaces. Additional considerations focus on providing staff, instructors, and researchers with infrastructure, training and development, and support necessary to use social media on campus effectively.

In considering higher education guideline and policy documents for social media, very few assessments or evaluations of actual text documents have been conducted. In considering the complex, integrated nature of social media platforms and applications, it was useful to outline seminal literature and provide a review of social media guidance and policy documents publically accessible through the PSE sector. With the use of social media applications, legal and ethical questions have arisen around social media use in post-secondary teaching and learning environments. In *Tatro v. University of Minnesota* (2011), a student in the mortuary-science program at University of Minnesota posted a number of Facebook postings on her account that included colloquial and lewd speech targeted toward cadavers and other unnamed individuals from her academic work. Legal, ethical, and academic integrity issues continue to prevail with social media use in higher education.

Guideline and Policy Research for Social Media

Based on the widespread adoption of social media in PSE, it is important that organizations consider effective practices and guidelines for their campus stakeholders.

For this study, a comprehensive search of EBSCO and related scholarly databases was conducted using a number of search terms individually and in combination with each other. These terms were *social media, policy, policies, guidelines, text analysis, text mining, assessment*, *evaluation, education, post-secondary,* and *higher education*. The resulting findings included a few research studies specifically about social media guideline and policy review; however, a select number of research studies involved specific assessment about social media guidelines and policies from the broader PSE sector.

Researchers offered suggestions for guidelines with regard to teaching with social media (Muñoz & Towner, 2011) and recommendations about how to develop social media policies to moderate negative behavior and encourage positive outcomes in higher education (Junco, 2011). Kind, Genrich, Sodhi, and Chretien (2010) found increased use of social media within medical school programs but policies about appropriate conduct lagged behind use. Therefore, PSE institutions with established guidelines and policies have much to teach the higher education community.

Previous research studies on social media policies occurred predominantly within specialized higher education programs, such as medicine, nursing, pharmacy, and dentistry. For example, one pharmacy school assessed the impact of social media implementation and professionalism (Williams, Field, & James, 2011). Wang, Sandhu, Wittich, Mandrekar, and Beckman (2012) researched the attitudes of continuing medical students toward social media use for education and in the field. Sanderson (2011) found critical social media content restrictions and external monitoring using a thematic and textual analysis of 159 NCCAA Division I schools' social media policies. Recent

research examinations of social media guideline and policy documents in higher education include a critical discourse analysis (McNeill, 2012), content analysis for teaching and learning in the United States (Reed, 2013), and a systematic literature search on social media and medical professionalism (Gholami-Kordkheili, Wild, & Strech, 2013).

In comparing higher education social media guideline and policy research to the corporate sector, Russell and Baer (2009) learned that 69% of corporate organizations do not have formal policies to regulate how employees use social networking tools. Corporations continue to examine the rules of social media engagement for their organizational goals, strategies, communication plans, and policies. Comparable studies outside of PSE for social media policy assessment included a case study on using social media guidelines to best support customer dialogs at Starbucks (Gallaugher & Ransbotheam, 2010), surveys to assess social media organizational strategy management with regard to communication and openness (MacNamara & Zerfass, 2012), and semi-structured interviews to identify social media adoption and management protocols in Dallas and Fort Worth area police departments (Altunbas, 2013). Other researchers have studied governments' social media policies to understand how social media transparency and interaction is dealt with via practical social media guidelines (Klang & Nolin, 2011), to identify the most effective elements when designing a social media policy employee handbook (Hrdinová, Helbig, & Peters, 2010), and to understand the challenges and issues that arise with social media policies (Bertot, Jaeger, & Hansen, 2012).

As social media use in higher education increases, both PSE institutions and other industries will need to review the norms for directing, regulating, and supporting social media platforms for their organizations. Although social media has the potential to share experiences and engage the campus community, PSE institutions need to consider guidelines to deal effectively with challenges related to privacy, ownership of intellectual property, legal use, identity management, and literacy development (Rodriguez, 2011). The content of social media guideline and policy text documents has remained unevaluated in PSE, so this study's findings will enlighten higher education and other organization social media guideline and/or policy developers.

Summary

This social media guideline and policy document text analysis research study revealed common trends, themes, issues, and suggested practices. Latent semantic analysis (LSA), a texting mining method, was utilized to identify content related factors (key terms) that currently guide legal aspects, privacy protocols, and appropriate usage via social media guidelines and policies from PSE. The methodology is explained in detail in Chapter 3. This study set a foundation for further social media guideline and policy document development, research, and practice in higher education and related organizations interested in scaffolding social media use.

CHAPTER 3

METHODOLOGY

This purpose of this research study was to assess how higher education institutions currently guide the use of social media by reviewing their social media guideline and policy text documents using latent semantic analysis (LSA). The design of this study was grounded theory by exploring social media guideline and policy documents from the post-secondary education (PSE) sector. This chapter explains the methodology used to answer the research questions for text mining techniques and applied LSA as the basis of this study. In addition, the chapter summarizes the research methods and practices while clarifying how the data was obtained and analyzed. The final section of this chapter explained the reliability and validity of the research study.

Research Design

To answer the two research questions presented on page 8, this study followed a semi-automatic approach to review the semantic structure and terms in the social media guideline and policy documents. This particular text mining procedure required a large matrix of term-document data to construct a semantic space in which the closely associated terms and documents were placed near one another (Deerwester, Dumais, Funas, Landauer, & Harshman, 1990). As described in Chapter 1, the semantic space emerges from the spontaneous construction of social media guideline and policy documents by the higher education corpus-creating community.

Unlike automated text mining typically conducted by enterprise software, the researcher made heuristic decisions by manually reviewing, cleaning, and organizing

each social media guideline and policy document from the database. A total 24,243 atomic social media guideline and policy documents from 250 PSE institutions were consolidated and organized into a spreadsheet. Further explanation of document manipulation and organization are explained in later in this chapter. In this study, the researcher implemented a text mining technique by applying LSA to evaluate social media guideline and policy text documents from various PSE institutions.

Data Mining

Data mining has been widely applied to the education field to both predict clusters and results for a significant amount of data (Romero, Ventura, & Garcia, 2008). Data mining techniques, clusters, and decision trees are common techniques for this analytical method and for making future predictions. Data mining techniques increase knowledge discovery in databases (KDD) for researchers (Romero et al., 2008). By extracting a large quantity of data, this automatic process can be used to identify patterns for understanding in multiple disciplines using computer-based algorithms and statistical methods. Using this statistical method, Goyal and Vohra (2012) identified how data mining creates decision tree construction, rule induction, artificial neural networks, instance-based learning, logic programming, and multi-regression. Several researchers have suggested because of the many benefits of data mining in the educational field, it has become increasingly popular (Kumar & Chadha, 2011; Llorente & Morant, 2011; Vandamme, Meskens, & Superby, 2007). These research techniques allowed for greater understanding of a large set of data, the PSE document database, to construct meaning by determining patterns and associations.

Text Mining

   Text mining is a segment of data mining used to analyze large unstructured textual data sets to make meaning. Text mining, also known as text data mining (Hearst, 1997) or knowledge discovery from textual databases (Feldman & Dagan, 1995), refers to the general process of extracting interesting and non-trivial patterns or knowledge from unstructured text documents. It can be viewed as an extension of data mining or knowledge discovery from (structured) databases (Fayyad, Piatesky-Shapiro, & Smyth, 1996; Simoudis, 1996). Overall, text mining is an interdisciplinary field of activity amongst data mining, linguistics, computational statistics, social sciences, information studies, and computer science. Text mining includes fast processing by efficiently consolidating a vase amount of data, reducing coding bias, and limiting researcher influence (Cronin, Stiffler, & Day, 1993; Litecky, Aken, Ahmad, & Nelson, 2010). For the purpose of this study, text mining techniques were utilized for discovery and information retrieval by extracting interesting information from a semi-structured or unstructured data set.

   Within the growth of the Internet and rise of online communication, researchers have begun using large-scale online text collections to learn new facts and trends about data (Hearst, 1999). Text mining is concerned with the process of structuring input text to derive patterns to interpret and evaluate outputs (Romero et al., 2008). In this study, a text mining procedure was used to analyze text documents as input information to create a document-term matrix. Atomic documents are defined by the researcher as a single paragraph, statement, point, or segment of the document that pointed to a specific social media concept, as explained further in this chapter.

From the text mining of these documents, a term was selected for words that contributed informational value and often appeared with a certain frequency among the documents. Standard techniques for text mining included "text classification, text clustering, ontology and taxonomy creation, document summarization and latent corpus analysis" (Feinerer, Hornik, & Meyer, 2008, p. 1) were utilized for this research.

Vector Space Model

Salton's (1975) basic assumption for text mining methods is that a vector of terms is represented in the vector space model (VSM). The value and importance of a term is determined by its frequency of appearance in the document or all documents involved during information retrieval, known as the *bag of words* (Harris, 1954; Evangelopoulos et al., 2012). The distance between the two vectors can be used to determine the similarity between these two vectors, and the proximity any two vectors depends on the dot product between the two vectors, as represented by A and B vectors (Anaya, 2011):

$$A \cdot B = |A||B| \, Cos(\theta)$$

For example, Figure 4 demonstrates two documents in a vector space with Document 1 consisting of the two words *listen* and *audience*; each word appears four and two times, respectively. Similarly, *listen* and *audience* appear three and seven times respectively in Document 2.

Table 1

Two Document Sample

Document	Listen	Audience
1	5	2
2	3	6
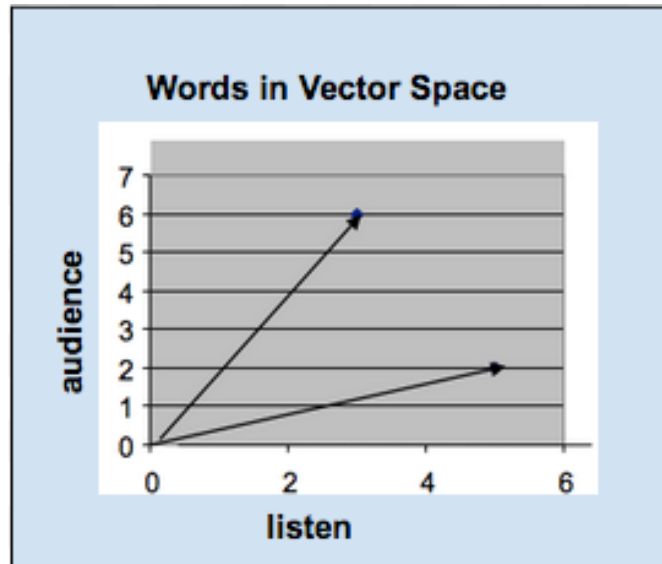
Figure 4. Document representation in vector space.

The cosine of the angle between two vectors can be used to measure the degree of similarity between the two vectors. The angle between two vectors is utilized for information retrieval of documents enabling the degree of similarity to correspond directly to another document. Few issues arise using this information retrieval method.

It is a challenge to match similar documents that are lengthy. For the purpose of this study, the researcher attempted to correct for this issue by segmenting the larger documents into atomic documents of single concept (i.e., a single paragraph, bullet point, line, or word). The order of words, which is typically ignored under the bag of words concept, might yield informational value when text mining. Appendix C provided

further detail on how to segment a full text document into atomic text documents to analyze the text appropriately.

Finally, the issue of synonymy and polysemy are not addressed through the vector space model (Lee, Song, & Kim, 2010). Synonymy is defined as the grouping of different words with identical and similar meanings (e.g., the words of *college*, *university*, and *community college* belong to the concept or topic of PSE). Polysemy refers to words that can possess more than one meaning. For example, the word firm refers to a solid surface or structure but also can refer to a type of business or enterprise organization. Therefore, using the single representation of documents as vectors of terms in vector space does not address polysemy nor synonymy issues unless the vector space model vocabulary is best defined by a matrix of terms for the document collection.

Latent Semantic Analysis

LSA is a computational research method that simulates human-like analysis with language (Landauer, 2011) and was used originally for information retrieval query optimization (Deerwester et al., 1990; Dumais, 2004). LSA is a text mining approach for indexing words and concepts. Essentially, LSA is a computational model in which learned word meanings emerge from vast amounts of text and identify the degree to which two words or passages have the same meaning (Landauer, 2011).

LSA provides researchers with a better idea about word meaning, specifically how those "words occupy positions in semantic space and meaning in relation to the other words" (Landauer & Dumais, 1997, p. 162). To determine text meaning from topic

extraction, a rotated latent semantic analysis (rLSA) method was applied

(Evangelopoulos & Polyakov, 2014). The fundamental idea behind rLSA is that the

meaning of each passage of text (or document) is modeled as the sum of meanings of

the individual words in it, whereas a collection of documents (or corpus) is modeled as a

system of simultaneous equations to determine similarities in the documents and in the

meaning of words (Kulkarni, Apt, & Evangelopoulos, 2014). To determine the naturally

emerging latent semantic factors (topics) relevant to the social media guideline and

policy document database, LSA extracts themes and attributes that are common among

the 250 PSE institutions. The semi-automatic treatment occurred in this study with

24,243 atomic documents retrieved common topics (factors) from the text database

(corpus).

LSA extracts the contextual-usage meaning of words and obtain approximate

estimates of meaning similarities among words within the given textual data to provide

information at the semantic level (Hossain, Prybutok, & Evangelopoulos, 2011). Valle-

Lisboa and Mizraji (2007) provided insight on how LSA detects the underlying topical

structure of a document corpus, and why LSA's capability for discovering hidden topics

allows it to successfully model synonyms, multiple words with similar meaning, and

human memory. LSA reduces the original term-document matrix into a filtered term-

document matrix through the singular value decomposition (SVD) process.

In LSA, a document representation is a vector of words in vector space that can

be compared to another vector for retrieval of similar documents. By reducing the

document representation in the vector space, the retrieval of similar documents

provides a simpler method to compare short length vectors for similarity purposes. SVD

decomposes the original matrix intro three matrices: (a) a document eigenvector matrix, (b) an eigenvalue matrix, and (c) a term eigenvector matrix. The SVD of a rectangular matrix X is given by the following equation:

$$X = U\Sigma V^T$$

The reduced and transformed version of the term frequency matrix, X, is subjected to SVD, $X = U\Sigma V^T$, where U represents the term eigenvectors, V the document eigenvectors, Σ the diagonal matrix of singular values (i.e., square roots of common eigenvalues between terms and documents in the least squares sense), and the superscripted T denotes transposition (Kulkarni et al., 2014).

The U_{txr} matrix represents terms-by-factors in dimensionality and the eigenvectors of the XX^T matrix. The XX^T matrix is the $t \times t$ dimension-term covariance matrixes defining r latent semantic themes in the data and are called factors in the multivariate language. The terms of each factor represent U as the $t \leq r$ matrix of eigenvectors of the square symmetric matrix of term covariances XX^T, V as the $d \leq r$ matrix of eigenvectors of the square symmetric matrix of document covariances X^TX, and Σ as an $r \leq r$ diagonal matrix containing the square roots of eigenvalues (singular values) of both XX^T and X^TX matrices, and $r \leq \min(t, d)$ as the rank of matrix X. Graphically, the LSA method can be illustrated as shown in Figure 5. The input to the LSA method is the X matrix decomposed through SVD. The output to the LSA method is a truncated X^* matrix as shown in Figure 6.
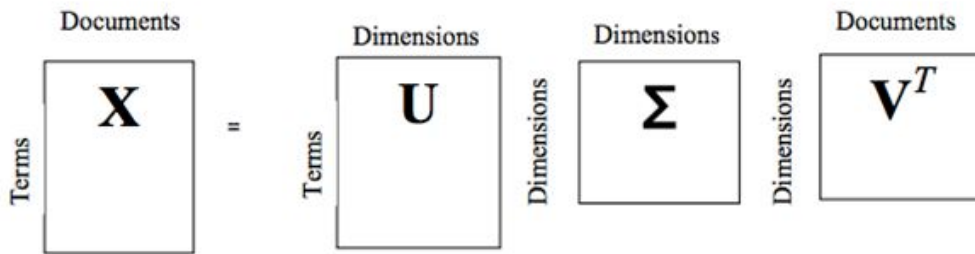
Figure 5. SVD of original *X* matrix.
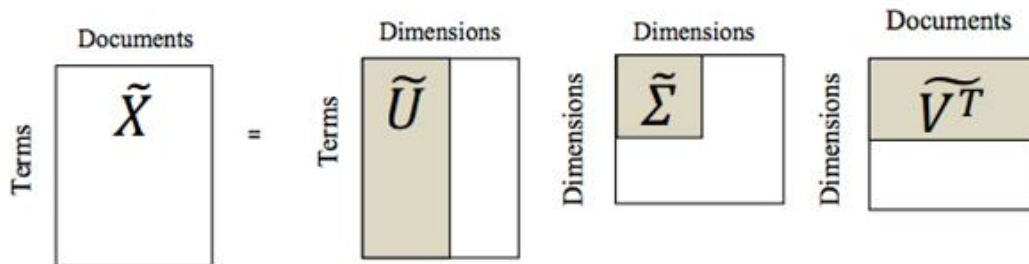
Figure 6. SVD of truncated *X** matrix.

In LSA, the original matrix *X* can be approximated by another matrix *X** that results from truncating the middle eigenvalue matrix Σ and multiplying it with the other associated matrices that have been truncated to the same rank level as the middle matrix. Also, topics can be extracted by using factor loading and matrix rotation as shown in Figures 7 and 8.
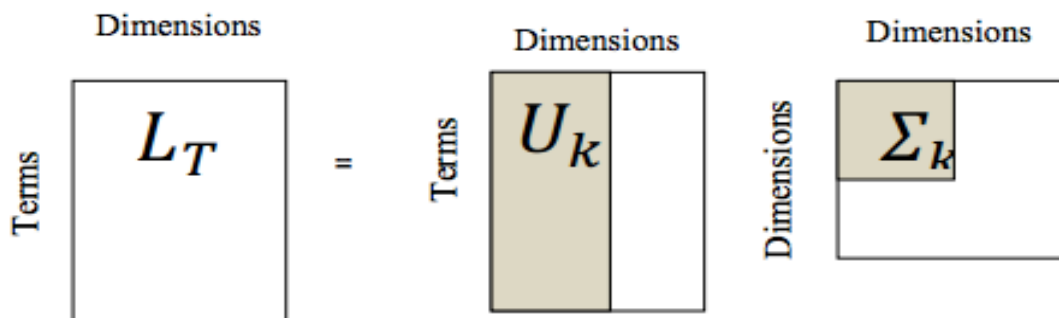
Figure 7. Loading on words matrix.
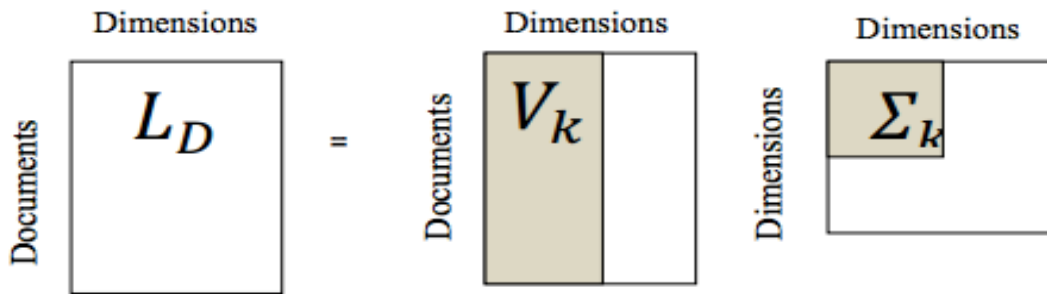
Figure 8. Loading on documents matrix.

Sidorova, Evangelopoulos, Valacich, and Ramakrishnan (2008) used LSA and

provided a detailed mathematical explanation of LSA that was specific to topic retrieval

from a text corpus. LSA expresses a venerable idea about word meaning. In essence,

words occupy positions in a semantic space, and their meanings are the relation of

each to all (Landauer, McNamara, Dennis, & Kintsch, 2011). In LSA, this method offers

an objective measure of semantic equivalence that does not rely on subjective language

perceptions (cf. Larsen, Monarch, Hovorka, & Bailey, 2008). LSA identifies word

frequency or loadings to multiple latent concepts other than its main underlying concept

(Li & Joshi, 2012). Loading shows how individual terms or words load to different latent

concepts where a stronger association appears (Li & Joshi, 2012).

Text Mining with Operationalization of LSA

This study followed established text mining procedures as discussed in prior

studies (Sidorova et. al, 2008; Evangelopoulos et al., 2012; Hossain et al., 2011; Li &

Joshi, 2012). The following three-step process of text mining using LSA as described by

Elder, Hill, Delen, and Fast (2012) and presented in Figure 8 was used in this study.
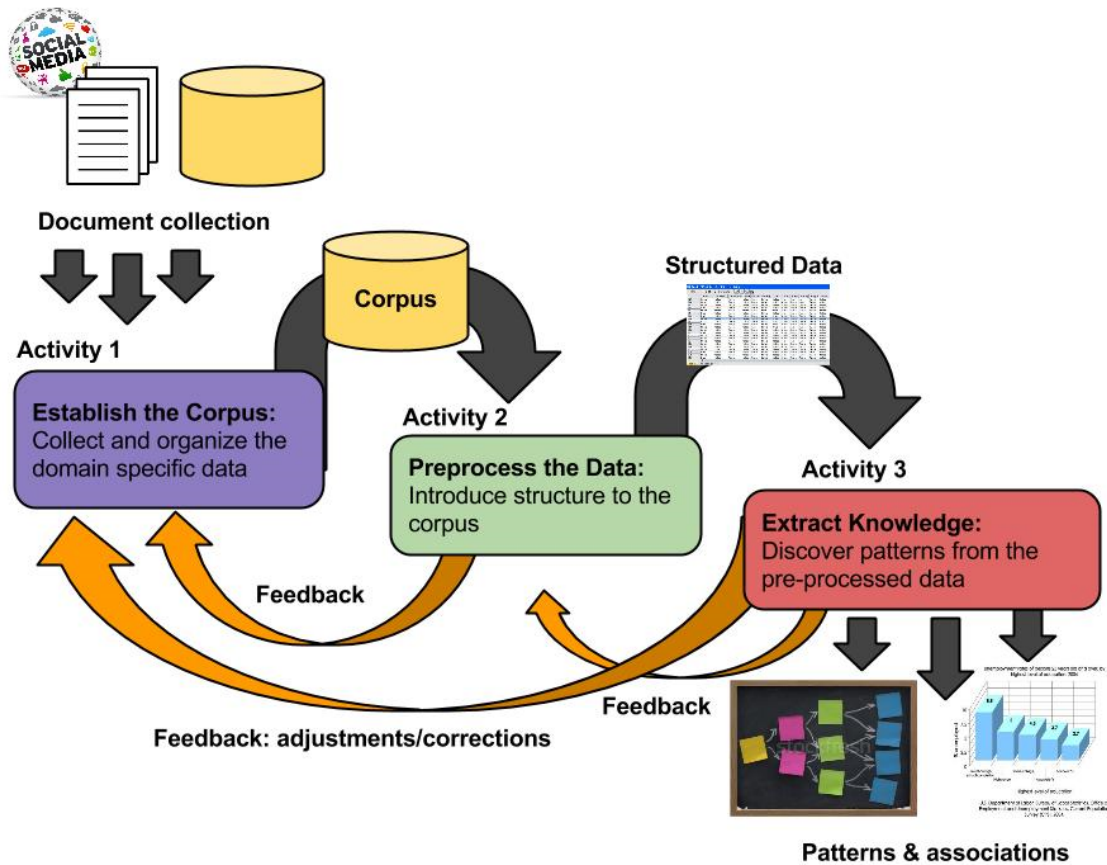
Figure 9. The three-step process for text mining using LSA.

Step 1: Establish the Corpus

First, relevant documents were identified and collected by the researcher and by automated techniques, such as a Google search engine or web alerts. Documents in the corpus were published electronically and accessed online. In this case, the researcher manually retrieved social media guideline and policy documents on various search engines, PSE institutional websites, and via social networks (e.g., Facebook, Twitter, and LinkedIn). The corpus was established after identifying 250 higher education institutions from 10 countries who guided the use of social media. The result was 24,243 atomic documents to analyze. Further information about establishing the

corpus is found within the data collection section of this paper.

Step 2: Pre-Process the Data

The second step was to pre-process the data and allow the documents to be structured for appropriate text analysis with the LSA method. To ensure the output stage was accurate, the researcher collaborated with multiple coders to manually pre-process all the documents before analysis. The data structure was generated automatically but did not ensure all the documents were cleaned and organized for the correct format of text analysis. The process included retrieval of social media guideline and policy documents in HTML, Word (i.e., .doc, .docx), PDF, Publisher (i.e., .pub), or other electronic document formats (e.g., .rtf, .txt) on the web.

To prepare the documents, the text pre-processing and validation checks for multiple coders were put into place for review (see Appendix C). Pre-processing preparation required converting the online text documents into a single format without bullet points, lists, numerical ordering, etc. and putting each guideline or policy text into a Word document. The primary emphasis placed on cleaning and organizing the data ensured only vital guideline and policy text information was extracted from the web documents. A number of the text documents included other information not relevant or appropriate for this form of text analysis. This irrelevant information included contact information, URLs, images, videos, and embedded objects.

After transferring the text documents into a single format, the researcher split the lengthy documents from each institution into atomic documents (i.e., concepts). This task required putting each individual concept, idea, bullet point, issue, and paragraph into a separate line using a carriage return. When the documents were ordered into

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atomic documents, all atomic segments were transferred into an Excel spreadsheet and organized by institutional identifier and number as well as an individual document identifier (e.g., SMP00001, SMP00002). This organization helped to identify documents by institution, type of institution, size of institution, and geographic location before converting the Excel document into an Access database for processing.

Pre-processing and term reduction. To apply LSA to a particular domain, the original text was formatted into the form of numerical matrix to represent text sentences or fragments. LSA was applied to the matrix to identify topics or labels (Mashechkin, Petrovskiy, Popov, & Tsarev, 2011). Li and Joshi (2012) described in detail their pre-processing treatment of a similar data set consisting of text documents, which included using LSA for term reduction by identifying latent semantic concepts in the corpus and determining the relationships (i.e., similarities) among documents about social media guidelines and policies outlined in Figure 10.

| Document transformation | Tokenization | Filter Stopwords | Filter Token (by length) | Stemming | Term weighting |
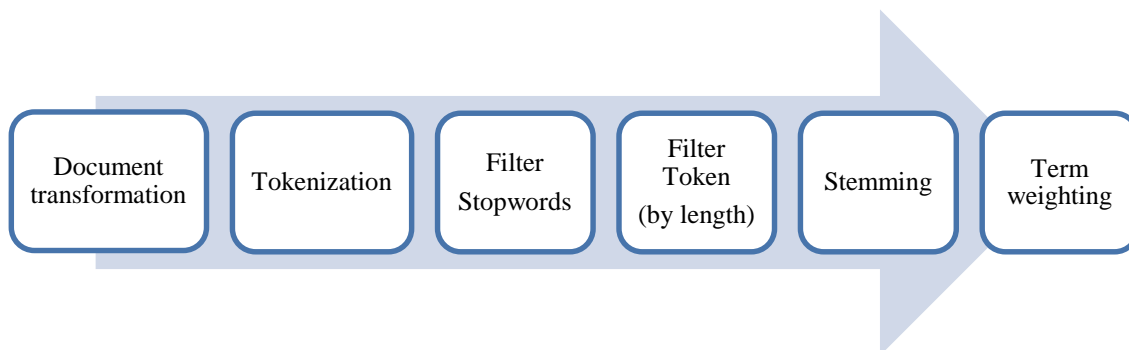
Figure 10. Text mining using LSA pre-processing and term reduction.

As outlined in Figure 10, each document was transformed into a standard format for consistent text analysis. This included taking into account words' spelling differences and changing the spelling of non-American English words, such as Australian,

Canadian, and United Kingdom English spellings, into American English spellings. For example, *organise* was respelled as *organize* and *behaviour* was converted to *behavior*. Following that this step, tokens of less than two letters, such as *1* and *x*, were removed because they did not contain meaningful information.

Next, term stemming techniques were applied to a word list to identify the roots of words and regarded all words with the same root as one token (Han, Kamber, & Pei, 2006; Ramos, 1986). For example, *guide*, *guiding*, and *guidance* were regarded as a single token for the root *guid*. This process reduced the number of variants and dimensionality found for the same word in the documents.

Other filtering pre-processing techniques included removing any words, tokens, or atomic document segments not associated with the specific social media guideline and policy documents, such as a stop words list that included the terms *social*, *media*, *university*, and *college*. For the purpose of this text analysis, the following information did not provide any additional information about the content of social media guiding documents: contact information, e-mail, URLs, images, and embedded objects. The term reduction process identified key term weighting in a word list of a specific amount of tokens for the document data set. Further information on text documentation preparation steps for LSA with multiple coders is outlined in Appendix C.

Term frequency matrix transformation. After pre-processing and term reduction, all documents were converted into a term frequency matrix to evaluate how each cell of the matrix recorded frequencies of specific tokens in each atomic document. The term frequency matrix was transformed using term frequency-inverse document frequency

(TF-IDF) weighting methods (Han et al., 2006; Harman, 1992; Husbands, Simon, &

Ding, 2001; Salton & Buckley, 1988; Salton, Wong, & Yang, 1975). This process put

more weight on the rare terms and discounted the weight of the common terms such as

social and *media*, to determine the uniqueness rather than the commonality of each

document (Sidorova et al., 2008).

SVD. The primary analysis procedure of LSA was SVD, a linear algebra

technique for decomposing any rectangular matrix into three other matrices. SVD was

applied to convert the TF-IDF weighted term matrix to create three matrices (Li & Joshi,

2012): (a) the term-by-factor matrix; (b) singular value matrix (square roots of

eigenvalues); and (c) the document-by-factor matrix. The latent factors with high-loading

terms were identified by the term-by-factor matrix, which is explained in Chapter 4. The

document-by-factor matrix identified the document loadings to a particular latent factor.

The singular values represented the importance of a particular factor.

The U_{txr} matrix represented terms-by-factors in dimensionality and the

eigenvectors of the XX^T matrix. The XX^T matrix provided $t \times t$ dimension term covariance

matrixes that defined r latent semantic themes in the data that were called factors in the

multivariate language. The terms of each factor were defined by the latent semantic topics

identified by the diagonal matrix of singular values. The factor-by-document matrix

represented the eigenvectors of the X^TX matrix, a $d \times d$ document covariance matrix

which associated the factors and original documents.

For a variety of reasons, it was desirable to reduce the number of factors

extracted from the X matrix. In a sample population, removing those factors with

eigenvalues of less than 1.0 placed a lower bound on the number of common factors

(Guttman, 1954). When a factor accounted for less variance than a single variable, it

was of little interest (Cliff, 1988). Frequently, data occurred in high-dimensionality space while only a few dimensions conveyed the topic structure of the corpus (Zhu & Ghodsi, 2006).

For dimensionality detection, similar maximum value statistical tests using bootstrapping (Efron, 2005) and nonlinear dimensionality reduction (Roweis & Saul, 2000) were applied. Zhu and Ghodsi (2006) identified how to select dimensionality when using LSA on scree plots using the profile likelihood (Zhu & Ghodsi, 2006). The SVD products were truncated to a reduced space of only the first k highest rank singular values that is best rank least squares estimate of X_{txd}.

Step 3: Extract Knowledge

LSA was used to process the raw frequency X matrix to an equivalent of the vector space model (Salton, 1975). This process transformed the data found in the X matrix through a weighting of factor method, specifically term weighting with local weight and global weight. This process of applying weighted terms across the document collection represented the high frequency of terms found in all of the documents. The inverse document frequency (IDF) method reduced the impact of terms that appeared across the document collection with high frequency and favored high frequency terms that appeared in relatively fewer documents (Salton & Buckley, 1988).

Weighting was achieved by taking the frequency of each cell of the X matrix and adjusting it by taking the product of a local and a global weight for that cell. Local weights transformed the frequency of term i in document j (tf_{ij}) into a relative frequency (Salton & Buckley, 1988). Several local weighting options were available. The most common term frequency weighting method involved simply using the observed tf_{ij} value

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as the local weight (Salton & Buckley, 1988). Other alternatives for local weighting included binary for taking local tf_{ij} value as either 0 (does not exist) or 1 (exists). Log local weighting replaced the tf_{ij} value represented as $log\,(tf_{ij}) + 1$ (Salton & Buckley, 1988). The selection of a term weighting method occurred relative to the length of the documents in the corpus. The length of the document drove the input matrix to influence the probability of a document in a corpus and the probability of words relating to a topic.

The highly recommended and most commonly cited weighting methods in the LSA literature are TF-IDF and log-entropy (Evangelopoulos et al., 2012). Generally, TF-IDF is recommended when the corpus consists of large complex term structures, and log-entropy is recommended when the corpus consists of smaller latent structures composed of a few frequent terms (Evangelopoulos et al., 2012). As the corpus for this study consisted of large complex term structures, the researcher applied the TF-IDF method.

Another common procedure involves normalizing the *X* matrix once it has been weighted. Normalizing the matrix equalizes the lengths of widely varying vectors. When a corpus consists of a mixture of short and long documents, the long documents exert greater influence. In information retrieval, long-length documents have a greater probability of being returned than short documents. There is a greater probability of finding a random term in a long document rather than in a short document. Normalizing allows all documents to be treated equally (Salton & Buckley, 1988).

The atomic documents were organized to interpret and characterize (or label) the factor and relate the documents to particular factor frequency and labels (Li & Joshi,

2012). The last step required extracting knowledge to determine patterns from the

atomic documents. The importance of each factor was indicated by the amount of

variance accounted for by the factors captured in the singular values as demonstrated

by the partial example in Table 2.

Table 2

Example of Factors Captured in the Singular Values

Factors	Interpretations (Labels)	Singular Values	High-loading Terms
1	Social Networking Sites	0.883	flickr, twitter, facebook, youtub
2	Marketing	0.874	brand, ident, market, comm, web
3	Be Social	0.796	talk, soci, listen, engag, audienc
k	etc.	etc.	etc.

Each of the example factors in Table 2 represented an orthogonal factor in a semantic

hyperspace with a set number of dimensions unique factor components (Li & Joshi,

2012). The factors were considered latent constructs categorized by the terms, loading

on them. The *High-loading Terms* column words were truncated terms or tokens from

the term reduction process, a common practice of text mining (Sidorova et al., 2008).

Sampling

For the purpose of this study, publicly accessible social media guideline and

policy documents were the target sample. Although a growing number of PSE

organizations were guiding social media use, the researcher only reviewed documents

retrieved online as accessible to any visitor of an institutional website. To be eligible for

this study, all social media guideline and policy documents had to be available

electronically and accessible through PSEs' institutional websites or a general web

search. The text documents would guide social media from departmental or institutional levels within the PSE sector.

These guiding documents were to be directed to students, staff, researchers, faculty, and other members of the PSE community. The sample included all guideline and policy documents from higher education institutions; however, the documents had to be published electronically in the single language of English for effective text analysis. To build a robust corpus, all institutions' type, size, and geographic location were included. The descriptions of all 250 PSE institutions included in the final sample are detailed in Appendix A.

All social media guiding documents were analyzed on the components of their text only. Therefore any image, video, or embedded URL link to an external website was excluded from this analysis. For appropriate dataset conditions for LSA, the researcher ensured the documents:

1. Contained many high-order co-occurrences and transitive relations so LSA could exploit unique structure as factors throughout the relations (Kontostathis & Pottenger, 2006).

2. Included no style modifier, contained a single topic or concept in a document, and isolated peculiar terms in one topic (Papadimitriou, Tamaki, Raghavan, & Vempala, 2000).

Instrumentation

SAS Enterprise Text Miner software was utilized for text mining and analysis of the text documents. This study was a semi-automated analysis of a large volume of

unstructured data (in the form of social media guideline and policy text documents) using the three-step process of text mining described in Elder et al.'s (2012) text mining methodology and outlined in the research design subsection appearing earlier in Chapter 3.

In utilizing SAS Enterprise Text Miner, the information retrieval methods for data mining were applied to analyze a large amount of textual data. The method was semi-automatic and required the researcher to retrieve, format, and organize the text documents into a single format and specified database, as outlined in Appendix C, to determine corpus constructs. For this text analysis research, LSA was applied to generate semantic relationships both unknown and non-obvious. The LSA method examined term-to-document relationships in the corpus to identify actual connections among clearly defined categories in order to achieve a specific objective.

Data Collection

The preliminary phase of this research involved gathering social media guideline and policy text documents from the PSE sector to build a robust database to analyze. To collect documents, the researcher searched online databases, reviewed professional organizational resources, posted an inquiry on discussion boards and listservs, e-mailed colleagues in higher education, and utilized social network websites (e.g., WordPress, Facebook, Facebook Groups, Twitter, LinkedIn, LinkedIn Groups, etc.) to retrieve social media guidelines and policies through a public website created for this research: http://socialmediaguidance.wordpress.com/. To build the corpus, the researcher reviewed individual college and university websites to manually retrieve social media

guideline and policy documents by searching using the terms listed in Table 3 and

soliciting submissions suing the public website to help build the database from October

2013 until February 2014.

Table 3

Research Terms Used to Gather Social Media Guideline and Policy Documents

social media	social media index
social media guidelines	social networking
social media policy	best practices in social media
social media directory	social media tips
social media policies	social media guideline

The social media guideline and policy document database, the corpus, contained

24,243 atomic documents collected from 250 PSE institutions representing various

geographic locations (countries), student population sizes, and institutional types (e.g.,

public, private, bachelor's and associate degrees, etc.). Appendix A describes the 250

institutions, and Appendix B provides the link to the corpus database.

Data Analysis

To understand how social media have guided in higher education, the researcher

analyzed 24,243 atomic social media guideline and policy documents from 250 different

higher education institutions. By importing data sets from Excel to Access and into SAS

Text Miner, pre-processed data were analyzed to respond to the following research

questions listed on page 8.

To quantify the text documents, LSA helped to cluster, classify, and categorize

information. In reviewing the atomic text documents, the input variables for knowledge

discovery provided key attributes of the social media guidelines and policies. All atomic text documents were coded in a spreadsheet and itemized for institutional identifiers and overall document identifiers within the data set.

For descriptive statistics, each retrieved social media guideline and policy document was organized and identified by an institutional identifier (e.g., American University = AMER0001, AMER0002, etc.), institutional type (e.g., doctoral degree granting, public, private, AA/AS degree granting, specialized focused education, etc.), student population size, and geographical location (see Appendix A).

To interpret the LSA processing of the documents, the researcher used a general mathematical learning method to achieve powerful inductive effects by extracting the right number of dimensions (Landauer & Dumais, 1997). LSA computed semantic similarity between the words represented by the atomic documents, and for analyzing this robust corpus, LSA computed estimates occurring beyond simple co-occurrence or contiguity frequencies (Landauer & Dumais, 1997).

The researcher implemented LSA procedures that followed text preparation and term filtering steps outlined by Coussement and Van Den Poel (2008), factor rotations outlined by Sidorova et al. (2008), and the recommendations for LSA methods from Evangelopoulos et al. (2012). To assess the social media guideline and policy documents, the researcher implemented a factor analysis approach to LSA to produce at least two sets of factor loadings for each extracted factor. To best label the factors appropriately, the first factor loading set was high-loading terms, and the second factor loading set was high-loading documents (Li & Joshi, 2012).

Factor Interpretation

High-loading terms and documents helped the researcher interpret factors. For each solution, a table of high-loading terms and documents was sorted by term frequency. These terms helped to categorize or label the factor. The process of labeling the factors included the examination of the terms and the documents (i.e., the social media atomic concepts) related to a particular factor, interpreting the underlying area, and determining an appropriate label.

Factor rotation aids in the simplification of a factor structure to achieve a more meaningful solution and to improve interpretability of LSA results (Sidorova et al., 2008; Evangelopoulos & Polyakov, 2014). Many different methods of factor rotation exist (Kim & Mueller, 1978). Although these methods have not been utilized in text mining, the varimax rotation has been used successfully to identify factors (Sidorova et al., 2008). Varimax rotation maximizes the sum of variance for the squared loadings. Rotation can begin with either the term loadings for the *LT* matrix or the documents loadings for the *LD* matrix, where $L_T = U\Sigma$ and $L_D = V\Sigma$.

Beginning with the *LT* matrix was the recommended strategy to facilitate factor interpretation (Sidorova et al., 2008). Once a solution matrix *M* was recovered, it was applied to the *LD* matrix (Sidorova et al., 2008). The factors represented topics in the documents. These topics were defined by the associated words found in the frequency matrix and loading values.

Measuring the Strength of Document Terms and Concepts

To assess the different social media guideline and policy document themes, the

strength of the document theme was related to the corresponding factor. Each atomic

document was classified into the particular social media guideline or policy area by its

factor loadings. Specifically, the atomic documents were classified to the social media

guideline and policy document topics that possessed strength in the topic. Documents

were associated with only key factors by topic, and noise across documents were

suppressed. When the factors were rotated and loadings were suppressed

(Evangelopoulos & Polyakov, 2014), the researcher interpreted and analyzed the

results. During the extraction process in LSA, the key values and content related factors

emerged from the matrix.

CHAPTER 4

RESULTS AND ANALYSIS

Introduction

The purpose of this study was to analyze the social media guideline and policy text documents, and to further understand the content related factors (topics) from a corpus creating community of practice. Chapter 4 presents the detailed analysis of the latent semantic analysis to identify the content factors of the social media guideline and policy text documents. For the purpose of this study, the IRB of University of North Texas (UNT) stated that "use of that data falls outside the scope of the "human subjects" definition and UNT IRB review and approval is not required" (see Appendix D).

LSA Implementation Software

The text documents were analyzed using a custom implementation of LSA using a data mining software program. A number of software packages, such as SAS Text Miner via SAS OnDemand for Academics[1], R package LSA[2], and Rapid Miner[3], require customization to perform LSA factor rotations. The computations presented in this study are based on the Java package JAMA, offered by the National Institute of Standards and Technology[4], which requires a text mining front-end additions to include JTMT[5] and selected customization in order to perform the rotations. Evangelopoulos and Polyakov (2014) found rotations of the SVD dimensions simplify the term-dimension

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[1] http://www.sas.com/govedu/edu/programs/od_academics.html

[2] http://cran.r-project.org/web/packages/lsa/index.html

[3] http://rapidminer.com/

[4] http://math.nist.gov/javanumerics/

[5] http://jtmt.sourceforge.net/

relationship transform the raw dimensions to articulated topics. Specifically for varimax

rotation, the researcher used Minitab, a statistical package that allows users to import

the term loading term loadings **UΣ**, perform the rotation, and export the rotation matrix

M. The rotated document loadings were obtained by performing the matrix

multiplications **VΣM**.

Topic Extraction and LSA Computations

The corpus consisted of social media guideline and policy text documents from

250 PSE institutions representing 10 different geographic regions. The text documents

underwent segmentation (see Appendix C, Step 4.3) to divide the larger text documents

into 24,243 atomic documents for appropriate text analysis of atomic documents to

respond to the following research question:

> *R1. What content related factors are relevant to structuring the body of textual*
> *data in retrieved electronic social media guideline and policy documents from the*
> *PSE sector?*

To answer this question, LSA was initially applied to two randomly, and not overlapping,

selected samples of 5000 documents to extract the principal component to yield 2698

stemmed terms. An example of how the documents were tokenized and merged into

sorted vectors of terms and the term frequency calculations as shown in Table 4. For

each term *i*, the frequency it appeared in the document j is listed as $tf_{i,j}$ and are equal to

1 (as no term appeared more than once). The list of term frequencies (tf_{ij}) for tokens

(terms) presented in Table 4 also listed the conditional probabilities (p_{ij}) useful for the

entropy calculations.

Table 4

Sample of Term Communalities from 2698 Stemmed Terms by 24,243 Documents

Term	Total Frequency	Total Communalities
abandon	5	0.01331811
abbrevi	16	0.06335594
abid	30	0.12457801
abil	50	0.09781657
abl	54	0.13294138
abroad	4	0.00546756
absolut	8	0.01481023
abus	33	0.06460555
ac	2	0.00252078
academ	113	1.07310174
academia	2	0.00354046

The VSM formula related to document-query similarities, specifically the equation to outline document weights is as follows:

TF-IDF1: $\quad w_{ij} = tf_{ij} * idf_i \quad$ with $idf_i = \log_2(N\,n_i)$

TF-IDF2: $\quad w_{ij} = tf_{ij} * idf_i \quad$ with $idf_i = \log_2(N\,d_i)$

Where,

w_{ij} = raw weight of term i in document j

w_i = raw weight of term i in the query

w'_{ij} = normalized weight of term i in document $,$

w'_i = normalized weight of term i in the query

tf_{ij} = term frequency of term i in document j

tf_i = term frequency of term i in the query

idf_i = inverse document frequency of term i

p_{ij} = conditional probability to get document j given term i

N = number of documents in the collection

n_i = term frequency of term i in the entire collection of documents

d_i = number of documents in the entire collection where term i appears

Since most of these terms (tokens) explained very little variance in the frequency matrix, the top 100 principal components were retained. These terms explained about 95% of variance measured by combining each term's squared loadings across the top 664 dimensions.

Findings

To select appropriate dimensionality previous studies addressed this challenge (Efron, 2005; Zhu & Ghodsi, 2006); however this issue has remained open with LSA scholars. In examining the eigenvalues, which were obtained by squaring the singular values in matrix Σ and using an iterative application of the method proposed by Zhu and Ghodsi (2006) to obtain the scree plot (see Figure 11), k = 4, 16, 26, 36 indivated suitable dimensionalities. To examine the content related factors in the corpus at a fairly detailed, yet manageable abstraction level, k = 36 was selected to best represent the social media guideline and policy text atomic documents.

The eigenvalues determined the content related factors to best describe the corpus. Figure 11 shows a scree plot of the top four eigenvalues (k = 4, 16, 26, 36) produced by this analysis. Based on this plot, the first four principal components were appropriate, since they were larger than the mean eigenvalue, which was equal to 1. In factor analysis, the application of this criterion used to select the appropriate number of factors is known as the Kaiser-Gutman rule (Kulkarni et al., 2014).
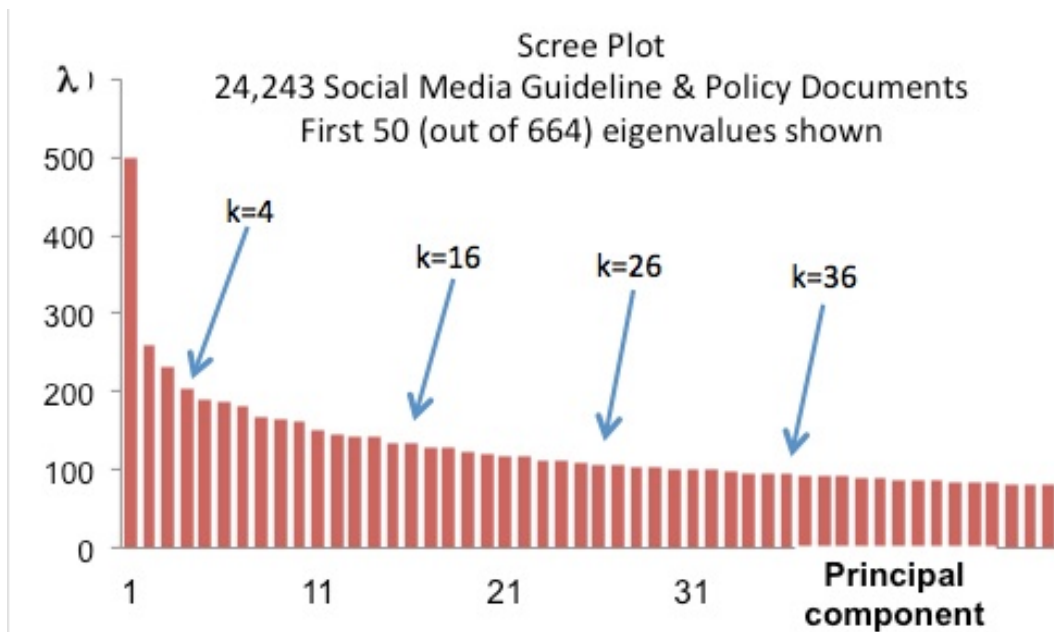
Figure 11. Scree plot of the first 50 eigenvalues.

To extract the eigenvalues, the researcher looked at the scree plot elbow and

determined the maximum value statistical tests, similar to bootstrapping (Efron, 2005),

the researcher used the profile likelihood test (Zhu & Ghodsi, 2006), which was

comparable to parallel analysis (Horn, 1965; Roweis & Saul, 2000; Efron, 2005). In

parallel analysis, the researcher rejected the dimensions that had corresponding

eigenvalues significantly smaller than the eigenvalues expected as the variables were

independent (Efron, 2005). The result of the rotated 36-factors solution was the key

topics interpreted and labeled among the 24,243 social media guideline and policy

documents. The researcher based the content related factor labels on the high-loading

terms and conducted a thoughtful interpretation of the atomic document passages to

identify meaningful topic labels.

The researcher followed Zhu and Ghodsi's (2006) dimensionality detection that

determined the elbow point. In considering latent semantic dimensionality

(Evangelopoulos et al., 2012), the change-point and multiple dimensionalities are not mentioned in other research studies. With a p-value of 0, normal distribution was assumed when the estimate was 50 with 664 terms. The tests stopped at 50 principal components as beyond these 664 values these components were retained without rotations (Zhu & Ghodsi, 2006). The researcher implemented an iterative rotation and cycles and stopped at 4 rotations of analysis.

After the rotations, the interpretability of the latent semantic space components improved dramatically. Table 5 showed term loadings after varimax rotations, $U_{36}\Sigma_{36}M_{36}$, for four selected factors and the high-loading terms: F36.5 is *content*, F36.24 is *follow*, and F36.28 is *privaci*. After a cross-examination of the high-loading terms and the social media guideline and policy atomic documents (individual passages), each factor was then given a topic (factor) label to represent the set of passages. Table 5 itemized the high loading document terms for the following factors F36.5, F36.24, and F36.28. By interpretation of the set of passages using the high-loading on terms, the researcher applied the respective topic labels *Content*, *Follow*, and *Privacy*.

Table 5

Distribution of High-Loading Terms across Three Rotated Factors

Factor F36.5		Factor F36.24		Factor F36.28	
Term	Loading	Term	Loading	Term	Loading
content	12.9	follow	10.14	privaci	9.95
share	1.54	tweet	1.37	inform	2.18
creat	1.27	question	1.36	set	1.68
web	1.1	creat	1.07	share	1.35
comment	0.93	all	1.06	engag	1.2
manag	0.88	acct	0.98	question	0.95
copyright	0.76	twitter	0.95	protect	0.9

In Table 6, the raw term frequencies for a sample of documents were organized in a 36 by 664 term-by-document matrix. Table 7 showed the term frequency matrix sample after TF-IDF weighting and normalization. This transformation occurred using Inverse Document Frequencies (TF-IDF transformation), which limited frequent terms and promoted rare terms (Salton, 1975; Robertson, 2004; Sidorova et al., 2008; Wei, Hu, Tai, Huang, & Yang, 2008; Kulkarni et al., 2014), and supported normalization so the sum of squared frequencies in each column was equal to 1, and subjected to SVD.

Table 6

Raw Term Frequencies Sample of the Documents in Table 5, as a 5x5 Matrix

Term	Document				
	F36.1	F36.2	F36.3	F36.4	F36.5
comment	0	0	1	0	1
commerci	0	0	0	0	0
commit	0	0	0	0	0
common	0	0	0	0	0
commun	0	0	1	0	0

Table 7

Transformed Term Frequencies from Table 6 after TF-IDF Weighting and Normalization

Term	Document				
	F36.1	F36.2	F36.3	F36.4	F36.5
comment	0	0	1.1651	0	0.9263
commerci	0	0	0	0	0
commit	0	0	0	0	0
common	0	0	0	0	0
commun	0	0	1.5979	0	0

The TF-IDF multiplies local (i.e., pertinent to the particular term in the particular document) term frequency by global (i.e., pertinent to the entire collection of documents

in the corpus) inverse document frequency. More specifically, the TF-IDF transformation

was used in the analysis replaced the raw term frequency TF_{ij} of term i in document j by

$$w_{ij} = TF_{ij}\ IDF_i = TF_{ij} \log_2(N/n_i),$$

where N was the total number of documents in the collection and n_i the frequency of

term i in the entire collection of documents.

Term Frequency and Factor Labels

By examining the high-loading terms and documents, the researcher labeled the

topics (content related factors) using the TF-IDF as shown in Table 8 (and Appendix E).

The topic labels identified in Table 8 were determined by document term maximum

frequency. The six high-loading content related factors extracted using LSA included

Institutional Users, Information Management, Page & Group Administration, Account

Management, Support at Institution, Comments, and *Content*. The lowest high-loading

content related factors were *Respect, Privacy, Responsibility, Advising, Resources &*

Questions, Flickr, and *LinkedIn*. These are the universal factors (topics) applied to the

entire corpus and PSE institutions in this study.

To interpret the LSA extracted factors, the researcher reviewed the top 10 high-

loading terms and the TF-IDF maximum counts itemized in Table 9. By comparing these

terms (tokens) to the social media guideline and policy passages related to these terms,

the researcher was able to apply meaningful topic labels to the content related factors

accordingly. The full 36-factor solution with all high-loading terms and labels is identified

in Appendix E.

Table 8

Labels for the 36-Factor Solution and High Loading Counts Using Term Frequency Counts and Variance Explained

Factor	Label	Count	% of Variance
F36.12	Institutional Users	740	2.18
F36.7	Information Management	735	0.71
F36.10	Page & Group Administration	707	0.66
F36.13	Account Management	684	0.64
F36.11	Support at Institution	664	0.62
F36.9	Comments	652	0.62
F36.5	Content	611	0.59
F36.1	Facebook	596	0.59
F36.2	Twitter	592	0.56
F36.19	Social Networking	578	0.56
F36.20	Video, Audio & Photo Sharing	546	0.53
F36.8	Posting	539	1.14
F36.14	Use of Platforms	518	0.52
F36.3	Engagement	517	0.51
F36.23	Institutional Identity	510	0.51
F36.22	Site Maintenance	486	0.49
F36.4	Best Practices	474	0.49
F36.24	Followers	464	0.47
F36.21	Audience	451	0.47
F36.27	Link	442	0.46
F36.16	Blogs	439	0.45
F36.25	Time & Resource Management	431	0.45
F36.29	Naming Conventions	427	1.01
F36.17	Copyright & Fair Use	422	0.44
F36.32	Strategy	414	0.44
F36.26	Official Institutional Presence	405	0.43
F36.18	Personal Use	398	0.43
F36.30	Digital Identity Management	380	0.42
F36.31	Terms of Service	378	0.41
F36.6	YouTube	374	0.41
F36.15	Respect	367	0.89
F36.28	Privacy	349	0.82
F36.35	Responsibility	345	0.81
F36.36	Advice, Resources & Questions	308	0.79
F36.33	Flickr	286	0.73
F36.34	LinkedIn	244	0.72

Table 9

Interpretation of Social Media Guideline and Policy Documents Using Maximum Frequency and Top 10 Loading Terms

Factor	Label	High-Loading Terms with TF-IDF Frequencies
F36.1	Facebook	facebook (15.3), page (0.8)
F36.2	Twitter	twitter (15), account (0.83), tweet (0.76)
F36.3	Engagement	engag (6.68), share (3.32), convers (2.61), onlin (2.15), user (2.14), peopl (2.13), more (2.09), audienc (2.04), help (1.93), social (1.91)
F36.4	Best Practices	practic (9.79), best (9.51)
F36.5	Content	content (12.9), share (1.54), creat (1.27), web (1.1), comment (0.93), manag (0.88), copyright (0.76)
F36.6	YouTube	youtub (12.8), channel (1.33), photo (1.16), video (0.9)
F36.7	Information Management	inform (9.15), confidenti (4.02), privaci (3.38), share (2.6), not (2.32), person (2.32), protect (1.73), proprietari (1.46), secur (1.27), technologi (1.21)
F36.8	Posting	post (12.4), comment (0.98), don (0.76)
F36.9	Comments	comment (10.7), post (3.18), monitor (2.5), respond (2.24), question (1.64), content (1.52), delet (1.29), neg (1.2), remov (1.16), site (1.14)
F36.10	Page & Group Administration	page (10.64), facebook (2.92), group (2.63), creat (2.48), fan (1.84), adminstr (1.68), offici (1.42), post (1.38), organ (1.31), profil (1.22)
F36.11	Support at Institution	commun (6.44), contact (4.24), question (3.95), market (3.84), offic (3.4), depart (2.68), relat (2.01), account (1.64), site (1.54), public (1.52)
F36.12	Institutional Users	student (10.11), staff (4.44), alumni (2.37), member (1.62), us (1.49), current (1.44), prospect (1.39), employe (1.30), conduct (1.19), code (1.09)
F36.13	Account Management	creat (4.14), manag (1.32), offici (1.25), set (1.15), adminstr (1.01), resourc (0.88), page (0.79)
F36.14	Use of Platforms	us (12.01), person (1.38), resourc (1.07), brand (0.99), offici (0.9), logo (0.82)
F36.15	Respect	respect (12.13), properti (0.99), time (0.91)
F36.16	Blogs	blog (12.39), twitter (0.84)
F36.17	Copyright & Fair Use	copyright (10.16), materi (2.9), fair (2.1), law (1.87), us (1.53), respect (1.4), content (1.4), properti (1.31), intellectu (1.18), right (1.05)
F36.18	Personal Use	not (7.29), person (3.79), manag (2.04), content (1.92), view (1.89), includ (1.71), repres (1.68), offici (1.49), site (1.46), identifi (1.43)
F36.19	Social Networking	social (8.77), network (7.39), engag (1.75), site (1.01)
F36.20	Video, Audio & Photo Sharing	video (9.49), photo (4.02), share (2.73), youtub (1.93), engag (1.34), upload (1.2), channel (1.16), imag (1.15), event (1.08), post (0.91)
F36.21	Audience	audienc (10.57), target (1.69), reach (1.1), consid (0.95)
F36.23	Institutional Identity	brand (4.82), imag (4.82), logo (3.87), profil (2.95), us (2.9), photo (2.29), creat (1.96), ident (1.82), web (1.46), manag (1.23)
F36.24	Followers	follow (10.14), tweet (1.37), question (1.36), creat (1.07), all (1.06), account (0.98), twitter (0.95), student (0.86)

(table continues)

Table 9 *(continued).*

Factor	Label	High-Loading Terms with TF-IDF Frequencies
F36.25	Time & Resource Management	time (8.09), resourc (3.26), manag (2.11), post (1.6), site (1.51), content (1.22), updat (1.2), dai (1.1), monitor (1.1), question (1.1)
F36.26	Official Institutional Presence	offici (7.27), channel (3.56), presenc (2.53), question (1.95), websit (1.79), all (1.78), account (1.56), don (1.44), resourc (1.4), page (1.28)
F36.27	Link	link (8.65), websit (2.82), web (2.4), includ (2), inform (1.23), sourc (1.12), more (1.12), tweet (1.08), resourc (1.06), post (0.89)
F36.28	Privacy	privaci (9.95), inform (2.18), set (1.68), share (1.35), engag (1.2), question (0.95), protect (0.9)
F36.29	Naming Conventions	name (9.52), depart (2.56), twitter (1.27), us (1.14), unit (1.04), includ (1.01), program (0.97), exampl (0.97), account (0.95), indentifi (0.86)
F36.30	Digital Identity Management	person (8.26), profession (2.82), manag (2.53), not (1.41), ident (1.37), engag (1.27), resourc (1.22), staff (1.2), identifi (1.17), we (1.14)
F36.31	Terms of Service	term (7.86), servic (6.35), platform (1.64), condition (1.11), us (1.11), user (1)
F36.32	Strategy	strategi (6.55), goal (4.52), creat (2.12), commun (1.87), plan (1.79), presenc (1.62), help (1.57), develop (1.55), question (1.51), measur (1.46)
F36.33	Flickr	flickr (8.83), photo (4.25), share (1.93), youtub (0.92), video (0.84), facebook (0.82), twitter (0.77)
F36.34	LinkedIn	linkedin (9.71), group (2.06), creat (1.35), engag (0.84), profession (0.76), alumni (0.75)
F36.35	Responsibility	respons (9.8), monitor (1.27)
F36.36	Advice, Resources & Questions	don (6.8), resourc (3.03), question (2.7), engag (1.76), manag (1.56), start (1.43), know (1.43), commun (1.35), person (1.34), depart (1.29)

In considering labels for the 36-factor solution, the researcher applied labels to identify topics (content related factors). For example, the label for F36.2 *Twitter* was easily identified with the high-loading terms twitter (15), account (0.83) and tweet (0.76). This was also the case for F36.4 *Best Practices*, with the high-loading terms practic (9.79) and best (9.51), and F36.1 *Facebook*, with facebook (15.3) and page (0.8) as high-loading terms.

Factors with a number of different and varied high-loading terms with TF-IDF frequencies were not as straightforward for label interpretation. For example, F36.7 *Information Management*, required further review of the high-loading terms listed, that

included inform, confidenti, privaci, share, not, person, protect, proprietari, secur,

technologi, public, engag, provid, student, employe, more, resourc, includ, maintain,

contact, and all. Further investigation into the social media guideline and policy atomic

documents from this factor identified specific passages that helped determine an

appropriate label, including

- "Refrain from sharing confidential information online."

- "Confidential or proprietary university information or similar information of third parties, who have shared such information with you on behalf of UT Tyler, should not be shared publicly on these Social Media channels."

- "Protect confidential and proprietary information."

- "Information Security"

- "Use good judgment about content and respect privacy laws. Do not include confidential information about the College, the University, its staff, or its students."

- "Acceptable use of information and communications technology resources policy."

- "Do not use Social Media to collect personal information of users. State and federal laws have strict requirements and restrictions, and -- in the case of minors -- additional penalties can apply to violations."

To ensure that all factors were labeled and interpreted correctly, the researcher

employed a similar method of review and classification for the 36-factor solution. To

provide meaningful topic labels the researcher reviewed the social media guideline and

policy atomic document passages to identify the best label for the factor (as identified in

Table 8) with the high loading terms using TF-IDF (in Table 9). The process for

identifying factors was reviewed numerous times to determine the final list and

dimensions of the 36-factor solution as identified Table 8 and 9. Factor labels were

carefully selected to best identify the central topic based on the content of social media

guideline and policy passages within each of the 36 factors that were extracted.

Comparing Social Media Guideline and Policy Document Factors

Through the maximum term frequencies, LSA was able to determine the 36-factor solution that identified common attributes and topics shared among the 24,243 atomic social media guideline and policy documents. This initial finding produced a list of universal topics discussed in social media guideline and policy documents across all 250 institutions representing all countries in the study.

In looking at the regional differences, his text analysis method alone is not able to answer the second research question:

R2. Does the distribution of topics analyzed in the corpus differ by PSE institution geographic location?

Using LSA, the researcher analyzed both the maximum and count frequency of terms within the corpus (set of documents). The contractual view, known as the maximum frequency, represented the uniform distribution of terms between all of the documents. That is, if a term is mentioned once within the 24,243 atomic documents than this term is accounted for and not repeated among the social media guideline and policy document count. Just as terms are set in a contract, the contractual view represented how a concept or term was only mentioned once in the document, and it did not need to be repeated throughout. For this study, the contractual view (maximum frequency) identified universal norms and community values to determine the 36 content related factors (topics) that distributed across the corpus of social media guideline and policy documents in all geographic regions.

The maximum frequency among the topics, Appendix F demonstrated the contractual view, that is, when the documents mention topics in high clarity using a chi-square test with a document threshold of 0.4. To further this maximum analysis test, Appendix G demonstrated documents by region with a very high clarity using a chi-square test with a document loading thresholds: 0.8. Both of these methods measured the emphasis and clarity to which a term was addressed among the 24,243 atomic documents. The contractual view identified specific instances when a topic was addressed among all of the documents in the corpus, and therefore provided the common set of topics for all documents from all geographic regions. The contractual view of the social media guideline and policy documents resulted in the 36-factors solution (as identified in Table 8) that revealed the following topics were important for all PSE institutions: institutional users, information management, page & group administration, account management, support at institution, comments, content, Facebook, Twitter, social networking, video, audio & photo sharing, posting, use of platforms, engagement, institutional identity, site maintenance, best practices, followers, audience, link, blogs, time & resource management, naming conventions, copyright & fair use, strategy, official institutional presence, personal use, digital identity management, terms or service, YouTube, respect, privacy, responsibility, advice, questions & resources, Flicker, and LinkedIn.

In contrast, LSA also detected the document term count frequency, which was identified as the promotional view. The promotional view examined the total number of times a term is mentioned throughout the 24,243 atomic documents. This was the count representation of each term within the collection of documents. Using the same

threshold heuristics as in Sidorova et al. (2008) and Evangelopoulos et al. (2012), each

document assumed to address, on average, one individual social media guideline and

policy content related factor. After applying the resulting loadings threshold on the

document loadings, total counts of high-loading documents were identified for each

factor as shown in Table 6 under the Count column and the amount of variance

explained.

By using chi-squared tests to measure the expected and observed counts, the

researcher was able to identify distribution differences of content related factors

between the non-US and US PSE institutions. The analysis of terms by geographic

regions helped to determine significant differences from PSE institution countries of

origin, and identified the promotional view of the topics for social media guideline and

policy documents. Topics with a high count included: Facebook, Twitter, best practices,

content, YouTube, posting, comments, institutional users, account management, use of

platforms, respect, blogs, copyright & fair use, social networking, audience, site

maintenance, link, privacy, naming conventions, Flickr, LinkedIn, and responsibility.

This meant that the following topics were discussed primarily by US PSE institutions

and not as mentioned as often among documents from non-USE PSE institutions:

engagement, information management, page & group administration, support at

institution, personal use, video, audio & photo sharing, institutional identity, follower,

time & resource management, official institutional presence, digital identity

management, terms or service, strategy, and advice, questions & resources.

As demonstrated in Table 10, the content related factors varied by geographic

region depending on their distribution between the expected and observed counts.

Table 10

Reviewing the Observed and Expected Social Media Guideline and Policy Document Counts to Identify the Most Diverging Topics

Factor Label		Non-US Obs.	US Obs.	Non-US Exp.	US Exp.	Chi-sq
Support at Institution	F36.11	238	812	273.443	776.557	6.21
Page & Group Administration	F36.10	140	798	244.276	693.724	60.2
Information Management	F36.7	360	736	285.423	810.577	26.3
Engagement	F36.3	254	719	253.391	719.609	0
Account Management	F36.13	221	686	236.203	670.797	1.32
Posting	F36.8	173	665	218.234	619.766	12.7
Comments	F36.9	208	645	222.140	630.860	1.22
Facebook	F36.1	147	633	203.129	576.871	21
Institutional Users	F36.12	393	629	266.152	755.848	81.7
Content	F36.5	247	598	220.057	624.943	4.46
Institutional Identity	F36.23	174	585	197.660	561.340	3.83
Personal Use	F36.18	157	582	192.452	546.548	8.83
Use of Platforms	F36.14	234	564	207.817	590.183	4.46
Twitter	F36.2	195	536	190.369	540.631	0.15
Video, Audio & Photo Sharing	F36.20	173	530	183.077	519.923	0.75
Site Maintenance	F36.22	213	521	191.150	542.850	3.38
Social Networking	F36.19	236	512	194.796	553.204	11.8
Followers	F36.24	143	503	168.233	477.767	5.12
Time & Resource Management	F36.25	134	476	158.858	451.142	5.26
Audience	F36.21	109	465	149.482	424.518	14.8
Official Institutional Presence	F36.26	181	458	166.410	472.590	1.73
Strategy	F36.32	128	425	144.014	408.986	2.41
Digital Identity Management	F36.30	168	424	154.170	437.830	1.68
Link	F36.27	165	413	150.524	427.476	1.88
Best Practices	F36.4	134	412	142.191	403.809	0.64
Naming Conventions	F36.29	152	396	142.711	405.289	0.82
Blogs	F36.16	163	381	141.670	402.330	4.34
Respect	F36.15	102	355	119.013	337.987	3.29
Copyright & Fair Use	F36.17	123	355	124.482	353.518	0.02
Terms of Service	F36.31	137	353	127.607	362.393	0.93
YouTube	F36.6	127	327	118.232	335.768	0.88
Responsibility	F36.35	131	327	119.273	338.727	1.56
Advice, Resources & Questions	F36.36	134	312	116.148	329.852	3.71
Privacy	F36.28	159	281	114.586	325.414	23.3
Flickr	F36.33	77	280	92.971	264.029	3.71
LinkedIn	F36.34	73	206	72.658	206.342	0

The chi-square component is able to identify the differences in distribution and

divergence of each factor (topic) in terms of how it is related to the two geographic

regions, specifically non-US and US PSE institutions. The observed and expected

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scores identified which content related factors (topics) had significant impact for topics based on the country of origin for PSE institutions from a particular geographic area.

In reviewing the distribution of the expected and observed count scores for factors on Table 10, the most diverging topic was F36.18 personal use. The second most diverging topic was F36.5 content. The third most diverging topic was F36.9 comments. The fourth most diverging topic was F36.15 respect. Finally, the fifth most diverging topic was F36.11 support at institution. To demonstrate the distribution and divergence of these topics between the non-US and US PSE institutions, Figure 12 provides a visual for these diverging views of the 36-factor solution for social media guideline and policy document topics.
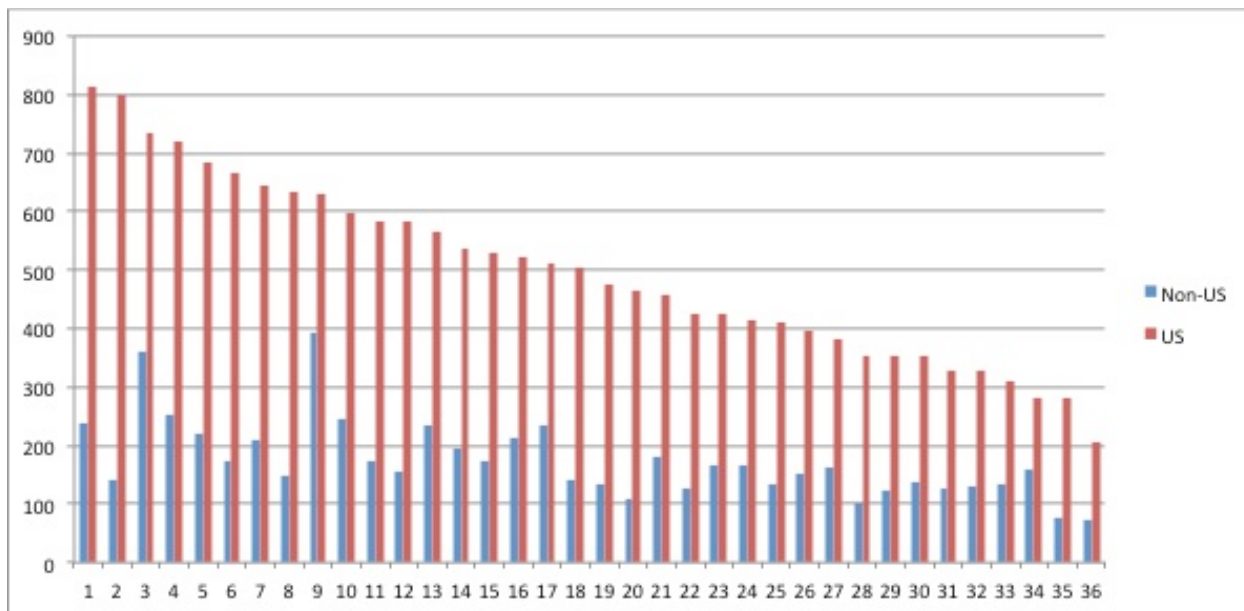
Figure 12. The distribution of topics from the 36-factor solution comparing non-US to US PSE institutions.

The divergent and convergent topics identified provided insight as to what topics were most valued among the non-US and US PSE institutions. These initial distributions of factors provided an understanding and awareness of potential cultural norms and

values for social media guideline and policy documents across the PSE sector. These findings also prompted further analysis to examine the factor distribution to their respective country of origin.

An Algorithm for Social Media Document Geography Comparison

By drilling down across the social media guideline and policy document dimensions by geographic region (i.e., non-US, US and country of origin), the text analysis provided an opportunity to determine differences across the 24,243 atomic documents. In order to quantitatively investigate the social media content related factors among the entire corpus, the researcher utilized an iterative consensus-building algorithm utilized by Winson-Geideman and Evangelopoulos (2013). This algorithm attempted to unify the columns of a contingency table (in this case, the US vs. non-US PSE institutions) by utilizing a step-by-step elimination of rows (in this study, the social media guideline and policy factors) that contributed to column dependence. Since an optimal set of rows achieved column independence, while keeping the number of rows at a maximum is sought, the algorithm attempted to solve an optimization problem.

As a full enumeration of all possible solutions in order to select the best may be overkill, this algorithm follows the "greedy" approach (see, e.g., Leiserson, Rivest, & Stein, 2001), where locally optimal choices were made at each iteration. The algorithm moved through the iterations in a backwards elimination fashion: it started by considering the entire group of topics (rows) and proceeded to eliminate them one at a time, until the maximum set of equally favored topics is identified. Once topics were removed from the set, putting them back was not considered as an option, therefore the

algorithm does not "backtrack". The steps of the iterative algorithm are listed below in pseudo-code.

Consensus-Through-Attribute-Elimination ($\mathbf{T}_{r \times c}$)

1. If $\sum (O_i - E_i)^2 / E_i \leq \chi^2((r\text{-}1)(c\text{-}1), \alpha)$ then EXIT since a consensus is reached, else:

2. For rows $i = 1$ to r, compute the chi-square components $x_i = (O_i - E_i)^2 / E_i$

3. Identify the most diverging row $t = \text{argmax}_i (x_i)$

4. Exclude row t from the contingency table $\mathbf{T}_{r \times c}$ to produce the reduced table $\mathbf{T}'_{r\text{-}1 \times c}$

5. Repeat iteratively by calling Consensus-Through-Attribute-Elimination ($\mathbf{T}'_{r\text{-}1 \times c}$)

The algorithm operated on a contingency table $\mathbf{T}_{r \times c}$, having r rows and c columns. The algorithm started by computing the chi-square statistic for the test of independence of columns in the contingency table $\mathbf{T}_{r \times c}$.

Step 1 examined whether the test is significant by comparing the calculated statistic to the critical chi-square value, using $(r\text{-}1)(c\text{-}1)$ degrees of freedom and a level of significance equal to α. If the test is not significant, the current set of rows constituted a set of attributes that characterize the table columns in an equitable manner and the algorithm exited. If the chi-square test was significant, the row with the highest contribution to the chi-square statistic (most diverging row) was identified in steps 2 and 3. At each iteration, the algorithm computed $x_i = (O_i - E_i)^2 / E_i$ as the individual row contributed to the chi-square statistic. In this case, O_i refer to the observed article counts as they appeared, and E_i to the corresponding expected counts under the null hypothesis of independence, which stated that there are no differences in social media

guideline and policy topic (factor) labels among the documents. In step 4, the most

diverging row (in this case, social media guideline and policy document topic) is

eliminated. Table 11 identified the most diverging topics that were eliminated during this

process. The algorithm called itself iteratively in step 5, using the reduced contingency.

The results of this process were outlined in Table 11, which identified the most

divergent topics between US and non-US PSE institutions through this iterative process.

Table 11

*Steps Taken during the Iterative Algorithm Process of Social Media Guideline and
Policy Documents*

Step	Topic	Chi-sq Value	P-value	Most Diverging Topics	Factor	Chi-sq
1	36	324.41	0.000	Institutional Users	F36.12	81.74
2	35	242.39	2.76E-33	Page & Group Administration	F36.10	55.17
3	34	182.82	1.15E-22	Information Management	F36.7	27.21
4	33	155.6	3.55E-18	Privacy	F36.28	25.74
5	32	130.07	4.26E-14	Facebook	F36.1	17.48
6	31	111.17	2.96E-11	Social Networking	F36.19	13.84
7	30	97.37	2.56E-09	Audience	F36.21	12.38
8	29	84.18	1.57E-07	Posting	F36.8	10.72
9	28	72.52	4.87E-06	Personal Use	F36.18	8.05
10	27	63.8	5.06E-05	Support at Institution	F36.11	6.1
11	26	56.99	0.000268	Time & Resource Management	F36.25	5.73
12	25	50.83	0.00111	Followers	F36.24	6.04
13	24	44.32	0.00481	Institutional Identity	F36.23	5.21
14	23	38.64	0.01551	Flickr	F36.33	4.95

The 14 most diverging factors (topics) are institutional users, page & group

administration, information management, privacy, Facebook, social networking,

audience, posting, personal use, support at institution, time & resource management,

followers, institutional identity, and Flickr. The remaining subset of 22 factors were

common and generalizable among all PSE institutions when looking at the promotional

view of social media guideline and policy documents: account management, official

institutional presence, engagement, blogs, Twitter, digital identity management, comments, content, strategy, link, copyright & fair use, site maintenance, naming conventions, best practices, respect, responsibility, audio, video & photo sharing, LinkedIn, terms of service, YouTube, use of platforms, and advice, questions & resources.

Correspondence Analysis of the Social Media Guideline and Policy Documents

A correspondence analysis was akin to a weighted principal components analysis, where a contingency table was developed to partition the total variance similar to the chi-square test for association and analyzed using Minitab (Minitab, 2000). In looking at all 36 factors in relation to their country of origin, an asymmetric column plot (see Figure 13) identified which factors are closer in relation to one another and the specific country where it was closely related.
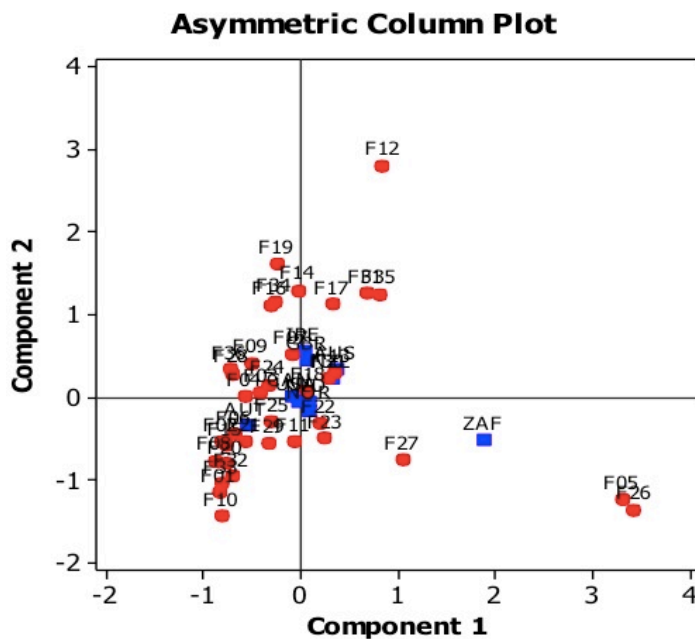
Figure 13. The correspondence analysis of all 36 factors representing non-US and US PSE institutions.

The asymmetric column plot of the correspondence analysis for the 36-factor solution between the non-US and US PSE institutions, presented valuable insights into what factors and countries aggregated by one another. Interestingly enough, a number of the content related factors clustered around one another and near many of the countries represented in the corpus. From Figure 13, F36.5 content, F36.26 official institutional presence, F36.12 institutional users, and F36.27 link were the only content related factors that appeared to not cluster near the other topics. In looking at the geographic region representation, South Africa (ZAF) appeared to be the only country that was not related to the others with regards to contents of the social media guideline and policy documents. Most of the other countries were in near proximity to one another and groups of content related factors.

To further understand the factor dimensions by specific geographic region, the term frequency counts of the 36-factor solution was itemized by country of origin. This correspondence analysis helped to identify and understand what factors were directly related to one another, related to specific geographic regions, and understand how countries compared to one another, with regards to content related factors (topics). Table 12 identified the factor counts for the following 10 countries Austria (AUS), Canada (CAN), Great Britain (GBR), Ireland (IRE), The Netherlands (NLD). Norway (NOR), New Zealand (NZL), United States (USA), and South Africa (ZAF). These frequency counts by content related factor and country were compared in Table 12.

Table 12

Frequency Counts for Each Factor by Country of Origin

Factor Name	Factor	AUS	AUT	CAN	GBR	IRE	NLD	NOR	NZL	USA	ZAF
Facebook	F01	9	3	110	17	1	2	1	4	633	0
Twitter	F02	13	3	137	25	3	3	8	3	536	0
Engagement	F03	39	1	162	30	4	1	1	16	719	0
Best Practices	F04	15	0	88	23	3	1	0	4	412	0
Content	F05	52	0	91	20	5	9	0	19	598	51
YouTube	F06	14	0	97	10	0	1	1	4	327	0
Information Management	F07	55	0	229	46	6	6	1	11	736	6
Posting	F08	7	0	133	25	6	1	1	0	665	0
Comments	F09	24	0	120	44	12	3	2	3	645	0
Page & Group Administration	F10	7	2	105	16	1	3	2	4	798	0
Support at Institution	F11	28	1	134	37	4	9	6	11	812	8
Institutional Users	F12	97	0	165	93	17	0	2	9	629	10
Account Management	F13	67	0	103	9	5	4	0	31	686	2
Use of Platforms	F14	42	0	114	55	4	2	1	15	564	1
Respect	F15	6	0	71	14	4	5	1	1	355	0
Blogs	F16	19	3	85	41	5	1	0	8	381	1
Copyright & Fair Use	F17	35	0	49	23	3	1	0	11	355	1
Personal Use	F18	30	0	74	28	7	0	2	12	582	4
Social Networking	F19	35	0	118	49	19	10	1	4	512	0
Video, Audio & Photo Sharing	F20	19	0	137	12	0	2	1	2	530	0
Audience	F21	9	0	62	17	7	8	2	4	465	0
Site Maintenance	F22	37	0	138	20	3	1	5	0	521	9
Institutional Identity	F23	34	0	97	21	1	5	1	7	585	8
Followers	F24	20	0	79	26	9	0	2	6	503	1
Time & Resource Management	F25	18	0	80	19	5	3	1	6	476	2
Official Institutional Presence	F26	49	0	65	19	0	0	6	2	458	40
Link	F27	9	0	97	25	5	1	1	9	413	18
Privacy	F28	18	0	122	10	4	1	0	4	281	0
Naming Conventions	F29	20	0	111	9	2	2	1	4	396	3
Digital Identity Management	F30	25	1	93	31	2	1	1	7	424	7
Terms of Service	F31	39	0	52	27	5	0	3	7	353	4
Strategy	F32	13	0	98	8	0	2	3	4	425	0
Flickr	F33	8	0	64	5	0	0	0	0	280	0
LinkedIn	F34	12	0	33	25	0	2	1	0	206	0
Responsibility	F35	17	0	42	37	5	5	2	17	327	6
Advice, Resources & Questions	F36	7	0	87	32	0	2	5	1	312	0

In further analysis of the factor dimensions, the 14 factor subset of diverging topics between the non-US and US PSE institutions (from Table 11) were utilized to conduct a simple correspondence analysis between the 10 countries. A simple correspondence analysis of the 14 polarizing factors between non-US and USE PSE institutions was conducted among AUS, AUT, CAN, GBR, IRE, NLD, NOR, NZL, USA, and ZAF. Figure

13 represented the development of diverging factors on a symmetric plot with row and

column contributions from the simple correspondence analysis.

Table 13

Simple Correspondence Analysis of 14 Diverging Factors among 10 Countries

Analysis of Contingency Table

Axis	Inertia	Proportion	Cumulative	Histogram
1	0.0378	0.5813	0.5813	************************
2	0.0121	0.1866	0.7679	*********
3	0.0069	0.1067	0.8746	*****
4	0.0040	0.0612	0.9358	***
5	0.0020	0.0301	0.9659	*
6	0.0012	0.0186	0.9845	
7	0.0008	0.0118	0.9963	
8	0.0001	0.0022	0.9984	
9	0.0001	0.0016	1.0000	
Total	0.0651			

Row Contributions

ID		Name	Qual	Mass	Inert	Component 1			Component 2		
						Coord	Corr	Contr	Coord	Corr	Contr
	1	F01	0.74	0.07	0.07	-0.2	0.72	0.08	0.04	0.03	0.01
	2	F07	0.88	0.1	0.07	0.14	0.42	0.05	0.14	0.46	0.17
	3	F08	0.66	0.08	0.05	-0.1	0.52	0.04	0.08	0.14	0.04
	4	F10	0.95	0.09	0.1	-0.3	0.94	0.16	-0	0.01	0.01
	5	F11	0.39	0.1	0.04	-0.1	0.17	0.01	-0.1	0.22	0.04
	6	F12	0.96	0.1	0.33	0.46	0.94	0.53	-0.1	0.02	0.04
	7	F18	0.56	0.07	0.04	-0	0	0	-0.1	0.55	0.11
	8	F19	0.37	0.07	0.1	0.18	0.36	0.06	-0	0.01	0
	9	F21	0.53	0.05	0.05	-0.1	0.37	0.03	-0.1	0.15	0.04
	10	F23	0.11	0.07	0.03	-0	0	0	-0.1	0.1	0.02
	11	F24	0.3	0.06	0.02	-0	0.04	0	-0.1	0.26	0.02
	12	F25	0.67	0.06	0.01	-0.1	0.51	0.01	-0	0.16	0.01
	13	F28	0.96	0.04	0.09	0.11	0.08	0.01	0.36	0.88	0.43
	14	F33	0.79	0.03	0.03	-0.1	0.35	0.02	0.16	0.43	0.07

(table continues)

Table 13 *(continued)*.

Column Contributions

ID		Name	Qual	Mass	Inert	Component 1			Component 2		
						Coord	Corr	Contr	Coord	Corr	Contr
	1	AUS	0.96	0.04	0.26	0.67	0.95	0.42	-0.1	0.01	0.01
	2	AUT	0.27	0	0.03	-1	0.27	0.02	-0	0	0
	3	CAN	0.99	0.15	0.17	0.12	0.19	0.05	0.25	0.81	0.73
	4	GBR	0.92	0.04	0.17	0.49	0.84	0.25	-0.2	0.08	0.08
	5	IRE	0.47	0.01	0.09	0.54	0.42	0.06	-0.2	0.05	0.02
	6	NLD	0.03	0.01	0.07	-0.1	0	0	-0.1	0.02	0.01
	7	NOR	0.43	0	0.02	-0.1	0.02	0	-0.5	0.41	0.04
	8	NZL	0.24	0.01	0.03	0.18	0.12	0.01	-0.2	0.11	0.02
	9	USA	0.99	0.75	0.1	-0.1	0.89	0.16	-0	0.1	0.05
10		ZAF	0.45	0	0.06	0.61	0.32	0.04	-0.4	0.12	0.04

Based on the simple correspondence analysis of the 14 diverging factors from Table 13,

the researcher visualized the relationship between content related factors and country

of origin using Minitab to plot the correspondence analysis in Figure 14.
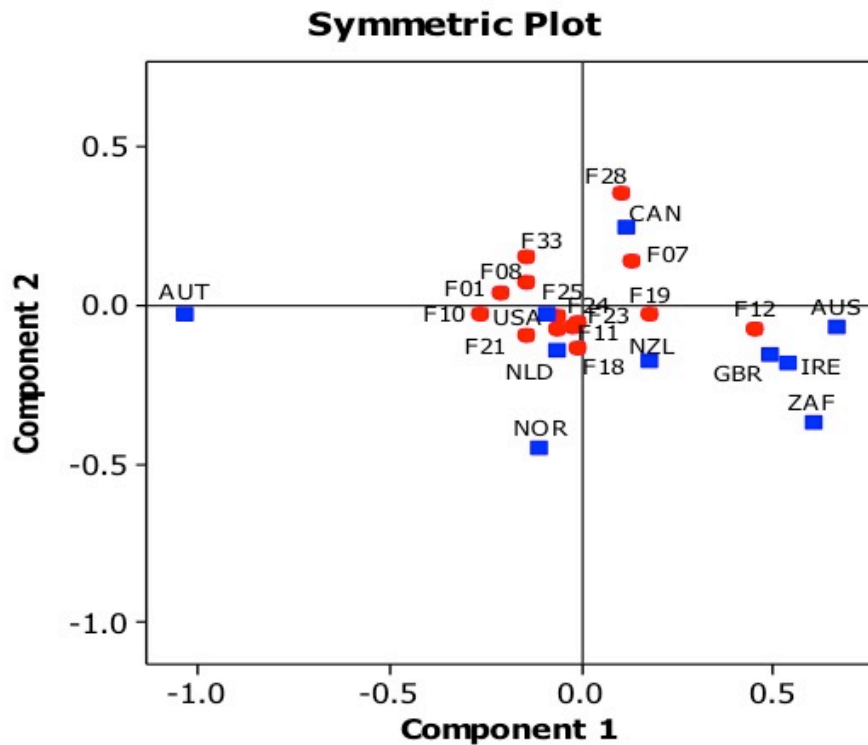
Figure 14. The correspondence analysis of the 14 diverging topics of PSE institutions
related to their country of origin.

In reviewing the symmetric plot (Figure 14), specific countries and factors cluster together and identified common topics in PSE social media guideline and policy documents. Different countries appear to be in proximity to one other and common terms found in social media guideline and policy documents. In contrast, other countries, such as Austria and Norway, appeared to be distant from any of the other geographic regions and any of the 14 diverging topics (factors). PSE institutions text documents from these geographic regions might differ as English is not the primary language used within these countries.

Great Britain and Ireland are in close proximity with each other and located near by F36.12 institutional users. Australia and South Africa area also close to this factor. Both F36.28 privacy and F36.7 information management are factors closely connected to Canadian PSE institutions social media guideline and policy documents.

A number of the topics appear to cluster around the United States, Netherlands and New Zealand. For New Zealand, F36.19 social networking was a relevant topic in their social media guidelines and policies. In looking at factors found in documents from the Netherlands, F36.18 personal use was the closest factor; however they are also in close proximity to three factors related to US PSE institutions, such as followers (F36.24), time & resource management (F36.25), and institutional identity (F36.23).

In looking at other content related factors specific to USA PSE institutions F36.21 audience and F36.11 support at institution following in very close proximity. Other factors, F36.10 page & group administration, F36.1 Facebook, and F36.8 posting, are the next three factors in close proximity to PSE institutions in the US. Finally, F36.33 Flickr is between the United States and Canada for factor use.

Summary

Based on the analysis of the social media guideline and policy documents, this section provided a discussion of the results and findings from the data. Chapter 4 interpreted the topic extractions, geographic region comparisons, and presented the findings, in terms of contractual versus promotional views; however Chapter 5 will discuss the implications of the findings and interpret the data to make future recommendations for research.

CHAPTER 5

SUMMARY, DISCUSSION, AND CONCLUSION

Introduction

A number of organizations are contemplating how to best use and regulate social media. By analyzing an industry's social media guideline and policy documents, universal topics have emerged from these guiding documents. Although this research study focused on social media guideline and policy text documents from the PSE sector, there are a number of implications for social media adoption and regulation for other organizations that want to utilize social media in their domain.

Summary of Findings and Implications

This purpose of this study was to analyze publically accessible, online social media guideline and policy documents. After building a corpus (database) of 250 PSE institutions representing 10 countries, a total of 24,243 atomic documents were analyzed. This study attempted to bring clarity to the field of social media guidance by reviewing text artifacts from a particular corpus-creating community, through the extraction of meaning and assessment of the semantic structure of a corpus.

The summary of findings and conclusions were discussed via each research questions below:

>*R1. What content related factors are relevant to structuring the body of textual data in retrieved electronic social media guideline and policy documents from the PSE sector?*

Latent semantic analysis (LSA) was applied to the 24,243 atomic documents to extract the high-loading terms, which contributed to the 36 factors (topics) solution. The primary extract provided a solution for 4, 16, 26 and 36 factors. Since 36 factors explained the contents of the corpus, this was the solution selected and examined for this study.

The content related factor labels that represent the factor (topic) extraction maximum frequency, from highest to lowest count include: F36.12 institutional users (740), F36.7 information management (735), F36.10 page & group administration (707), F36.13 account management (684), F36.11 support at institution (664), F36.9 comments (652), F36.5 content (611), F36.1 Facebook (596), F36.2 Twitter (592), F36.19 social networking (578), F36.20 video, audio & photo sharing (546), F36.8 posting (539), F36.14 use of platforms (518), F36.3 engagement (517), F36.23 institutional identity (510), F36.22 site maintenance (486), F36.4 best practices (474), F36.24 followers (464), F36.21 audience (451), F36.27 link (442), F36.16 blogs (439), F36.25 time & resource management (431), F36.29 naming conventions (427), F36.17 copyright & fair use (422), F36.32 strategy (414), F36.26 official institutional presence (405), F36.18 personal use (398), F36.30 digital identity management (380), F36.31 terms of service (378), F36.6 YouTube (374), F36.15 respect (367), F36.28 privacy (349), F36.35 responsibility (345), F36.36 advice, resources & questions (308), F36.33 Flickr (286), and F36.34 LinkedIn (244).

These findings support Lehavot, Barnett, and Powers (2010) suggestions for safeguarding personal and professional reputations as content related factors such as information management, institutional identity, best practices, official institutional

presence, and personal use were extracted. However legal implications (Scott & Jacka, 2011; Lindsay, 2011) were limited to copyright & fair use or terms of service, and training or learning within an organization (Bozarth, 2010) using social media was barely touched upon in documents relating to best practices.

After extracting the 36 content related factors from the 24,243 atomic documents, the following research question was analyzed:

R2. Does the distribution of topics analyzed in the corpus differ by PSE institution geographic location?

The distribution of topics between the non-US and US PSE institutions were assessed to determine differences in how the factors were distributed among different geographic regions for the 36-factor solution. To assess the non-US and US PSE institutions further, the 14 most diverging social media guideline and policy document topics (Table 11) were identified in this study: institutional users, page & group administration, information management, privacy, Facebook, social networking, audience, posting, personal use, support at institution, time & resource management, followers, institutional identity, and Flickr. Further analysis of the content related factor count by country (Table 12, Table 13, and Figure 13) identified geographic areas that closely related to one another, such as Ireland and Great Britain, and specific content related factors that were more inline with particular countries, such as F36.28 privacy was close in proximity to Canada.

The 28th extracted factor was privacy, with a frequency count of 349 and holding only 82% of the variance. In the correspondence analysis, privacy was the furthest topic from others content related factors extracted from this corpus, and it the only country it

was closely related to was Canada. This result supported the call to action for the PSE

sector to improve how social media is being guided with regards to privacy issues and

government regulations (Joosten, Pasquini, & Harness, 2013; Barnes, 2006;

(Rodriguez, 2011). It is apparent that legal, ethical, and academic integrity issues have

narrowly been addressed within these social media documents under the following

factors: F36.28 privacy and F36.17 copyright & fair use. This analysis was inline with

Rodriguez's (2011) study to deal with privacy, intellectual property (F36.7 information

management) and identity management (F36.30 digital identity management); however

the social media guideline and policy documents overlooked an in-depth look at legal

use and only touched on literacy development for users with the digital identity

development (F36.30) factor.

Cutis, Edwards, Fraser, Gudelsky, Holmsquist, and Thornton (2010) stated that

social media applications in organizations were required to target audiences and

stakeholders. By reviewing diverging factors related target audience, such as F36.21

audience and F36.24 followers, the distribution between the non-US and US PSE

institutions was quite wide. The simple correspondence analysis of country counts

demonstrated how audience and followers primarily favored the United States and the

Netherlands. However these findings indicated that F36.12 institutional users, which

includes campus stakeholders and users such as students, staff, faculty, athletes,

employers, and researchers, was not universally found in all countries. The institutional

users factor was primarily clustered by Great Britain, Ireland, Australia and South Africa.

Interestingly enough, the "institutional branding and broadcast messages"

(Joosten et al., 2013) was not considered a universal content related factor. F36.23

institutional identity clustered primarily near the PSE institutions from the United States. This is not surprising as a number of departments maintaining or administering these social media guideline and policy documents from the United States originated from a central department on campus, such as marketing, communications, public relations or university affairs. Many of the social media passages related to this topic discussed brand management and logo, such as naming conventions (F36.29) and Institutional identity (F36.23). Other indicators of this central guiding unit would be how US PSE institutions are also close to F36.11 support at institution, which includes contact information for the social media guidelines or policy administrators.

Overall, this research study assessed the textual components of the PSE sector social media guideline and policy documents. Since a limited number of research studies had investigated publicly accessible social media guideline and policy documents (McNeill, 2012), this study contributed to PSE sector and other organizations who have an interest in understanding central topics and universal values from this social media guideline and policy document data set.

Discussion

Beyond determining factors through LSA topic extraction, this text analysis of PSE institution social media guideline and policy documents was able to interpret meaning, values, and identity from a community of practice. As outlined in Figure 1 and 2, a community of practice has participated and reified social media guideline and policy documents for the PSE sector. This spontaneous contribution to the semantic structure by a member of the community of practice developed a knowledge-sharing corpus

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(Figure 3). By extracting the factors from the corpus, it was possible to determine the values, meaning, and identity created by this corpus-creating community (CCC). The interpretations of these factors were a reflection of PSE institutions, and contributed to the organizational identity and cultural values within this industry. To support Assumption 1 and 2, it is apparent the CCC impacted and contributed to the body of documents that share a common reference point. Based on the LSA topic extraction, there were 36 topics (content related factors) from the artifacts were reified and the ideas were validated from the community of practice, as stated in Assumption 3. After the analysis was conducted with the social media guideline and policy document database (the corpus), this research method uncovered a semantic structure of meaning, as identified in Assumption 4, for the CCC (Evangelopoulos & Polyakov, 2014).

The assessment of the 36-factor solution and further evaluation of the 14 diverging factors between non-US and US PSE institutions presented interesting findings about the organizational identity development through the semantic structure of meaning. The results of this research suggested that increasing number PSE institutions have read, shared, copied, and replicated social media guideline and policy documents.

Learning from others is inherently adaptive and individuals benefit by copying because it saves time to acquire new information rather than produce it (Laland, 2004). Couzin (2007) indicated that individuals within groups survive based on how local behavioral rules scale to the collective landscape. With Couzin's (2007) collective minds and Laland's (2004) social learning strategies, authors Bentley, Earls, and O'Brien's

(2011) further interpret copying as normal behavior for individuals who will "copy the majority, successful individuals, if better, good social learners, kin, friends, and older individuals" (p. 31). This copying might not be intentional or even on purpose as a spread of behavior has the potential to increase in digital communities and via online social networks (Centola, 2010). Increasingly PSE administrators and/or managers, who draft social media guidelines and policies, are members of these distributed networks and communities of practice online. Shared practices, common issues, and questions about the guidance of social media appear regularly within these informal networks.

From reading the social media guideline and policy atomic document passages, it was clear that some of this copying was happenstance; while other is intentional. Individuals decide who to copy based on the level of prestige (Laland, 2004). Often copying is based on PSE institutional experience with social media or communication authority in this area. In other cases, there was multiple copying from a select few institutions as others had given credit to PSE institutions for their adoption of guidelines or policies. For example, the University of Oregon, DePaul University, and the University of Delaware, were held in high regard in this PSE institution sample as a number of social media guideline and policy documents gave specific credit and attribution for the adoption of other institution's content.

By analyzing social media guideline and policy documents created by PSE, this research study was able to uncover the socially constructed components of meaning shared by the members of a community of practice, and identify patterns of social learning and collective mapping of copying. As these social media guidelines and

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resources are publicly shared in online spaces and among networked communities, it was apparent why there were repetitive and similar passages in the corpus.

Contribution

Prior studies have shown evidence of the need to review social media guidelines and policies within the PSE sector (e.g. Mergel, Mugar, & Jarrahi, 2012; Wandel, 2009; Joosten et al., 2013; McNeill, 2012; Reed, 2013), and this data analysis has contributed to further this research in three important ways. First, it offers a concrete text analysis for the current state of social media guideline and policy text documents being produced and shared within the PSE sector. This corpus (database) provided insights into the textual makeup of the guiding ideas and content related factors related to social media guidance among a large sample of PSE institutions. Not only was this study relevant for the PSE sector, it also provided a starting point for other organizations who are interested in developing protocols and policies for social media use. By sharing the Social Media Guideline and Policy Document Database (Appendix B), other organizations and institutions will be able to use these examples as a reference point when drafting or updating their own social media protocols and set of policies.

Second, this dissertation contributed to a new organizational model related to the community of practice, identified as the corpus-creating community (CCC). The CCC created its own semantic space based on text artifacts, the social media guideline and policy documents that shared meaning and values were classified. The evaluation of this community of practice identified common attributes and a core values from a spontaneous creation of a corpus.

Finally, this dissertation actualized similarities and differences in document structure and meaning among 250 PSE institutions that regionally represented 10 geographic areas. This discovery reaffirms that corpus-creating communities of practice can instinctively form a knowledge-sharing corpus (Evangelopoulos & Polyakov, 2014) that provides meaning, values, and identity for an organization or industry. Universally, this PSE community identified 36 common topics discussed in their social media guideline and policy documents, regardless of country of origin. As the community of practice is digitally distributed, administrators and managers regulating social media share ideas for use in open online spaces. In this contractual view of the social media guidelines and policies, we are guiding platform and application use as a single global village.

Alternatively, the promotional views of the social guidance diverge. PSE institutions from the United States hold core common values and semantics apart from other regions in this research study. US PSE institutions commonly utilize the follow factors (topics) to detail their social media guideline and policy documents: personal use, content, comments, respect, and support at institution. Many of the topics identify how to manage of social media accounts, offer posting suggestions for personal, suggest departmental social media platforms, and provide assistance from specific departments who maintain the social media guideline or policy document. Whereas members of from non-US PSE institutions tend to gravitate to the following topics from their social media guidelines and policies: privacy, information management, and institutional users. A number of these text documents discuss issues about confidential and proprietary information management, respecting and protecting privacy, and outline

appropriate use for specific campus stakeholders.

Throughout the building of Social Media Guideline and Policy Document Database (Appendix B) a number of staff, faculty, senior administrators, and researchers from higher education were interested in learning more about these research findings. In efforts to be open on this emerging area of concern, these findings will be reported and shared online to help other researchers, practitioners, and organizations beyond the PSE sector develop the contents of an effective social media guideline and/or policy.

Appendix H outlined specific recommendations for social media guideline and policy development directly related to the topic extraction and 36-factor solution. Figure 15 presents an outline the recommendation topics grouped into categories.

Figure 15. The outline of the recommendations for social media guideline and policy development based on the 36 factors extracted.

Although Appendix B accounted for the individual guidelines and policies for social media, Appendix H was designed to provide a comprehensive list of recommendations to support social media guideline and policy development for the PSE sector and related organizations. These research findings identify central attributes for the 250 PSE institutions; however the recommendations in Appendix H may not be inclusive of all components of social media guidelines and/or policies. It is advised that administrators and community managers use this document as a reference point for their organization when developing and implementing directives for social media use.

Future Research

As a result of this research, other organizations can access the PSE institution social media guideline and policy document database for examples and the recommendations for social media development (Appendix B). This data set shared examples of policies, guidelines, and suggestions are structure and shared online.

Beyond the interpretation of the semantic space of the corpus-creating community, with regards to meaning, values, and identity, 36 topics (content related factors) were classified. A number of key components shared, from 250 PSE institutional documents, were used to develop recommendations for the higher education sector and other industries. This set of recommendations (in Appendix H) will help other organizations plan for social media implementation and use.

Future research should continue the assessment of PSE institution social media guidelines and policies that are in place at specific institutions to compare how these 36 topics (content related factors) apply to actual institutions and campus stakeholders. It

will be important for researchers to identify how guidelines and policies are being used with regards to teaching, research, and service scholarship in higher education. Researchers interested in social media guideline and policy documents, might also build upon this database to include other geographic regions, and add to this data set with non-English speaking PSE institutions for further text analysis. Other social media guideline and policy text documents from other continents (delimitation) and other sectors (outside PSE) could be compared to determine how organizations are regulating social media use and practices outside higher education.

Suggested research should continue to examine corpora structures and semantics spaces being created by communities of practice, beyond the social media guideline and policy aspect. Such investigations could include the examination of communities of practices that are forming in online spaces and the artifacts they leave behind from training and development, mentoring support, career advancement, general advice, and specific organizational subsections of higher education administration (e.g., student affairs, faculty development, or enrollment).

Future studies might consider utilizing these research methods to assess policies, documents, and practices within an organization to understand identity, values and meaning. Both knowledge creation and artifact sharing are prevalent in a number of communities; however these artifacts often go unevaluated or researched due to the volume of data. By using this type of analysis, researchers can uncover information in the growing sets of textual data being developed and shared among communities of practice. Through this dissertation study, the researcher provided methods for reviewing large, unstructured text data sets using LSA.

APPENDIX A

SAMPLE: PSE INSTITUTION DESCRIPTION

No.	Institution Name	Atomic Docs	Country	Region	Institution Size	Institution Type
1	Australia National University	73	AUS	Canberra	10,001-20,000	Doctorate-granting University
2	Deakin University	15	AUS	Victoria	40,001-50,000	Doctorate-granting University
3	Griffith University	246	AUS	Queensland	40,001-50,000	Doctorate-granting University
4	Monash University	181	AUS	Victoria	50,000+	Doctorate-granting University
5	Queensland University of Technology	21	AUS	Queensland	30,001-40,000	Doctorate-granting University
6	RMIT University	447	AUS	Victoria	50,000+	Doctorate-granting University
7	University of Melbourne	69	AUS	Victoria	30,001-40,000	Doctorate-granting University
8	University of Sydney	19	AUS	Sydney	40,0001-50,000	Doctorate-granting University
9	University of Vienna	13	AUT	Vienna	50,000+	Doctorate-granting University
10	Brock University	475	CAN	Ontario	10,001-20,000	Doctorate-granting University
11	Carleton University	448	CAN	Ontario	20,001-30,000	Doctorate-granting University
12	Concordia University	88	CAN	Quebec	40,001-50,000	Doctorate-granting University
13	Dalhousie University	98	CAN	Nova Scotia	10,001-20,000	Doctorate-granting University
14	Lakehead University	85	CAN	Ontario	5001-10,000	Doctorate-granting University
15	McGill University	61	CAN	Quebec	30,001-40,000	Doctorate-granting University
16	McMaster University	36	CAN	Ontario	20,001-30,000	Doctorate-granting University
17	Memorial University	32	CAN	Nova Scotia	10,001-20,000	Doctorate-granting University
18	Memorial University Faculty of Medicine	9	CAN	Nova Scotia	5001-10,000	Special Focus Institutions
19	Mount Royal University	36	CAN	Alberta	20,001-30,000	Baccalaureate College/University - Public
20	Queen's University	60	CAN	Ontario	20,001-30,000	Doctorate-granting University
21	Red River College	225	CAN	Manitoba	30,001-40,000	Two-year AA/AS conferring
22	School of Physical Therapy University of Saskatchewan	53	CAN	Saskatchewan	Less than 2500	Special Focus Institutions
23	Simon Fraser University	62	CAN	British Columbia	30,001-40,000	Doctorate-granting University
24	Thompson Rivers University	235	CAN	British Columbia	10,001-20,000	Doctorate-granting University
25	University of Alberta	196	CAN	Alberta	30,001-40,000	Doctorate-granting University
26	University of British	249	CAN	British	50,000+	Doctorate-granting University

				Columbia		
27	University of Calgary Faculty of Medicine	28	CAN	Alberta	Less than 2500	Special Focus Institutions
28	University of Guelph	77	CAN	Ontario	20,001-30,000	Doctorate-granting University
29	University of Lethbridge	110	CAN	Alberta	5,001-10,000	Doctorate-granting University
30	University of Manitoba	143	CAN	Manitoba	20,001-30,000	Doctorate-granting University
31	University of New Brunswick	23	CAN	New Brunswick	10,001-20,000	Doctorate-granting University
32	University of Ontario Institute of Technology	84	CAN	Ontario	5001-10,000	Doctorate-granting University
33	University of Regina	89	CAN	Saskatchewan	10,001-20,000	Doctorate-granting University
34	University of Saskatchewan	29	CAN	Saskatchewan	20,001-30,000	Doctorate-granting University
35	University of Toronto Centre for Teaching Support & Innovation	11	CAN	Ontario	50,000+	Special Focus Institutions
36	University of Toronto-Mississauga	62	CAN	Ontario	10,001-20,000	Doctorate-granting University
37	University of Waterloo School of Social Work	49	CAN	Ontario	30,001-40,000	Doctorate-granting University
38	Vancouver Island University	11	CAN	British Columbia	10,001-20,000	Doctorate-granting University
39	Western University	331	CAN	Ontario	30,001-40,000	Doctorate-granting University
40	Wilfred Laurier University	230	CAN	Ontario	10,001-20,000	Baccalaureate College/University - Public
41	York University	46	CAN	Ontario	50,000+	Doctorate-granting University
42	Edinburgh Napier University	35	GBR	Scotland	10,001-20,000	Doctorate-granting University
43	Newcastle University	59	GBR	England	20,001-30,000	Doctorate-granting University
44	Robert Gordon University	107	GBR	Scotland	10,001-20,000	Doctorate-granting University
45	Sheffield Hallam University	105	GBR	England	30,001-40,000	Doctorate-granting University
46	Teeside University	29	GBR	England	20,001-30,000	Doctorate-granting University
47	The Open University	34	GBR	England	50,000+	Doctorate-granting University
48	University of Cumbria	255	GBR	England	10,001-20,000	Doctorate-granting University
49	University of Edinburgh	204	GBR	Scotland	30,001-40,000	Doctorate-granting University
50	University of Essex	121	GBR	England	10,001-20,000	Doctorate-granting University

51	University of Exeter	136	GBR	England	10,001-20,000	Doctorate-granting University
52	University of the West of Scotland	36	GBR	Scotland	10,001-20,000	Doctorate-granting University
53	Trinity College Dublin	86	IRE	Dublin	10,001-20,000	Doctorate-granting University
54	University College Cork	74	IRE	Cork	10,001-20,000	Doctorate-granting University
55	Maastricht University	23	NLD	Limburg	10,001-20,000	Bachelor's/Master's/Doctorate
56	Radboud Universiteit Nijmegen	86	NLD	Gelderland	10,001-20,000	Bachelor's/Master's/Doctorate
57	Norwegian University of Science and Technology	62	NOR	Sør-Trøndelag	20,001-30,000	Doctorate-granting University
58	University of Auckland New Zealand	170	NZL	Auckland	30,001-40,000	Doctorate-granting University
59	University of Auckland New Zealand Faculty of Education	20	NZL	Auckland	30,001-40,000	Doctorate-granting University
60	University of Otago	98	NZL	Otago	20,001-30,000	Doctorate-granting University
61	Victoria University of Wellington	26	NZL	Wellington	20,001-30,000	Doctorate-granting University
62	Adelphi University	110	USA	NY	5001-10,000	Doctorate-granting University
63	American University	66	USA	DC	10,001-20,000	Baccalaureate College/University - Private
64	Aquinas College	43	USA	MI	Less than 2500	Baccalaureate College/University - Private
65	Babson College	45	USA	MA	Less than 2500	Special Focus Institutions
66	Ball State University	42	USA	IN	20,001-30,000	Doctorate-granting University
67	Bates College	7	USA	ME	Less than 2500	Baccalaureate College/University - Private
68	Bentley University	223	USA	MA	5001-10,000	Baccalaureate College/University - Private
69	Berkeley College	78	USA	NY	5001-10,000	For-profit/Proprietary
70	Boston College	78	USA	MA	10,001-20,000	Baccalaureate College/University - Private
71	Bowling Green State University	60	USA	OH	10,001-20,000	Doctorate-granting University
72	Bristol Community College	94	USA	MA	10,001-20,000	Two-year AA/AS conferring
73	Brown University	144	USA	RI	5001-10,000	Baccalaureate

					College/University - Private
74	Bucknell University	72	USA	PA	2501-5000	Doctorate-granting University
75	California State University Chico	221	USA	CA	10,001-20,000	Master's College/University
76	Cardinal Stritch University	253	USA	WI	5001-10,000	Baccalaureate College/University - Private
77	Carnegie Mellon University	34	USA	PA	10,001-20,000	Baccalaureate College/University - Private
78	Central Community College	101	USA	NB	50,000+	Two-year AA/AS conferring
79	Chapman University	203	USA	CA	5001-10,000	Doctorate-granting University
80	College of William and Mary	305	USA	VA	5001-10,000	Master's College/University
81	Colorado State University	489	USA	CO	30,001-40,000	Doctorate-granting University
82	Colorado State University College of Veterinary Medicine & Biomedical Sciences	94	USA	CO	Less than 2500	Special Focus Institutions
83	Columbia University Medical Center	29	USA	NY	2501-5000	Special Focus Institutions
84	Cornell University	66	USA	NY	20,001-30,000	Doctorate-granting University
85	Dallas County Community College District	34	USA	TX	50,000+	Two-year AA/AS conferring
86	DePaul University	191	USA	IL	20,001-30,000	Master's College/University
87	Drexel University	188	USA	PA	20,001-30,000	Baccalaureate College/University - Private
88	Drexel University College of Medicine	58	USA	PA	Less than 2500	Special Focus Institutions
89	Duke Medicine	90	USA	NC	Less than 2500	Special Focus Institutions
90	Duke University	28	USA	NC	10,001-20,000	Baccalaureate College/University - Private
91	East Carolina University	115	USA	NC	20,001-30,000	Doctorate-granting University
92	Elizabeth City State University	18	USA	NC	Less than 2500	Baccalaureate College/University - Public
93	Emerson College	77	USA	MA	2501-5000	Master's College/University
94	Emporia State University	129	USA	KS	5001-10,000	Master's College/University

95	Florida International University	26	USA	FL	40,001-50,000	Doctorate-granting University
96	Florida State University	158	USA	FL	40,001-50,000	Doctorate-granting University
97	Florida State University College of Medicine	40	USA	FL	Less than 2500	Special Focus Institutions
98	Fort Lewis College	58	USA	CO	2501-5000	Baccalaureate College/University - Public
99	Fresno State	9	USA	CA	20,001-30,000	Master's College/University
100	Frostburg State University	95	USA	MD	5001-10,000	Master's College/University
101	George Mason University	82	USA	DC	30,001-40,000	Doctorate-granting University
102	Gettysburg College	35	USA	PA	2501-5000	Baccalaureate College/University - Private
103	Grand Valley State University	155	USA	MI	20,001-30,000	Doctorate-granting University
104	Hamilton College	25	USA	NY	2501-5000	Baccalaureate College/University - Private
105	Hamline University	26	USA	MN	5001-10,000	Baccalaureate College/University - Private
106	Harvard Law School	51	USA	MA	Less than 2500	Baccalaureate College/University - Private
107	Hawkeye Community College	128	USA	IA	5001-10,000	Two-year AA/AS conferring
108	Hofstra North Shore LIJ School of Medicine	19	USA	NY	Less than 2500	Medical School
109	Holyoke Community College	83	USA	MA	50,001-10,000	Two-year AA/AS conferring
110	Howard University	50	USA	DC	5001-10,000	Baccalaureate College/University - Private
111	Illinois Wesleyan University	33	USA	IL	Less than 2500	Baccalaureate College/University - Private
112	Indiana University	303	USA	IN	50,000+	Doctorate-granting University
113	Ithaca College	28	USA	NY	5001-10,000	Baccalaureate College/University - Private
114	Judson University	23	USA	IL	Less than 2500	Baccalaureate College/University - Private
115	Kansas Board of Regents	9	USA	KS	50,000+	Education Governing Body
116	Kansas State University	46	USA	KS	20,001-30,000	Doctorate-granting University
117	Lake Forest College	70	USA	IL	Less than 2500	Baccalaureate

						College/University - Private
118	Lehigh University	88	USA	PA	5001-10,000	Doctorate-granting University
119	Lehigh University Athletics	81	USA	PA	5001-10,000	Doctorate-granting University
120	Longwood University	19	USA	VA	5001-10,000	Baccalaureate College/University - Public
121	Loyola Marymount University	47	USA	CA	5001-10,000	Baccalaureate College/University - Private
122	Loyola Marymount University Student Affairs	306	USA	CA	5001-10,000	Baccalaureate College/University - Private
123	Marquette University	195	USA	QI	10,001-20,000	Baccalaureate College/University - Private
124	Massachusetts Institute of Technology	112	USA	MA	10,001-20,000	Baccalaureate College/University - Private
125	Medaille College	52	USA	NY	2501-5000	Baccalaureate College/University - Private
126	Mercer University	85	USA	GA	5001-10,000	Baccalaureate College/University - Private
127	Michigan State University	131	USA	MI	40,001-50,000	Doctorate-granting University
128	Michigan State University Broad College of Business	57	USA	MI	40,001-50,000	Master's College/University
129	Middlesex Community College	14	USA	MA	5001-10,000	Two-year AA/AS conferring
130	Minnesota State University Mankato	48	USA	MN	10,001-20,000	Doctorate-granting University
131	Missouri University of Science and Technology	63	USA	MO	5001-10,000	Doctorate-granting University
132	Montana State University Department of Athletics	68	USA	NT	10,001-20,000	Doctorate-granting University
133	Morrisville State College	8	USA	NY	2501-5000	Baccalaureate College/University - Public
134	Mount Wachusett Community College	98	USA	MA	2501-5000	Two-year AA/AS conferring
135	New Jersey Institute of Technology	111	USA	NJ	10,001-20,000	Baccalaureate College/University - Public
136	Northeastern State University	59	USA	OK	Less than 2500	Baccalaureate College/University - Public
137	Northeastern University	48	USA	MA	20,001-30,000	Doctorate-granting University

138	Northwestern University Feinberg School of Medicine	153	USA	IL	2501-5000	Special Focus Institutions
139	Oberlin College	25	USA	OH	2501-5000	Baccalaureate College/University - Private
140	Ohio State College of Food, Agricultural, and Environmental Sciences	58	USA	OH	40,001-50,000	Doctorate-granting University
141	Ohio State Medical Center	11	USA	OH	2501-5000	Special Focus Institutions
142	Oregon State University	65	USA	OR	20,001-30,000	Doctorate-granting University
143	Our Lady of the Lake University	92	USA	TX	2501-5000	Baccalaureate College/University - Private
144	Pennsylvania State University	54	USA	PA	40,001-50,000	Doctorate-granting University
145	Pennsylvania State University College of Education	38	USA	PA	40,001-50,000	Doctorate-granting University
146	Pfeiffer University	27	USA	NC	Less than 2500	Baccalaureate College/University - Private
147	Phoenix College	71	USA	AZ	10,001-20,000	Two-year AA/AS conferring
148	Pratt University	7	USA	NY	2501-5000	Baccalaureate College/University - Private
149	Princeton University	153	USA	NJ	5001-10,000	Baccalaureate College/University - Private
150	Purdue University	91	USA	IN	30,001-40,000	Doctorate-granting University
151	Purdue University College of Agriculture	152	USA	IN	30,001-40,000	Doctorate-granting University
152	Quinnipiac University	82	USA	CT	5001-10,000	Baccalaureate College/University - Private
153	Saint Louis University	85	USA	MO	10,001-20,000	Baccalaureate College/University - Private
154	Salem State University	45	USA	MA	10,001-20,000	Baccalaureate College/University - Public
155	Sam Houston State University	211	USA	TX	10,001-20,000	Doctorate-granting University
156	San Jose State University	175	USA	CA	30,001-40,000	Doctorate-granting University
157	Seattle University	197	USA	WA	5001-10,000	Baccalaureate College/University - Private

158	Shippensburg University of Pennsylvania	38	USA	PA	5001-10,000	Master's College/University
159	Shoreline Community College	43	USA	WA	10,001-20,000	Two-year AA/AS conferring
160	Smith College	18	USA	MA	2501-5000	Baccalaureate College/University - Private
161	St. Edward's University	67	USA	TX	5001-10,000	Baccalaureate College/University - Private
162	St. John's College	48	USA	NM	Less than 2500	Baccalaureate College/University - Private
163	Stony Brook University	39	USA	NY	20,001-30,000	Doctorate-granting University
164	Syracuse University College of Visual & Performing Arts	99	USA	NY	20,001-30,000	Doctorate-granting University
165	Technology in Texas	96	USA	TX	Less than 2500	Education Governing Body
166	Texas A & M University	50	USA	TX	50,000+	Doctorate-granting University
167	Texas Christian University	160	USA	TX	5001-10,000	Baccalaureate College/University - Private
168	The College of Saint Rose	50	USA	NY	2501-5000	Baccalaureate College/University - Private
169	The George Washington University	53	USA	DC	20,001-30,000	Baccalaureate College/University - Private
170	The University of Kansas	192	USA	KS	20,001-30,000	Doctorate-granting University
171	The University of Utah	27	USA	UT	30,001-40,000	Doctorate-granting University
172	Trinity University	48	USA	TX	Less than 2500	Doctorate-granting University
173	Tufts University	372	USA	MA	10,001-20,000	Doctorate-granting University
174	Tulane University	40	USA	LA	10,001-20,000	Baccalaureate College/University - Public
175	Union College	39	USA	NY	Less than 2500	Baccalaureate College/University - Private
176	University Colorado Boulder	61	USA	CO	30,001-40,000	Doctorate-granting University
177	University of Akron	53	USA	OH	20,001-30,000	Doctorate-granting University
178	University of Alabama	49	USA	AL	30,001-40,000	Doctorate-granting University
179	University of Arkansas	45	USA	AR	20,001-30,000	Doctorate-granting University
180	University of California Berkeley	56	USA	CA	30,001-40,000	Doctorate-granting University

181	University of California Merced	32	USA	CA	5001-10,000	Doctorate-granting University
182	University of California San Diego	153	USA	CA	30,001-40,000	Doctorate-granting University
183	University of California Santa Barbara	51	USA	CA	20,001-30,000	Doctorate-granting University
184	University of California Santa Barbara Student Affairs	25	USA	CA	20,001-30,000	Doctorate-granting University
185	University of Chicago Human Resources	26	USA	IL	20,001-30,000	Baccalaureate College/University - Private
186	University of Cincinnati	173	USA	OH	40,001-50,000	Doctorate-granting University
187	University of Delaware	304	USA	DE	20,001-30,000	Doctorate-granting University
188	University of Florida	359	USA	FL	40,001-50,000	Doctorate-granting University
189	University of Houston	187	USA	TX	40,001-50,000	Doctorate-granting University
190	University of Idaho	219	USA	ID	10,001-20,000	Doctorate-granting University
191	University of Illinois at Chicago Institute for Health Research and Policy	22	USA	IL	40,001-50,000	Doctorate-granting University
192	University of Illinois at Springfield	125	USA	IL	5001-10,000	Doctorate-granting University
193	University of Illinois Champaign-Urbana	137	USA	IL	40,001-50,000	Baccalaureate College/University - Public
194	University of Illinois College of Medicine	33	USA	IL	Less than 2500	Doctorate-granting University
195	University of Iowa Human Resources	35	USA	IA	30,001-40,000	Special Focus Institutions
196	University of Kentucky	70	USA	KY	20,001-30,000	Doctorate-granting University
197	University of Louisiana at Monroe	28	USA	LA	5001-10,000	Doctorate-granting University
198	University of Louisiana at Monroe College of Pharmacy	33	USA	LA	Less than 2500	Special Focus Institutions
199	University of Louisville	93	USA	KY	20,001-30,000	Doctorate-granting University
200	University of Maryland University College	30	USA	MD	50,000+	Doctorate-granting University

201	University of Maryland-Robert H. Smith School of Business	38	USA	MD	50,000+	Doctorate-granting University
202	University of Michigan	262	USA	MI	40,001-50,000	Doctorate-granting University
203	University of Michigan College of Literature, Science and the Arts	243	USA	MI	40,001-50,000	Doctorate-granting University
204	University of Michigan Health System	86	USA	MI	40,001-50,000	Doctorate-granting University
205	University of Minnesota	177	USA	MN	50,000+	Doctorate-granting University
206	University of Missouri	77	USA	MO	30,001-40,000	Doctorate-granting University
207	University of Montana	23	USA	MT	10,001-20,000	Doctorate-granting University
208	University of New Hampshire	144	USA	NH	10,001-20,000	Doctorate-granting University
209	University of North Carolina Athletics	17	USA	NC	20,001-30,000	Doctorate-granting University
210	University of North Carolina Health Care	98	USA	NC	20,001-30,000	Special Focus Institutions
211	University of North Carolina Library	14	USA	NC	20,001-30,000	Doctorate-granting University
212	University of North Carolina School of Social Work	26	USA	NC	20,001-30,000	Doctorate-granting University
213	University of North Texas	14	USA	TX	30,001-40,000	Doctorate-granting University
214	University of Northern Colorado	94	USA	CO	10,001-20,000	Baccalaureate College/University - Public
215	University of Northern Iowa	30	USA	IA	10,001-20,000	Doctorate-granting University
216	University of Notre Dame	67	USA	IN	10,001-20,000	Doctorate-granting University
217	University of Oklahoma	159	USA	OK	30,001-40,000	Doctorate-granting University
218	University of Oregon	104	USA	OR	20,001-30,000	Doctorate-granting University
219	University of Pennsylvania Law School	126	USA	PA	Less than 2500	Special Focus Institutions
220	University of Puget Sound	189	USA	WA	2501-5000	Doctorate-granting University
221	University of San Francisco	61	USA	CA	10,001-20,000	Doctorate-granting University
222	University of South Carolina Upstate	56	USA	SC	2501-5000	Baccalaureate College/University - Public

223	University of South Florida	48	USA	FL	40,001-50,000	Doctorate-granting University
224	University of Southern Mississippi	118	USA	MS	10,001-20,000	Doctorate-granting University
225	University of Texas at Austin	108	USA	TX	50,000+	Doctorate-granting University
226	University of Texas at Dallas	53	USA	TX	20,001-30,000	Doctorate-granting University
227	University of Texas at Tyler	120	USA	TX	5001-10,000	Master's College/University
228	University of Texas Health Science Center at San Antonio	199	USA	TX	2501-5000	Special Focus Institutions
229	University of the District of Colombia	156	USA	DC	5001-10,000	Doctorate-granting University
230	University of Utah School of Medicine	12	USA	UT	Less than 2500	Doctorate-granting University
231	University of Washington	63	USA	WA	40,001-50,000	Doctorate-granting University
232	University of Wisconsin Platteville	224	USA	WI	5001-10,000	Doctorate-granting University
233	University of Wisconsin-Madison	88	USA	WI	40,001-50,000	Doctorate-granting University
234	University of Wisconsin-Madison Chemistry Department	4	USA	WI	40,001-50,000	Doctorate-granting University
235	Vanderbilt University	231	USA	TN	10,001-20,000	Baccalaureate College/University - Private
236	Virginia Tech	58	USA	VA	30,001-40,000	Doctorate-granting University
237	Virginia Tech Student Centers and Activities	70	USA	VA	30,001-40,000	Doctorate-granting University
238	Washington and Lee University	112	USA	VA	Less than 2500	Baccalaureate College/University - Private
239	Washington College	66	USA	MD	Less than 2500	Master's College/University
240	Washington University in Saint Louis	20	USA	MO	10,001-20,000	Doctorate-granting University
241	Weber State University	50	USA	UT	20,001-30,000	Doctorate-granting University
242	West Virginia University	98	USA	WV	20,001-30,000	Master's College/University
243	Western Washington University	123	USA	WA	10,001-20,000	Doctorate-granting University

244	Westminster College	79	USA	MO	Less than 2500	Baccalaureate College/University - Private
245	Wilkes University	164	USA	PA	2501-5000	Two-year AA/AS conferring
246	Winthrop University	153	USA	SC	5001-10,000	Doctorate-granting University
247	Wisconsin Indianhead Technical College	20	USA	WI	2501-5000	Two-year AA/AS conferring
248	Wright State University	170	USA	OH	10,001-20,000	Baccalaureate College/University - Private
249	Yale School of Medicine	20	USA	CT	Less than 2500	Special Focus Institutions
250	University of Capetown	189	ZAF	Capetown	20,001-30,000	Doctorate-granting University

APPENDIX B

SOCIAL MEDIA GUIDELINE AND POLICY DOCUMENT DATABASE

Social Media Guideline and Policy Document Database

The Social Media Guideline and Policy Document Database contain 24,243 atomic text documents from 250 PSE institutions representing 10 countries. Further information about this sample is identified in Appendix A.

This Social Media Guideline and Document Database[6] house the originally formatted text documents and text information retrieved from institutional URLs, websites, and digital files:

http://socialmediaguidance.wordpress.com/social-media-guideline-policy-database/

Citation:

Pasquini, Laura A. (2014): Appendix B: Social Media Guideline and Policy Document Database. figshare. http://dx.doi.org/10.6084/m9.figshare.1050571

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[6] This database was last reviewed and verified on June 9, 2014. Any changes made to websites, URLs, PDFs and text documents beyond this date were not reflected in this research study. For inquiries about documents and resources within the database, please contact the specific institution that uses the social media guidelines or policies for their respective campuses.

APPENDIX C

TEXT DOCUMENT PREPARATION FOR LSA

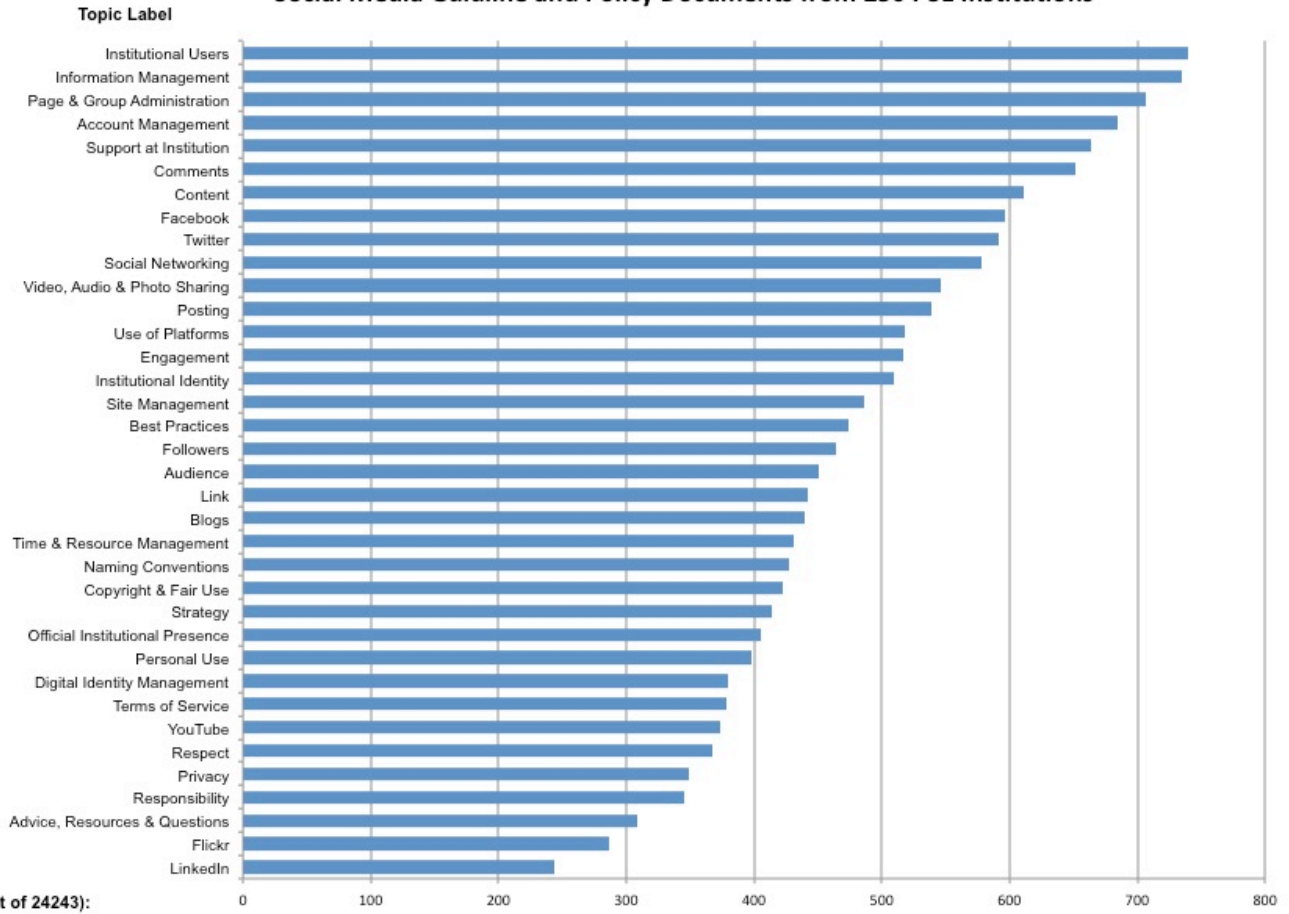| Coding Task	Coder 1 (Vita)	Coder 2 (Laura)	Coder 3 (Paeng)
Step 1: Identify PSE institutions that have social media policies and guidelines published online publicly. Gather all social media guideline and policy documents via this website: http://socialmediaguidance.wordpress.com/submit-a-social-media-guideline/			
Step 2: Review the **Social Media Guideline and Policy Document Database** for duplications, multiple documents, institution names, etc. See Appendix B.			
Step 3: Copy and paste all text from URLs, Word documents, PDFs, etc. online from PSE intuitions from database into a single format, i.e., Word documents. Use "Paste Special + Unformatted text" option to remove website template formatting.			
Step 4: Format each Word document text according to the requirements of the **LSA Text Pre-Processing Procedure**. [Steps listed below.]			
Step 4.1: Remove all contact and personal identification information within each document, e.g., e-mail, staff names, and phone numbers.			
Step 4.2: Remove all URLs (not hyperlinks) and other web formats, e.g., http://…, YouTube videos, images, etc.			
Step 4.3: Split the documents into atomic document segments; document segments attempt to make one single point, i.e., separation of bullet points, numbered lists, questions, headings, sub-headings, and paragraphs. Be sure to remove all formatting including bullet points, numbers, etc.			
Step 4.4: Place a carriage return after the following: (a) After every single bullet point (b) Listed items, e.g., numbered or alpha lists (c) After each paragraph (d) After each heading (e) After each sub-heading			
Step 5: Convert each individual Word document into Excel using ParagraphConsolidationMacro[7] to convert documents segments from Word into separate cells vertically in Excel.			
Step 5.1: Number each atomic document segment (line) for each institution in Excel; e.g., Brown College's number list is BROW00001, BROW0002, BROW0003, etc.			
Step 6: Combine all Excel workbooks into ONE (1) Excel workbook file using FileConsolidator[8] macro to convert multiple Excel workbooks into a single Excel workbook.			
Step 6.1: Number each atomic document segment for all institutions in Excel with the same label, e.g., social media policy label looks like this: SMP00001, SMP00002, SMP00003, etc.			
Step 7: Convert Excel workbook to Access for text analysis			

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[7] Evangelopoulos, N. (2014). *Paragraph consolidator macro*. [Computer software]. Denton, TX: University of North Texas.

[8] Evangelopoulos, N. (2014). *File consolidator macro*. [Computer software]. Denton, TX: University of North Texas.

APPENDIX D

36-FACTOR SOLUTION AND HIGH-LOADING TERMS FROM 24,243 SOCIAL MEDIA

GUIDELINE AND POLICY DOCUMENTS FROM 250 PSE INSTITUTIONS

Social Media Guidline and Policy Documents from 250 PSE Institutions

Topic Label

Topic	Document Count (out of 24243)
Institutional Users	~740
Information Management	~735
Page & Group Administration	~705
Account Management	~685
Support at Institution	~665
Comments	~650
Content	~610
Facebook	~595
Twitter	~590
Social Networking	~575
Video, Audio & Photo Sharing	~545
Posting	~540
Use of Platforms	~520
Engagement	~515
Institutional Identity	~510
Site Management	~485
Best Practices	~475
Followers	~465
Audience	~450
Link	~445
Blogs	~440
Time & Resource Management	~430
Naming Conventions	~425
Copyright & Fair Use	~420
Strategy	~415
Official Institutional Presence	~405
Personal Use	~400
Digital Identity Management	~380
Terms of Service	~378
YouTube	~375
Respect	~370
Privacy	~350
Responsibility	~345
Advice, Resources & Questions	~310
Flickr	~285
LinkedIn	~245

Factors	Labels	High-Loading Terms with TF-IDF
F36.1	Facebook	facebook (15.3), page (0.8)
F36.2	Twitter	twitter (15), account (0.83), tweet (0.76)
F36.3	Engagement	engag (6.68), share (3.32), convers (2.61), onlin (2.15), user (2.14), peopl (2.13), more (2.09), audienc (2.04), help (1.93), social (1.91), inform (1.87), network (1.81), don (1.66), creat (1.65), commun (1.6), follow (1.57), activ , (1.46), group (1.4), tool (1.37), keep (1.37),post (1.34), facebook (1.34), us (1.22), content, 1.21), comment, (1.17), presenc (1.16), photo (1.16), event (1.13), profession (1.11), provid (1.08), blog (1.08), on (1.05), connect (1.03), encourag (1.03), public (1.02), platform (1.02), twitter (1.01), new (0.99), allow (0.98), tweet (0.94), re (0.92), build (0.91), discuss (0.86), respond (0.86), learn (0.84), valu (0.83), organ (0.82), effect (0.82), fan (0.82), respect (0.81), channel (0.81), site (0.81), promot (0.8), page (0.8), person (0.77), particip (0.77), friend (0.77), linkedin (0.77), relev (0.76), student (0.76), not (0.75), best (0.75)
F36.4	Best Practices	practic (9.79), best (9.51)
F36.5	Content	content (12.9), share (1.54), creat (1.27), web (1.1), comment (0.93), manag (0.88), copyright (0.76)
F36.6	YouTube	youtub (12.8), channel (1.33), photo (1.16), video (0.9)
F36.7	Information Management	inform (9.15), confidenti (4.02), privaci (3.38), share (2.6), not (2.32), person (2.32), protect (1.73), proprietari (1.46), secur (1.27), technologi (1.21), public (1.13), engag (1.1), provid (1.04), student (0.98), employe (0.92), more (0.88), resourc (0.88), includ (0.86), maintain (0.85), contact (0.83), all (0.76)
F36.8	Posting	post (12.4), comment (0.98), don (0.76)
F36.9	Comments	comment (10.7), post (3.18), monitor (2.5), respond (2.24), question (1.64), content (1.52), delet (1.29), neg (1.2), remov (1.16), site (1.14), moder (1.11), spam (1.01), not (0.98), allow (0.78), appropri (0.78), manag (0.78), respons (0.75)
F36.10	Page & Group Administration	page (10.64), facebook (2.92), group (2.63), creat (2.48), fan (1.84), adminstr (1.68), offici (1.42), post (1.38), organ (1.31), profil (1.22), depart (1.01), set (0.9), engag (0.85), event (0.79), follow (0.76), inform (0.76), person (0.75), share (0.74)
F36.11	Support at Institution	commun (6.44), contact (4.24), question (3.95), market (3.84), offic (3.4), depart (2.68), relat (2.01), account (1.64), site (1.54), public (1.52), offici (1.45), web (1.41), media (1.4), manag (1.38), inform (1.23), adminstr (1.21), unit (0.94), appropri (0.93), not (0.87), approv (0.87), email (0.86), websit (0.78), staff (0.78)

F36.12	Institutional Users	student (10.11), staff (4.44), alumni (2.37), member (1.62), us (1.49), current (1.44), prospect (1.39), employe (1.30), conduct (1.19), code (1.09), follow (0.94), all (0.93), procedur (0.83), organ (0.8), confidenti (0.8)
F36.13	Account Management	creat (4.14), manag (1.32), offici (1.25), set (1.15), adminstr (1.01), resourc (0.88), page (0.79)
F36.14	Use of Platforms	us (12.01), person (1.38), resourc (1.07), brand (0.99), offici (0.9), logo (0.82)
F36.15	Respect	respect (12.13), properti (0.99), time (0.91)
F36.16	Blogs	blog (12.39), twitter (0.84)
F36.17	Copyright & Fair Use	copyright (10.16), materi (2.9), fair (2.1), law (1.87), us (1.53), respect (1.4), content (1.4), properti (1.31), intellectu (1.18), right (1.05), permis (1.01), post (0.97), includ (0.85), work (0.79)
F36.18	Personal Use	not (7.29), person (3.79), manag (2.04), content (1.92), view (1.89), includ (1.71), repres (1.68), offici (1.49), site (1.46), identifi (1.43), opinion (1.43), post (1.37), web (1.29), engag (1.27), all (1.26), individu (1.11), employe (1.11), us (1.1), activ (1.03), name (1.0), member (0.98), logo (0.98), relat (0.96), express (0.9), public (0.89), blog (0.85), help (0.83), profession (0.83), purpos (0.81), disclaim (0.81), page (0.8), more (0.77), work (0.76), endors (0.74)
F36.19	Social Networking	social (8.77), network (7.39), engag (1.75), site (1.01)
F36.20	Video, Audio & Photo Sharing	video (9.49), photo (4.02), share (2.73), youtub (1.93), engag (1.34), upload (1.2), channel (1.16), imag (1.15), event (1.08), post (0.91), flickr (0.87), user (0.85), includ (0.82), content (0.79), websit (0.75)
F36.21	Audience	audienc (10.57), target (1.69), reach (1.1), consid (0.95)
F36.22	Site Maintenance	site (9.96), resource (1.99), maintain (1.72), web (1.54), share (1.06), account (1), channel (0.99), offici (0.92), manag (0.91), monitor (0.9), adminstr (0.85), network (0.79)
F36.23	Institutional Identity	brand (4.82), imag (4.82), logo (3.87), profil (2.95), us (2.9), photo (2.29), creat (1.96), ident (1.82), web (1.46), manag (1.23), not (1.21), twitter (1.17), standard (1.17), don (1.01), share (0.84), presenc (0.84), pictur (0.84), visual (0.83), follow (0.82), market (0.81), avatar (0.76), graphic (0.76), guid (0.76)
F36.24	Followers	follow (10.14), tweet (1.37), question (1.36), creat (1.07), all (1.06), account (0.98), twitter (0.95), student (0.86)

F36.25	Time & Resource Management	time (8.09), resourc (3.26), manag (2.11), post (1.6), site (1.51), content (1.22), updat (1.2), dai (1.1), monitor (1.1), question (1.1), share (1.08), all (1.07), maintain (1.06), more (1), commun (1), staff (0.96), respond (0.93), account (0.93), week (0.92), twitter (0.86), offici (0.85), page (0.84), properti (0.84), adminstr (0.77), work (0.76), start (0.75)
F36.26	Official Institutional Presence	offici (7.27), channel (3.56), presenc (2.53), question (1.95), websit (1.79), all (1.78), account (1.56), don (1.44), resourc (1.4), page (1.28), manag (1.24), creat (1.16), maintain (1.12), brand (1.11), imag (1.08), web (1.05), depart (1.05), strategi (1.03), photo (1.02), content (0.96), repres (0.96), list (0.92), contact (0.79), procedur (0.78)
F36.27	Link	link (8.65), websit (2.82), web (2.4), includ (2), inform (1.23), sourc (1.12), more (1.12), tweet (1.08), resourc (1.06), post (0.89), provid (0.82), site (0.81), account (0.76), maintain (0.76)
F36.28	Privacy	privaci (9.95), inform (2.18), set (1.68), share (1.35), engag (1.2), question (0.95), protect (0.9)
F36.29	Naming Conventions	name (9.52), depart (2.56), twitter (1.27), us (1.14), unit (1.04), includ (1.01), program (0.97), exampl (0.97), account (0.95), indentifi (0.86)
F36.30	Digital Identity Management	person (8.26), profession (2.82), manag (2.53), not (1.41), ident (1.37), engag (1.27), resourc (1.22), staff (1.2), identifi (1.17), we (1.14), confidenti (1.08), onlin (1.08), brand (1.08), help (1.06), member (1.01), post (0.95), separ (0.92), repres (0.88), account (0.83), protect (0.81), keep (0.79), time (0.78)
F36.31	Terms of Service	term (7.86), servic (6.35), platform (1.64), condition (1.11), us (1.11), user (1)
F36.32	Strategy	strategi (6.55), goal (4.52), creat (2.12), commun (1.87), plan (1.79), presenc (1.62), help (1.57), develop (1.55), question (1.51), measur (1.46), maintain (1.17), consid (1.1), engag (1.06), success (1.04), object (1.03), set (1), start (0.95), resourc (0.94), tool (0.91), channel (0.9), contact (0.9), us (0.85), defin (0.79), unit (0.79), market (0.76), platform (0.76)
F36.33	Flickr	flickr (8.83), photo (4.25), share (1.93), youtub (0.92), video (0.84), facebook (0.82), twitter (0.77)
F36.34	LinkedIn	linkedin (9.71), group (2.06), creat (1.35), engag (0.84), profession (0.76), alumni (0.75)
F36.35	Responsibility	respons (9.8), monitor (1.27)
F36.36	Advice, Resources & Questions	don (6.8), resourc (3.03), question (2.7), engag (1.76), manag (1.56), start (1.43), know (1.43), commun (1.35), person (1.34), depart (1.29), web (1.26), student (1.08), contact (1.06), time (0.94), group (0.88), channel (0.81), help (0.8)

APPENDIX E

TOPICS BY REGION IN HIGH CLARITY USING A CHI-SQUARE TEST WITH A

DOCUMENT THRESHOLD OF 0.4

Topic High Clarity and Up By Region		Observed		Expected		
Topic Label	Topic	Non-US	US	Non-US	US	Total
Facebook	F36.1	25	89	27.351	86.649	114
Twitter	F36.2	30	82	26.871	85.129	112
Engagement	F36.3	11	36	11.276	35.724	47
Best Practices	F36.4	29	93	29.270	92.730	122
Content	F36.5	17	76	22.313	70.687	93
YouTube	F36.6	25	72	23.272	73.728	97
Information Management	F36.7	28	75	24.712	78.288	103
Posting	F36.8	18	75	22.313	70.687	93
Comments	F36.9	21	99	28.791	91.209	120
Page & Group Administration	F36.10	13	75	21.113	66.887	88
Support at Institution	F36.11	14	59	17.514	55.486	73
Institutional Users	F36.12	22	64	20.633	65.367	86
Account Management	F36.13	17	74	21.833	69.167	91
Use of Platforms	F36.14	22	54	18.234	57.766	76
Respect	F36.15	31	89	28.791	91.209	120
Blogs	F36.16	23	48	17.034	53.966	71
Copyright & Fair Use	F36.17	25	98	29.510	93.490	123
Personal Use	F36.18	10	35	10.796	34.204	45
Social Networking	F36.19	30	61	21.833	69.167	91
Video, Audio & Photo Sharing	F36.20	22	64	20.633	65.367	86
Audience	F36.21	28	83	26.631	84.369	111
Site Maintenance	F36.22	16	46	14.875	47.125	62
Use of Institutional Brand	F36.23	10	53	15.115	47.885	63
Followers	F36.24	19	67	20.633	65.367	86
Time & Resource Management	F36.25	16	65	19.434	61.566	81
Official Institutional Presence	F36.26	12	38	11.996	38.004	50
Link	F36.27	24	63	20.873	66.127	87
Privacy	F36.28	23	64	20.873	66.127	87
Naming Conventions	F36.29	19	61	19.194	60.806	80
Digital Identity Management	F36.30	20	54	17.754	56.246	74
Terms of Service	F36.31	19	61	19.194	60.806	80
Strategy	F36.32	20	50	16.794	53.206	70
Flickr	F36.33	16	43	14.155	44.845	59
LinkedIn	F36.34	17	44	14.635	46.365	61
Responsibility	F36.35	27	70	23.272	73.728	97
Advice, Resources & Questions	F36.36	13	39	12.476	39.524	52
				732	2319	3051

Calculation of the Chi-Square Test	
DESCRIPTION	VALUE
c^{2*}	29.878866
p-value	0.713618
Critical value	49.801849
a	0.05
df	35

APPENDIX F

TOPICS BY REGION IN VERY HIGH CLARITY USING A CHI-SQUARE TEST WITH A

DOCUMENT THRESHOLD OF 0.8

Topic Very High Clarity By Region		Observed			Expected		
Topic Label	Topic	Non-US	US		Coln 1	Coln 2	Total
Facebook	F36.1	21	68		22.372	66.628	89
Twitter	F36.2	20	61		20.361	60.639	81
Best Practices	F36.4	12	59		17.847	53.153	71
Content	F36.5	9	41		12.569	37.431	50
YouTube	F36.6	18	53		17.847	53.153	71
Posting	F36.8	12	43		13.825	41.175	55
Comments	F36.9	5	21		6.536	19.464	26
Institutional Users	F36.12	12	6		4.525	13.475	18
Account Management	F36.13	4	19		5.782	17.218	23
Use of Platforms	F36.14	13	21		8.547	25.453	34
Respect	F36.15	19	57		19.104	56.896	76
Blogs	F36.16	10	33		10.809	32.191	43
Copyright & Fair Use	F36.17	7	22		7.290	21.710	29
Social Networking	F36.19	6	14		5.027	14.973	20
Audience	F36.21	6	23		7.290	21.710	29
Site Maintenance	F36.22	5	8		3.268	9.732	13
Link	F36.27	7	15		5.530	16.470	22
Privacy	F36.28	5	18		5.782	17.218	23
Naming Conventions	F36.29	5	17		5.530	16.470	22
Flickr	F36.33	11	31		10.558	31.442	42
LinkedIn	F36.34	10	33		10.809	32.191	43
Responsibility	F36.35	12	19		7.793	23.207	31
					229	682	911

Calculation of the Chi-Square Test	
DESCRIPTION	VALUE
χ^2*	30.919727
p-value	0.075004
Critical value	32.670573
α	0.05
df	21

APPENDIX G

RECOMMENDATIONS FOR SOCIAL MEDIA GUIDELINE AND POLICY

DEVELOPMENT

RECOMMENDATIONS FOR SOCIAL MEDIA
GUIDELINE AND POLICY DEVELOPMENT

The social media guideline and policy document database, representing 250 post-secondary education (PSE) intuitions from 10 countries, offer recommendations for organizations that are interested in developing social media guidelines and/or policies. The following sections present the 36 topics groups by these nine categories:

(A) Individual User(s) and Use;
(B) Social Media Platforms: Where to Share;
(C) Content for Platforms: What to Share;
(D) Managing Social Media;
(E) Community Building;
(F) Planning for Effective Use;
(G) Legal Considerations;
(H) Identity and Brand Design; and
(I) Contact Information and Assistance.

For the purpose of these recommendations, the following terminology will be used to discuss recommendations for social media guideline and/or policy document development. The term "organizations" will be used interchangeably with PSE institutions and/or the specific department or unit who will be guiding social media use at the college or university. The term "social media administrator" and "community manager" will be used for those who direct the social media protocols and/or manage the account, community development, and use of social media platforms within the organization. Finally, the term "community users" or "users" will refer to the individual stakeholders using social media within the organization. This may include students, staff, faculty, and external participants who connect to the organization's social media channels.

A.   INDIVIDUAL USER (S) AND USE

This section defines how specific users from the PSE institution should be utilizing social media within the organization. Such examples of users include, but are not limited to, faculty, researchers, staff, current students, prospective students, alumni, and athletes. It is helpful to offer suggested guidance for users with regards to personal use, and digital identity management.

1.   INSTITUTIONAL USERS

1.1.   Encourage community managers and administrators to be responsible for building relationships and monitoring discussion on social media channels.
1.2.   It is recommended to have a full-time employee or faculty member be responsible for this account, even if a student worker is operating the site.
1.3.   Remind student populations (e.g. current undergraduate or graduate students) about expected student behavior on social media, including:

> i. Students' rights and responsibilities;
> ii. Institutional code of conduct;
> iii. Organization or leadership agreements for clubs and groups;
> iv. Privacy and freedom of information laws;
> v. IT or computer policies.

1.4. Include tips for working with prospective students using social media, including recruitment and community building.

1.5. Outline expectations for employee use of social media. This might include guidance in an employee handbook, within a communication policy or related to Human Resource contractual agreements. Ensure the employees are informed of rights and restrictions for social media use.

1.6. Provide faculty members guidance for effective use for teaching, research, and service scholarship. These guidelines or policies might also include interactions for engaging on social media with students.

1.7. Consider drafting guidelines for effective ways to use social media with alumni. This might include donors, advancement relations, and professional alumni networks.

1.8. For PSE institutions in the United States, be sure to connect National College Athletic Association (NCAA) regulations to your social media guidelines and/or policies for those who work in athletics or athletes.

1.9. Consider how social media will be used for external users of the organization. This might include small businesses, institutional partners, global community members, family/parents, financial contributors, etc.

Example from *Trinity College Dublin* for recommendation 1.2:

"Be aware that a presence in the Social Media world is or easily can be made available to the public at large. This includes prospective students, current students, current employers and colleagues, and peers. Consider this before publishing to ensure the post will not alienate, harm, or provoke any of these groups."

Example from *University of Essex* and *University of Cumbria* for recommendation 1.3:

"The University reserves the right to take any necessary steps to protect its facilities, staff and students from malware (malicious software) including blocking sites where this is an issue."

Example from *University of Washington* for recommendation 1.4:

"Accounts for College centers, departments and programs should be created and maintained by an employee or authorized representative of the College. Student workers may administer Social Media sites, but should be supervised by a faculty or staff member as in any other facet of student employment or service."

2.   PERSONAL USE

2.1.   Provide information for effective identity management. This might include the selection of a suitable image, profile information, and connection to other online social networks.

2.2.   Encourage organizational users to claim their identity and views as their own. This might refer users to a statement or disclaimer on a user's profile.

2.3.   Caution users about mixing personal and professional business online, specifically with information that will bring the organization into disrepute.

2.4.   Remind users to not associate organizational identity or institutional branding on personal sites.

2.5.   Encourage accurate information on social media. Avoid spreading gossip, rumors, and unverified information.

2.6.   Be courteous. If you would not say it in person do not say it online.

2.7.   State that harassment and bullying of other users is unacceptable. Any threatening, hateful, or libel postings will not be tolerated.

2.8.   Be personable and have a personality on your social media sites.

2.9.   Include any Human Resource policies or general institution expectations about employee's personal social media use related to professional role.

Example from *University of District of Columbia* for recommendation 2.4:

"The contents, including all opinions and views expressed, in my profile [or on my page, etc.] are entirely personal and do not necessarily represent the opinions or views of anyone else, including other employees in my department or at the University of the District of Columbia. My department and the University of the District of Columbia have not approved and are not responsible for the material contained in this profile [or on this page]."

Example from *Lethbridge College* for recommendation 2.4, 2.6, and 2.7:

"A common practice among individuals who write about the field in which they work is to include a disclaimer on their site, usually on their "About Me" page or in the footer. If you discuss higher education on your own Social Media site, we suggest you include a sentence similar to this: "The views expressed on this [blog, website, forum] are mine alone and do not necessarily reflect the views of Lethbridge College. "This is particularly important if you are a department head or administrator. Be aware that if you identify your affiliation with the Lethbridge College, readers will associate you with the college, even with a disclaimer that your views are your own."

Example from *Tufts University* for recommendation 2.9:

"Be personable and accessible, while keeping in mind all of the guidelines offered here. Having a personality and a voice will help you build your audience."

3. DIGITAL IDENTITY MANAGMENT

3.1. Delineate between expectations for personal/individual use of social media and institutional account management for the organization.

3.2. Try not to blend personal and institutional social media accounts as a caution for organizational reputation management.

3.3. Encourage users to build a "personal brand" that is professional and appropriate. Although the account not part of the official institutional presence, it still impacts the organization's reputation.

3.4. Remind employees to identify views as their own on personal accounts. Provide a statement or disclaimer on social media profiles.

3.5. Disclaimers still require appropriate representation of individuals on social media as it still can reflect on the organization. Be honest and respectful.

3.6. Tell users to protect identity and be safe online. Secure private information in public environments and be cautious of posting on social media.

3.7. Direct users to act in a professional manner on personal accounts. Social interactions online replicate relationships in person.

3.8. Remind users that publishing on social media is public and searchable.

Example from *Monash University* for recommendations 3.3 and 3.7:

"…there is no clear line between a staff member's or associate's work life and personal life. One should always be honest and respectful in both capacities. Finding the actual identity of a poster from a few posts and a screen name is not impossible. This creates an avenue for outside parties to link personal writings to those a person has done in a professional capacity. Staff members and associates should always write keeping in mind that other people may know their identify and it is not anonymous. They should never write anything that they would not say openly to all parties involved."

Example from *Western Washington University* for recommendation 3.5:

"Don't publish content containing slurs, personal insults or attacks, profanity or obscenity, and don't engage in any conduct on a Social Media site that would not be acceptable in Western workplaces or classrooms. Know that whenever you identify yourself as a member of the WWU community, you may be seen as representing WWU, whether you like it or not."

Example from *Oberlin College* for recommendation 3.6:

"Social interactions on the web are akin to social interactions in person. Even if you're not sitting face-to-face and conversing, there is a person sitting on the opposite side of your words, and context, tone, and jokes are easily overlooked when projected online. Consider your online relationships to be a supplement to your in-person relationships, and don't hesitate to take a conversation offline."

B. SOCIAL MEDIA PLATFORMS: WHERE TO SHARE

The types of social media platforms mentioned among the guideline and policy documents include Facebook, Twitter, blogs, YouTube, Flickr, and LinkedIn. Although these specific platforms were mentioned, it should be noted that other platforms[***] were discussed and could be included in social media guidelines and policies.

4.   FACEBOOK

4.1.   Define and describe the social networking platform, Facebook, specifically how and why it can be utilized within the organization.

4.2.   Share best practices for using Facebook, such as tips for posting, how to develop a dynamic page, how to share across platforms (or avoid this), create ideas for linking content, identify photos to showcase, establish a comment policy, and determine ways to connect to your audience(s).

4.3.   Identify how to use Facebook help, support, and customer service.

4.4.   Distinguish the attributes of Facebook and its applications, specifically Facebook profile, groups, fan pages, and applications.

4.5.   Consider how you will administer and monitor Facebook with regards to impressions, views, likes, shares, posts, and comments. Utilize the Facebook Insights to analyze metrics to evaluate interaction statistics.

4.6.   Detail considerations for Facebook, specifically privacy settings and terms of service, related to the institution's codes of conduct, students' rights and responsibilities, and/or organizational policies.

4.7.   Remind users about identity development on Facebook. Consider the profile and timeline cover photo, style, and design.

4.8.   Think about your Facebook page with regards to presence and community building community. Consider how you will promote and get subscribers to "like" your Facebook page.

5.   TWITTER

5.1.   Describe Twitter, specifically what the platform does, how to use it, and a glossary of terms, acronyms, and symbols related to tweeting.

5.2.   Detail how to set up and use a Twitter account, specifically account creation, profile design, avatar, headers, background, and profile bio.

5.3.   Identify how to optimize and engage followers on Twitter, by utilizing search, promotions/advertising, organization (e.g. lists), and analytics.

5.4.   List suggestions for how to use Twitter for Business and related strategies.

5.5.   Share key protocols, rules and etiquette for communicating with Twitter. These should help users get started with the platform.

[***] Other types of social media platforms should also be considered when drafting a social media guideline or policy document, as they were mentioned in the 24,243 atomic documents within the database: Tumblr, Pintrest, Instagram, Vimeo, WordPress, Blogger, Foursquare, Google+ MySpace, Storify, Digg, Reddit, Vine, Yammer, and Bebo. This list might not be exhausted and could easily be added to depending on the social media platform that is relative to the organizational needs and interests.

5.6. Advise what to post online, and suggest tips for tweeting effectively.

5.7. Identify Twitter's terms of service, and any legal, privacy, or policy information for personal and organization use.

5.8. Provide general support and help for using Twitter, specifically best practices, informational guides, strategies and the Twitter Blog.

5.9. Identify key third party applications (e.g. TwitPic) and dashboard tools (e.g. TweetDeck) to monitor and communicate with followers.

5.10. Suggest hashtags used at the institution and Twitter accounts from the organization to follow, if applicable.

6.   BLOGS

6.1. Describe and define a blog and what blogging is, specifically with regards to sharing interesting topics and encouraging conversation.

6.2. Detail the different types of blogs (e.g. microblogging, chronological, video blogs) and specific blog platforms (e.g. WordPress, Blogger, or YouTube).

6.3. Determine suitable content for blogging within, specifically contemporary issues or content themes for target audience(s).

6.4. Suggest methods and strategies for creating blog posts, researching content, providing education, and showcasing services.

6.5. Offer instructions, training, and tips on how to learn more about blogging. This might include local blogging networks, relevant articles, and helpful resources for users who blog.

6.6. Outline the differences between personal blogs and official institutional blogs. Detail expectations and best practices for both.

6.7. Include helpful resources for teaching and learning, specifically for faculty or instructors who want to use blogs in their curriculum.

6.8. Encourage individual users to utilize a disclaimer for personal content indicating that their views do not reflect that of the institution.

6.9. Identify who is responsible for editing the blog and/or authoring posts. Be sure to post initials or names of authors. Transparency encourages readers to follow and connect to the blog.

Example from the *University of Texas* for recommendations 6.8 and 6.9:

"…make sure you clearly identify yourself and your affiliation with the university. Being open about your ties to the university will illustrate credibility and transparency. Make sure you have a formal disclosure that identifies your comments as your unique viewpoints. For instance: "The posts on this site are my own and don't necessarily represent The University of Texas at Austin's academic goals or opinions.""

7.   YOUTUBE

7.1.   Define and outline what YouTube is, how this platform is a widely utilized, and searched resources, and the purpose of how the organization uses it.

7.2.   Include details about YouTube channels, video blogs, subscriptions, common terminology, and terms of service.

7.3.   Provide general directions for uploading to and editing content on YouTube. To ensure high standards and quality, this might include specific video requirements such as branding or local support at the institution for video projects.

7.4.   Establish community standards for using YouTube as a channel or blog within the organization. Specifically offer recommendations and tips for how individuals can subscribe, submit content, or best represent the organization on this platform.

7.5.   Optimize content uploaded to a YouTube channel by sharing this content across different social media channels.

7.6.   To encourage search engine optimization (SEO) include key terms, tags, access (closed-captioning) and update video content regularly.

7.7.   Identify metrics (e.g. views, comments, etc.) for evaluation to understand use and sustainability of this platform.

8.   FLICKR

8.1.   Define and describe Flickr, the photo-sharing platform, specifically how it is used and why to create an institutional account.

8.2.   Detail types of Flickr accounts (free vs. pro), permissions, settings, and organization of photos.

8.3.   Flickr is a useful hosting website for a number of photos rather than storing them on an organizational server. This allows images to be shared and viewed by the organization internal and external audiences.

8.4.   Identify standards for your organization inline with Flickr Community Guidelines. Include suggested practices and tips for the organization.

8.5.   Optimize content for search by using appropriate photo sharing permissions, tagging photos, embedding images to websites, and cross-posting visual content to other social media sites at the institution.

8.6.   Use Flickr to search for photos with appropriate sharing permissions and copyright for social media content if you are not using own photos.

8.7.   Take photos frequently and post the photos to Flickr often. Capture images of places, events, and people from the institution.

8.8.   Organize photos on Flickr into albums, sets and slideshows for viewing.

8.9.   Consider developing groups and encouraging others in your community to share photos on this platform.

Example from *Colorado State University* for recommendation 8.2:

"If your CSU organization or department has photos that you want to host online to share, Flickr can be a great host website for those photos. You can link photos from your Flickr albums to other websites that may not have server space for all of your photo uploads. Upload, share and organize your photos and browse the billions of photos other Flickr users have uploaded."

Example from *Brown University* for recommendations 8.4 and 8.5:

"Once photos are in a set, you may embed them in a website or display them as a slideshow. You may also share photos and sets on Facebook, Twitter, Tumblr, and Blogger, and other sites straight from the Flickr website. There are multiple privacy levels for Flickr sets and photos: you may make them private, accessible only to certain contacts, or public."

9.   LINKEDIN

9.1.   Describe LinkedIn and how it is used for social and professional networking, specifically by connecting to profiles, groups, and discussions.

9.2.   Outline how to create an individual account, set up an organizational group, and develop discussions for participation on the platform.

9.3.   Share information about institutional branding and visual identify guidelines for badges connected to LinkedIn user agreements.

9.4.   Provide general networking tips and strategies for using the LinkedIn.

9.5.   Describe roles and responsibility of the LinkedIn Manager or moderator for groups. This might include listing appropriate discussions and acceptable content for the platform, or responding to posts and questions.

9.6.   Define your alumni management plan for maintaining involvement and participation from your institution's alumni network.

Example from *Seattle University* for recommendation 9.5:

"It will be the LinkedIn Manager's responsibility to take on the role of moderator or owner, or delegate this responsibility to a person of their choice. The Manager should respond to questions and requests posted to the group."

C. CONTENT FOR PLATFORMS: WHAT TO SHARE

This section details the subject matter for what to share on social media sites, including content, comments, posting, and links.

10.   COMMENTS

10.1.   Create a comment policy to guide the organization. Allow users to ask questions and be informed about these protocols.

10.2.   Encourage value-added, relevant discussions through comments. Social media is not social without interactions.

10.3. Reduce anonymity when commenting. When representing the institution on social media channels, have a sign off of name or initials when commenting or responding to comments.

10.4. Post a disclaimer on social media platforms stating that all comments do not necessarily represent the organization.

10.5. Encourage users to be respectful when commenting.

10.6. Publish the organization's take down methods for unsuitable comments.

10.7. Direct users to the appropriate contact at the organization should there be inappropriate content or spam in a comment.

10.8. For comments, control is limited for open, social media platforms; however it builds community and credibility for the channel. Comments indicate interaction and conversation among community users.

10.9. In responding to comments, it is recommended to create a community manager flowchart and/or suggestions for appropriate responses. It is a good idea to track and record comments.

10.10. Keep in mind comments on social media channels can be forwarded, copied and shared. Be mindful of responses on behalf of the institution.

10.11. When monitoring comments among community users, be prepared to accept, moderate, and respond on a regular basis. Listen, then respond.

10.12. There is little censorship of comments. Consider how you will manage negative comments of feedback to posts.

10.13. Outline how to effectively manage spam, flaming, abusive, and inappropriate or hate language, personal attacks, and off-topic comments.

10.14. Establish guidelines for disabling or removing community users, product advertising, or phishing on social media channels.

10.15. Respond to comments in a timely fashion.

10.16. Ensure community managers are reading and replying with clean and constructive comments. Ask follow up questions if the comment is unclear.

10.17. Keep a respectful tone when replying or responding to comments.

10.18. Measure comment interactions. Track comments on the posts. Use specific metrics to identify time of year, relevance of topic or other.

Example from *Northeastern State University* for recommendations 10.2 and 10.6:

> *"A Social Media and networking site without comments isn't very social. Be prepared to accept and respond to comments. To protect your site, moderate all comments before posting. Understand that not all comments will be positive, and respond to negative comments professionally and by providing any additional information that may help resolve the issue. It may be helpful to post a disclaimer on your site stating you reserve the right to remove inappropriate comments. It is good practice to remove those comments containing vulgar language, those that attack any one group or individual and those that are obviously spam.*

Example from *Hamline University* for recommendations 10.8 and 10.14:

"Most people who maintain Social Media sites welcome comments -- it builds credibility and community. However, you may be able to set your site so that you can review and approve comments before they appear. This allows you to respond in a timely way to comments. It also allows you to delete spam comments and to block any individuals who repeatedly post offensive or frivolous comments."

Example from *Cardinal Stritch University* for recommendations 10.12, 10.13, and 10.14:

"Even the negative ones. A good philosophy for comments is to encourage thoughtful discussion; debate and differing viewpoints, with the understanding that all comments made must be civil, respectful, and appropriate for your audience. If comments are lewd, libelous, incite violence or are otherwise hurtful or hateful speech directed at either individuals or groups, Stritch employees who serve as account administrators reserve the right to delete such comments."

Example from *University of Edinburgh* for recommendation 10.17:

"Keep a record of comments (whether received or posted by you) so that they can be noted for relevant metrics and learned from. Some comments may also help highlight particular strengths, weaknesses or opportunities for your project, research service, or area of work."

11.   CONTENT

11.1.   Plan and brainstorm useful, interesting, and relevant content. Ensure content topics have purpose and value for the community users.

11.2.   When authoring content, develop different types related to the institution.

11.3.   Create rich content, which includes text, images, video, and/or audio. Ensure it is the appropriate length, easy to understand, and high quality.

11.4.   Consider where to gather content. Include content from other units within the organization, a planning group, and/or user-generated content.

11.5.   Identify distribution methods for content. Be sure to vary delivery methods to balance where (platform specific) and when (frequency/schedule) content will be shared.

11.6.   Outline expectations for attribution of content. Use Share and ShareAlike materials. Remind community managers about legal use, ethics, creative commons, licenses to share, and copyright laws for content. Also identify if any social media platforms or 3rd party applications specify the ownership of the copyright when posting.

11.7.   Organize the management of content on social media sites.

11.8.   Delete and remove content as needed, and identify a procedure for archiving outdated materials. Effective monitoring of content will help optimize posted items. Provide disclaimers about user-generated content, with regards to privacy, profanity, racism, sexism or other derogatory.

11.9. Identify content author(s) who are designated to provide resources, organize user-driven content, and draft materials for different platforms.

11.10. Develop a guide for content authors that include standards for appropriate content.

Example from *Harvard University* for recommendation 11.6:

> *"Unless you specify otherwise, any and all works of authorship copyrightable by you and posted by you to any blog ("Content") are submitted under the terms of an Attribution-ShareAlike Creative Commons Public License. Under this license, you permit anyone to copy, distribute, display and perform your Content, royalty-free, on the condition that they credit your authorship each time they do so. You also permit others to distribute derivative works of your Content, but only if they do so under the same Attribution-ShareAlike license that governs your original Content."*

Example from *Washington and Lee University* for recommendation 11.7:

> "The Internet is forever. Once content is posted, it may be redistributed through the Web or other media channels, and older versions or information may continue to exist even if the content is deleted or modified."

12. VIDEO, AUDIO, AND PHOTO SHARING

12.1. Provide consistent format requirements for your video, photo and audio files.

12.2. Use title, tags, and effective naming information to optimize video, audio, and photos for search.

12.3. Posting multi-media with text helps to break up and chunk information on social media channels.

12.4. For video, it is recommended to produce high quality, high resolution captures of the appropriate length (3 minutes or less), with an introduction, institutional brand identity, and credits.

12.5. Social media channels that publish video, photos and audio often include these social features for interactions:
   i. Impressions, likes, views, or comments;
   ii. The ability to share with the community and users;
   iii. Media editing options after uploading the media;
   iv. Curation and organization of media into groups, sets, albums, or playlists;

12.6. Suggested video, audio, and photos sharing sites include (but are not limited to) YouTube, Flickr, Vimeo, Pintrest, Vine, Tumblr, Instagram, Facebook, Twitter, and iTunes.

12.7. Identify strategies for including images of users from the institution. Include information about privacy, legal releases, and permission for using images, photos, or video being shared by users on channels.

12.8.   Consider building resources for video, audio, and photo use for the organization. For example, this could include events, commercials, promotions, or teasers.

Example from *Red River College* for recommendation 12.4:

"When possible, use images and videos to accompany your blog post. They help to break up the flow of text and provide visual interest."

Example from *University of New Hampshire* for recommendation 12.6:

"Tweets are limited to 140 characters and should include links, pictures, videos, and/or #hashtags."

Example from *Our Lady of the Lake University* for recommendation 12.6:

"When using images of people, there are several important factors to remember. Prior permission should be obtained from individuals who are identifiable in photos."

13.   POSTING

13.1.   Think before you post. Be sure to post accurate and appropriate information on social media sites.
13.2.   If using content from others in a post, ensure that permission for images or videos are obtained prior to posting.
13.3.   When posting on official institutional sites, be sure the post is appropriate for the channel, has a suitable tone, and is respectful.
13.4.   Identify key items to post for the platform. Ensure the post is quality and adds value, while also being interesting, entertaining, and/or encourages interactions.
13.5.   Develop warnings for institutional social media channels. Include cautionary advice for posting on behalf of the organization and be wary of schemes or spam.
13.6.   Follow protocols and requirements, including tone or type, when posting.
13.7.   If mistakes occur, be sure to update the post with corrections in the comments rather than deleting the original post.
13.8.   Remove inappropriate content others post as necessary, i.e. discrimination, obscene, defamatory, harassing or bullying, etc.
13.9.   Ensure users are following the student code of conduct or institutional policies that govern the organization
13.10.   When posting on the behalf of the organization, ensure the content is factual and free from spelling or grammatical errors.
13.11.   Use an RSS feed or channel aggregation of postings to read, review, and cross-post to other streams within the organization.

13.12.   Be purposeful when posting. Do not re-post with out relevance. Always consider community engagement and audience interests.

13.13.   Different types of posts are purposeful for specific social media sites. Consider the platform requirements and strategies when posting content.

13.14.   Outline types of post available for social media sites. Provide examples that include text, embedding a link with preview image, posting a video or photo, sharing an event milestone, or distributing posts and pictures.

13.15.   Develop content suitable for posts to increase optimization and views. For example, images with text attract audiences on Facebook and Twitter.

13.16.   Consider writing style, length, logos, and identity when posting.

13.17.   Explain how posting is related to a content planning calendar.

13.18.   Recommend a standard frequency for when you will post to the channels. This will depend on the platform and how your community utilizes the social media channel. For example, Facebook posts will be 1-3 posts/day, whereas Twitter might allow for 1 post every couple of hours each day.

13.19.   For individual users from within the organization, it is recommended to untag personal posts that show misrepresent yourself or the organization. Content is rarely truly private, and all posts are easily found online.

Example from *University of Toronto Mississauga* for recommendation 13.3:

"The keys to success in Social Media are being honest about who you are, being thoughtful before you post, and respecting the purpose of the community where you are posting."

Example from *Gettysburg College* for recommendation 13.7:

"If you make a mistake, admit it. Be upfront and be quick with your correction. If you're posting to a blog, you may choose to modify an earlier post-just make it clear that you have done so."

Example from *Marquette University* for recommendation 13.8:

"However, Marquette reserves the right to remove any posts on our page that are obscene, defamatory or harassing. In the rare event that a post needs to be removed, the community manager may follow up privately with the individual to notify him or her why the post was removed."

Example from *Colorado State University* for recommendation 13.15:

"Posts with images are 82% more likely to be clicked than text-only post."

Example from *College of William and Mary* for recommendation 13.18:

"Ultimately "how often" boils down to how much information you have to share and the medium on which you're sharing it. Twitter is better suited to brief "at the moment" posts, and more frequent posting is the norm. Facebook uses more carefully crafted posts that have a bit more longevity. As a very general baseline, try to post 2-4 times a week on Facebook, and once or twice a day on Twitter, but keep in mind your ideal number of posts may vary. If you are covering a weekend event, perhaps posting once or twice a day on Facebook makes sense, or if it's the summer and you know most of your audience is likely to be away from Social Media, don't fret about posting so often."

14. LINK

14.1. Provide links in your social media posts. These links provide more information with only a few words.

14.2. Include related links to organizational website or interesting links from organizational channels.

14.3. Create rules or protocols for linking information to institutional accounts.

14.4. Utilize short URL links with 3rd party applications when linking. E.g. Bit.ly

14.5. Consider SEO for linking and site authority.

14.6. Encourage others to link to institutional websites and social media sites by including share buttons at the bottom of web pages.

14.7. Always cite your sources and give credit when sharing links.

14.8. Be safe when linking. Use caution with uncertain or unsafe links.

Example from *University of Idaho* for recommendation 14.1:
"Use links to direct followers to images or articles that playoff your tweets and allow for maximum exposure from just a few words."

Example from *University of Kansas* for recommendations 14.2 and 14.4:

"Include links. Drive followers to your website from tweets. Inbound links also improve your ranking with search engines. Note: link only to HTML webpages unless absolutely necessary. If you must link to a PDF or other non-HTLM document, use a document-sharing service like Scribd or SlideShare."

Example from *University of Kansas* for recommendation 14.7:

"Posting Share buttons on a University Web site: A "Share Link" is a button and/or a text link appearing on a web page that, upon being clicked by a user, enables the launch of a sharing mechanism through which users can share with others or post to their own member profile, links and content from that page. Use of such links is permissible and users should consult with their Web site administrator for details."

D.   MANAGING SOCIAL MEDIA

This section details recommendations for how to organize and manage social media sites, with regards to page and group administration, account management, site maintenance, and use of the platforms, and responsibility.

15.   PAGE AND GROUP ADMINISTRATION

15.1.   Outline differences between social media platforms, specifically groups, pages, and other functions. For example, compare Facebook Fan Pages vs. Facebook Groups, or discuss how these Facebook relates to Twitter, Pintrest, Google+, or YouTube.

15.2.   Discuss the differences between personal profiles and institutional social media pages. Explain the benefits and challenges of each approach.

15.3.   Describe how to set up, develop, name, and customize a page, group, or profile. Consider images, design, and e-mail for each account.

15.4.   Give an overview of using of Facebook Fan Pages. Include information specific to page managers, administrative rights, and recommendations to assign at least two administrators for the page.

15.5.   Introduce Facebook Insights as a metrics to analyze interactions and community member involvement for the Facebook Fan Page.

15.6.   Discuss ways to participate with the community. Suggest ways to target content, promote pages, build an audience, and give meaning to the Facebook Fan Page and similar platform pages.

16.   ACCOUNT MANAGEMENT

16.1.   Explain how it is important to be responsible and accountable for planning, organizing, and managing social media platform(s).

16.2.   Encourage organizational users to gain experience with the social media platforms personally before utilizing it for official institutional use.

16.3.   Consider the life cycle of a social media account. Establish protocols for creating, modifying, and deleting an account. This might include a name change or modifying the purpose of use.

16.4.   Outline review and evaluation procedures for social media accounts.

16.5.   Identify who will be the account administrator(s), and the types of permissions, access, and user rights for community managers.

16.6.   Determine protocols for security updates, such as passwords, privacy settings, and approval permissions needed to manage account(s).

16.7.   Explain the process of getting approval to create and set up an official institutional account. This may be a centralized or local requirement.

16.8. Define the role and expectations of your community manager(s) and/or account administrator(s). It is recommended to include this information in a job description of at least one full-time employee who will have complete access to the account. For example, student leaders in campus organizations may be required to provide full account management details to a full-time employee at the institution.

16.9. Create a social media directory to list all social media channels being used by the institution. This allows other units to find their audience and connect all the channels across the organization.

16.10. Include resources for measuring and analyzing use on social media platforms. This might occur with each individual account or by assessing the collective social media channels at the organization.

16.11. Utilize dashboards to manage accounts efficiently. Examples of dashboards include, but not limited to, Hootsuite, TweetDeck, or Buffer.

Example from *Colorado State University* for recommendation 16.5:

"Each officially-recognized Social Media account will be required to include a disclaimer declaring it an official Colorado State University Social Media account and include a link to CSU's Social Media policy."

17.   USE OF PLATFORMS

17.1. Offer a rationale for why a specific social media platform is used by the institution. Detail how platforms connect to one another and users.

17.2. Outline methods and best practices for successfully using certain platforms within the organization, such as Facebook, YouTube, Twitter, Google Plus Hangouts, Flickr, Instagram, Foursquare, or hashtags.

17.3. Encourage using visual content on platforms, such as photos and videos, to engage users.

17.4. When reviewing social media platform use, identify specific channels to explain why they are appropriate for professional or personal use.

17.5. Describe what "official or institutional use" of social media should look like for the organization. For PSE institutions, outline classroom/teaching use, computer policy use, research/student use, alumni use, and business use.

17.6. Provide specific policies about the platform use for the institution, such as:
    i. Acceptable use policy;
    ii. Copyright and fair use;
    iii. Commercial use and endorsements limitations;
    iv. Logos, marks, branding, and visual identity;
    v. Naming conventions and disclaimers;
    vi. Terms of service.

18.   SITE MAINTENANCE

18.1. Identify platform specific recommendations for effective site maintenance.

18.2. Suggest resources, such as staffing and time, for site maintenance.

18.3.   Outline protocols and/or guiding steps for creating and administrating a site for the organization.

18.4.   Identify of at least one (1) site administrator for community management of the institution's social media channel(s).

18.5.   Remind community managers to monitor site activity and interactions on a regular basis.

18.6.   Ensure authorization of sites for official institutional use. Review the platforms set up and interactions to ensure this channel adheres to the organization's expectations.

18.7.   Register and maintain the site for the organization by submitting the channel information to list on the central social media directory.

18.8.   Identify technical security, permissions, and privacy for social media sites.

18.9.   Consider the impact of SEO, which includes links, aggregation of channels, site authority/permissions, and methods for boosting site traffic.

18.10.   Read and share relevant posts from across the organization the channel.

18.11.   Use advertising and promotion effectively on the site.

18.12.   Be active with the site – post, comment, reply, and engage audience.

18.13.   Review external links and posts made by community users and among the organizational team who maintains the site.

18.14.   Evaluate site traffic and use.

18.15.   Understand and obey the platforms' terms of service.

18.16.   Update brand identity and visual appearance of the site base on institutional requirements.

18.17.   State who is managing the site. Outline the goals and purpose of the social media site on behalf of the institution.

Example from *Brock University* and *Florida International University* for recommendation 18.17:

> *"If you participate in or maintain a Social Media site on behalf of the university, clearly state your role and goals."*

19.   RESPONSIBILITY

19.1.   Be responsible, vigilant, and responsive to users. There is an expectation responses will be made on social media channels in a timely fashion.

19.2.   Ensure accountability for monitoring and posting content to social media.

19.3.   Define clear responsibilities for social media administrators and/or community managers assigned to the account.

19.4.   Designate an administrator that is a full-time employee, who will comply with written rules, and be the primary manager to access the account.

19.5.   Outline effective strategies for responding to users, monitoring accounts, and moderating interactions online.

19.6.   Identify what respectful communication and personal responsibility is for the organization and its community users.

19.7.   Connect the rights and responsibilities to engagement strategies for institutional social media channels.

Example from *Purdue University* for recommendation 19.4:

"Identify the person(s) who will have primary responsibility for maintaining and monitoring the site. Discuss how much monitoring will be needed for each Social Media presence. Sharing the responsibility across a group is beneficial. Create a shared email address, username and password so the account is not tied to a specific individual."

E.   COMMUNITY BUILDING

This section provides details on how to develop and build community on social media. By engaging your followers and targeting your audience, these guidelines and policies will help direct your social media use to involve users at the institution.

20.   SOCIAL NETWORKING

20.1.   Define social networking and how various social media platforms contribute to online connections.
20.2.   Describe the relevant social networking sites used by the institution and its community users. Identify specific social media channels and suggest how these sites are utilized for personal and professional networking.
20.3.   Advise how users can build a social networking profile, create an online presence, and select the appropriate social media platforms.
20.4.   Provide general tips on how to network online. Specifically include suggestions on being present, raising awareness, linking to content, being a social, actively participating, connecting with other users, and being relevant within the institutional social network.
20.5.   Outline how to be safe when networking online. The institution may monitor and listen to all community users social network.
20.6.   Share the benefits of social networking for the organization, which includes social news aggregation, campus information sharing, professional development, collaboration, and communication.

21.   ENGAGEMENT

21.1.   Describe how to engage others and build an audience.
21.2.   Be an active user. Keep the social media channel fresh with frequently scheduled posts. Update your account often.
21.3.   Encourage different ways to facilitate conversations. Tell stories, share photos, respond to inquiries, and build awareness.
21.4.   Cultivate interactions with likes, shares, comments, views and questions.
21.5.   Listen to conversations within the community and on your sites.
21.6.   Answer questions. Respond directly to the user, and identity the author who is replying.

21.7. Practice sharing user-generated content from community users.
21.8. Encourage two-way conversations. Social media channels are not a billboard or megaphone. Don't just promote from your account, have a conversation. Ask questions. Prompt discussion.
21.9. Increase engagement levels – not just followers.
21.10. Utilize monitoring tools to track community user participation. Measure interactions and engagement.
21.11. Consider effective management of online and offline communities. Determine a plan to develop a sense of community in both arenas.
21.12. Pose questions, create discussion prompts, or run polls instead of straight links to information.
21.13. Consider multiple modalities and mediums to engage the audience.
21.14. Think about the tone and style of posts.
21.15. Vary the types of messages and content on the social media channel.
21.16. Use quality and timely content that is relevant and informative.
21.17. Collaborate with other departments or units from the institution. Organize how to cross-post and share information.
21.18. Use integrated marketing tactics to drive followers to posts and content.
21.19. Connect communication goals and strategies for planned interactions.
21.20. Partner and expand the networks across the institution through promotions, contests, interactions, and responses.

Example from *Lethbridge College* for recommendations 21.2, 21.4, and 21.8:

"An engaging Social Media site needs to be updated regularly. Make sure you are giving new content, listening to the conversations on your site and contributing to the dialogue -- this is the best way to make sure you're encouraging two-way conversation instead of just reacting to it. Post a variety of relevant and engaging content like articles, links, photos, videos and events."

Example from *University of Texas Health Science Center at San Antonio* for recommendations 21.2 and 21.6:

"People will be more likely to follow and participate if you engage them first. People walk away from one-way conversations quickly and your users want to communicate with you. At times they will try to reach you first through Social Media so be sure to be there for that; even a late reply is better than none at all."

Example from *Virginia Tech* for recommendations 21.7, 21.8, and 21.18:

"Keep in mind that the value of social networking is the community of users you bring together and the contributions they make. Ask questions to engage audiences and cultivate interaction among followers. Post at least daily and utilize integrated marketing tactics to drive followers to your posts."

22.   FOLLOWERS

22.1.   Define followers. Establish who this group is, what they are about, and how to attract or increase followers. Be proactive.
22.2.   Encourage others to follow. Promote: "Follow us."
22.3.   Listening and interacting with followers will engage followers.
22.4.   Understand why individuals follow your institutional social media account.
22.5.   Follow other institutional accounts and channels. This might provide useful information to share to with community users.
22.6.   Consider the value of your followers. Followers should be a primary part of the conversation. Measure the interactions of followers on channels.

Example from *University of Puget Sound* for recommendations 22.2 and 22.3:

""Listening" to the communications on your Social Media accounts (and others') is a key part of being successful in such a venture. Of course it is imperative to pay attention to and respond to posts from your fans and followers, but it is also important to follow other accounts (related to Puget Sound, higher education, your specific niche, etc.) that may post content of use and interest to your followers so you can share that information. This additional content adds value for your followers."

Example from *Seattle University* for recommendation 22.6:

"The majority of your tweets should be replies to others (55%), followed by your own updates (40%), retweets (4%), and posing questions to your audience (1%)."

23.   AUDIENCE

23.1.   Define your audience. Who makes up the audience population? Why do they follow your social media channels? Describe this demographic.
23.2.   Research where potential audiences might be. Listen to the conversation. This might include searching current social media channels, hashtags, or content on the institution on websites and social media sites.
23.3.   Get to know your audience. What are they interested in? Target and direct postings accordingly.
23.4.   Be respectful of your audience. Be aware and consider the relevance of content, tone, etc. Set up protocols for account managers.
23.5.   Understand the types of interactions to target and engage the audience.
23.6.   Provide platform recommendations and different uses within a platform, e.g. internal audiences to have a Facebook Group Page vs. external audiences should use a Facebook Fan Page.
23.7.   Plan methods to reach and grow audience participation.
23.8.   Establish goals for building community and how to evaluate reach.

23.9.   Determine audience population demographics: current students, alumni, prospective students, faculty members, parents, employees, etc.

23.10.   Ask these questions when reviewing audience stakeholders on social media:
   i.   Where are they located? Platform or channel specific.
   ii.   Why are you posting? Feedback and target audience.
   iii.   What are you posting? Content or buckets of topics to engage.
   iv.   How will you get feedback from the audience? Measure and evaluate strategies.

Example from *Northeastern University* for recommendation 23.2:

"Before using a hashtag (#), search for it on that Social Media platform to make sure it is not already in use, particularly for a topic that would be inappropriate to share with your audience."

Example from *University of Ontario Institute of Technology* for recommendation 23.2:

"Do take the time to listen to the unfiltered voices of your audience who are engaged in digital conversations about your area before you jump into the fray."

Example from *Washington and Lee University* for recommendations 23.5, 23.7, and 23.8:

"Consider the audiences you are hoping to reach and the kind of information that they would most like to have from the University. Recognize that the consumers of Social Media are accustomed to significant interaction. Sites that are dormant ought to be reevaluated. You should have a clear plan for keeping the site fresh and up to date."

24.   RESPECT

24.1.   Be respectful on social media sites. Encourage appropriate behavior and proper etiquette online.

24.2.   Be thoughtful and conversationally informal.

24.3.   Ensure a certain level of professionalism and civility in online discussions. Be respectful when viewpoints differ.

24.4.   Maintain privacy and confidentiality of individuals (both self and community users) when interacting with users.

24.5.   Respect copyright and fair use laws when posting on social media.

24.6.   Determine the appropriate level of ethics and respect for the use of institution time and property.

Example from *DePaul University* for recommendation 24.3:

"You are more likely to achieve your goals or sway others to your beliefs if you are constructive and respectful while discussing a bad experience or disagreeing with a concept or person."

F.   PLANNING FOR EFFECTIVE USE OF SOCIAL MEDIA

This section identifies most effective uses and directions for optimizing social media within the institution. By identifying effective ways to use social media, organizations are able to outline best practices, time and resource management tips, and strategy for planning and implementation.

25.   BEST PRACTICES

25.1.   Outline what social media platforms are used by the institution. This might include recommendations for implementation, account management, and content idea development.

25.2.   Identify what a successful presence is like and standards of use through examples on an established institution social media directory.

25.3.   Always give credit and attribution for authored content and information being shared on social media sites.

25.4.   Design a set safe practices for using social media within the institution. These examples help other units identify the appropriate platforms to use.

25.5.   Plan engagement when looking at social media platforms.

25.6.   Practice the 80-20 rule to interact and reach the target audience.

25.7.   Provide clear expectations for personal and professional use of social media that are both internal and external to the organization.

25.8.   List the security and privacy considerations for social media platforms.

25.9.   Encourage community members to explore social media sites before implementing and using platforms for official institutional purposes.

25.10.   Support collaboration, participation, and experimentation. This includes conversations, on-going training, workshops, or opportunities to learn more about social media with other from the organization.

25.11.   Publish procedures or a code of practice for institution social media sites.

Example from the *University of British Columbia* for recommendations 25.10 and 25.11:

"Governed by principles of open collaboration, active participation, and iterative experimentation, the UBC Social Media Handbook is intended to provide an overarching view of Social Media at UBC, and covers a broad range of subject matter such as general guidelines of use, relevant university policies, best practices and tips, and links to online resources."

26.   TIME AND RESOURCE MANAGEMENT

26.1.   Be flexible and timely. Consider the frequency when posting to the institutions' social media channels.

26.2. Ensure time and resources are available to update content on a regular basis. Plan how community managers and/or account administrators will mange both time and resources effectively.

26.3. Identify who will manage the platforms and interactions with community users. It is suggested to designate at least one (1) full-time staff member or administrator.

26.4. Plan for how time will be managed with the social media channels, specifically frequency of activity, response time to community members, and general expectations for posting online.

26.5. Develop a schedule for site maintenance and updates that support community users' interactions and activity.

26.6. Measure and pinpoint optimal times to post on social media sites, specifically the day of the week, time of day, or time of year.

26.7. Create an editorial content calendar for updates to your social media sites. This calendar should determine content posting type and frequency.

26.8. In planning time and resources, be careful about prescheduling posts for appropriate times without the ability to modify the schedule for any breaking news, timely events, or happenings.

Example from *Drexel University* for recommendations 26.2 and 26.6:

"*Endless amounts of time can be spent, and wasted, on Social Media sites. Limit the amount of time you spend attending to your department's Social Media presence to what is needed to post content, evaluate traffic data, review related sites, and monitor comments.*"

Example from *Emerson University* for recommendations 26.7:

"Assign an administrator who can regularly monitor postings and content. Aim for standard times for postings and updates. The recommended minimum frequency is once to twice a week. But be sure not to overload your updates. Followers will stop paying attention if you overload them with information."

Example from *University of Michigan* for recommendation 2.8:

"We recommend someone on your team look at the Facebook page every day, in order to respond to fans accordingly, and hide any spam posts. In terms of posting, while it is ideal to post once per day during the week, if your unit cannot build an editorial calendar this large, aim to post no less than three times per week."

27.   STRATEGY

27.1. Develop a strategic communication plan for social media use at the institution.

27.2.   Identify purpose, reach (audience), content (types), and goals for social media platforms.

27.3.   Tie social media strategy and planning into the larger mission, vision, and goals of the institution and/or an individual unit of the organization.

27.4.   Create an overarching framework for implementing communication for the organization. Encourage community managers to use a standard planning worksheet or shared guidelines for this process.

27.5.   Determine how to accomplish social media goals with action items related to each goal aligned to the strategic plan.

27.6.   Outline specific, measurable goals for social media use in the organization. Write objectives suitable for evaluation and assessment.

27.7.   Establish methods for building an audience, posting messages, and developing content. This could be structured guides or "how to" resources for social media platforms.

27.8.   Offer a central point of support and administration at the institution to provide assistance, consolidate strategy plans, and review goals for social media implementation for the entire organization.

Example from *Tufts University* for recommendation 27.4:

> *"We offer an array of tools, including one-on-one consults with schools, departments and offices looking to form or maintain an existing Social Media presence to discuss Social Media goals and strategy, as well as offer insights and ideas. Before creating any Social Media account, be sure to complete the "Considering Social Media" worksheet to make sure maintaining a Social Media presence is the right fit for your needs and resources. If it is determined you have both the content and time to maintain a channel, you are required to complete your "Social Media Strategy" document."*

G. LEGAL CONSIDERATIONS

This section details specific legal concerns and issues to include when drafting a social media guidelines and/or policies, specifically with regards to information management, copyright and fair use, terms of service, and privacy management.

28.   INFORMATION MANAGEMENT

28.1.   Protect confidential, proprietary, and commercial information belonging to the institution.

28.2.   Maintain sensitive organizational knowledge, such as contact information, personal identification numbers, or financial materials.

28.3.   Outline disciplinary actions and/or termination policy procedures as the outcome for sharing confidential information or breaching organizational agreements for information safekeeping.

28.4. Determine suitable methods for collecting and maintaining personal or financial information within the organization. Be sure to include appropriate sharing permissions and authorization methods for accessing information.

28.5. Ensure social media platforms are used appropriately, with regards to secure information and appropriate privacy settings.

28.6. Work with the information technology department to draft effective information management policies to detail protocols for information sharing, intellectual property management, and copyright materials.

28.7. Share helpful tips for community users to maintain personal information and sharing rights on social media accounts.

28.8. State limitations for security when publishing on social media platforms and minimize private/personal identifiers for community users.

28.9. Outline strategies to protect privacy and information personal records at the institution relative to local legislation requirements.

28.10. Include segments of legislation in the institutional guideline and policy documents. For example, the Federal Educational Rights and Privacy Act (FERPA) and Health Insurance Portability and Accountability Act (HIPAA) were frequently mentioned legislation items from PSE institutions in the United States. Where as Canadian PSE institutions discussed the Freedom of Information and Protection of Privacy Act (FIPPA) in their policies.

28.11. Describe how information shared in public, online spaces might be used for judicial or disciplinary actions of community users at the institution.

28.12. Do not disclose or publish private, confidential or non-public information about community users.

Example from *University of Texas at Tyler* for recommendation 28.1:

"Confidential or proprietary university information or similar information of third parties, who have shared such information with you on behalf of UT Tyler, should not be shared publicly on these Social Media channels."

Example from *University of California Santa Barbara* for recommendation 28.11:

"In response to concerns or complaints or information provided by individuals, University administrators may look up profiles on social networking sites and may use the information in informal or formal proceedings. In addition, the University has no control over how other employers, organizations, or individuals may use information they find on social networking Web sites."

29. COPYRIGHT AND FAIR USE

29.1. Explain copyright and fair use; specifically outline legal aspects and implications related to this area of ownership. This might include patent laws, trademarks, and intellectual property rights.

29.2. State how the community users at the institution need to respect and obey copyright and intellectual property laws on social media sites.

29.3. Describe potential loss of intellectual property rights or ownership of content posted on certain social media platforms. Read and understand the platforms terms of service to understand these rights.

29.4. Provide examples of copyright and fair use compliance on social media. Include suggestions as to where to find copyright-friendly materials, understand sharing permissions, and ensure content on social media channels observe these laws.

29.5. Share resources that discuss copyright and fair use policies for community managers and/or account administrators, such as Creative Commons (http://creativecommons.org/).

29.6. Provide account administrators and/or community managers support at the institution for questions and follow up resources about copyright and fair use. Often PSE institutions suggest Library Services or Information Technology units.

Example from *University of Melbourne* for recommendation 29.1:

"The creator of the work is generally the copyright owner in the first instance. If the work was created as part of a person's employment, then copyright in the material will be owned by the employer. For more information about ownership including how it affects work created by University staff and students see Ownership of Copyright."

Example from *University of Melbourne* for recommendation 29.3:

"When you post copyrighted materials on these Social Media websites, such as Facebook, they automatically obtain a license to use those materials, commonly known as an Intellectual Property, or "IP" license. They can use this IP license to share the materials all over the world without your further permission and without paying you any royalties. Some websites also reserve the right to change, commercialize and publicly perform or display the materials. This IP license ends when you delete the materials or terminate your account unless the materials have been shared with others and they have not deleted it. This could mean that the Social Media website effectively owns a license to use the materials you posted, for whatever purpose it desires, forever."

30. TERMS OF SERVICE

30.1. Read, understand, and obey the terms of service (TOS) agreements for each social media platform.

30.2. Remind community users about their agreement to TOS upon account creation. This means institutional community users must comply with rights and access outlined by the social media platform.

30.3. Report any violations or abuse of the TOS for community users from the institution when deemed appropriate.

30.4. Align institutional social media strategy, guidelines, and policies with each platform's TOS.
30.5. Ensure the TOS does not conflict or challenge institutional policies or local legislation/laws.
30.6. Remind community users that compliance with social media platforms' TOS may give copyright and/or access to content and community users in the network.

Example from *Technology in Texas* for recommendation 30.2:

"Before creating an account with a Social Media Tool, an agency should review and accept the provider's terms of service. The decision to accept a provider's terms of service is the responsibility of each agency -- the state does not accept the terms on behalf of all state agencies. Each agency should review these terms and determine whether the risks stemming from the provider's terms are acceptable."

Example from *Central Community College* for recommendation 30.5:

"By agreeing to the terms of use, online communities have your permission to republish your content worldwide and share information with advertisers, third parties, and law enforcement, among others."

31. PRIVACY

31.1. Develop and review the institution's privacy policy. Ensure this policy encompasses potential social media platforms and online use.
31.2. Outline how users can protect and maintain privacy, which may encompass individual, community users, and interests of the organization.
31.3. Consider how to implement the institution's privacy policy. This should provide awareness and involve training community users to reduce risk.
31.4. Establish privacy protocols and settings for certain social media accounts.
31.5. Identify privacy standards for protecting personal information online.
31.6. Provide recommendations and considerations for managing privacy at the organization based on development of policies.
31.7. Similar to Section 28.8 and 28.9 in section *G. Legal Considerations*, be aware of legislation and laws when drafting privacy guidelines and/or policies for the institution. These privacy laws will vary greatly depending on the country, province, state, and territory. Review the standards within your geographic region.

Example from *University of Illinois College of Medicine* for recommendation 31.3:

"Take steps to ensure implementation of appropriate privacy settings to avoid inadvertent dissemination of personal information to audiences outside your control."

Example from *Sheffield Hallam University* for recommendation 31.4:

> *"Think about your privacy, but remember, 'private' settings don't prevent content being downloaded."*

Example from *Thompson River University* for recommendation 31.7:

> *"Canada is a leading country for privacy protection legislation and BC's privacy laws are arguably the strongest in Canada. Great Britain, Australia and New Zealand have similarly strong privacy legislation. The United States, however, has weaker and more selective protections, varying greatly by jurisdiction and sector.*

H. IDENTITY AND BRAND DESIGN

To protect institutional identity, visual brand, and logo design, this next section provides recommendations for social media use for the organization, specifically with regards to institutional identity, naming conventions, and official institutional presence.

32. INSTITUTIONAL IDENTITY

32.1. In considering brand management, it is important to outline requirements for institutional social media sites, with regards to logo, trademarks, insignias, and image use.

32.2. Provide a visual identity guide and resources appropriate to use on social media platforms. This might include logos, banners, or images that are sized appropriately for social media accounts.

32.3. Design templates and recommendations for social media profile image(s), icons, logos, backgrounds (headers, banners or cover photos) that include color, design, and branding appropriate to for the institution.

32.4. Direct how community managers and/or account administrators can access the institutional brand assets and agree to the terms of authorization for using these marks, including:
    i. Acceptable use of institutional logo;
    ii. Directives for endorsements or promotions;
    iii. Restriction of institutional brand use on personal sites;
    iv. Organizational log in to access marks and visual identity materials.

33. NAMING CONVENTIONS

33.1. Indicate the importance of naming each social media account. Provide general guidelines and advice naming official institutional sites.

33.2. Outline protocols for the use of the institution name and insignias.

33.3. Suggest naming options based on current institutional name, acronyms, mascots, or branding. Provide examples of social media channels that are correctly doing this, if available.

33.4. Complete the profile information on the social media account. This should include the unit name, content authors or community managers responsible, profile description or biographic information, relationship to the organization, contact information, and link to the institutional website.

33.5. Naming of social media sites is directly related to institution brand identity.

33.6. Include naming disclaimers, specifically with regards to the use of name and marks policy. Some organizations may require name approval prior to registering an institutional social media account.

33.7. It is recommended to consistently name official institutional social media channels across the organization and different social media platforms.

33.8. Naming directly relates to the organization so it should be professional and apparent it represents the institution in a good light.

33.9. When posting on the official institution social media sites, it is recommended to include author names and/or initials for transparency and credibility.

33.10. Do not use the institution's name for inappropriate endorsements or promotions.

Example from *University of Louisville* for recommendation 33.3:

"Posts on Social Media sites should protect the university's institutional voice by remaining professional in tone and in good taste. No individual University of Louisville unit should construe its Social Media site as representing the university as a whole. Consider this when naming pages or accounts, selecting a profile picture or icon, and selecting content to post -- names, profile images, and posts should all be clearly linked to the particular department or unit rather than to the institution as a whole."

Example from *University of the District of Columbia* for recommendation 33.9:

"Social Media is about creating community and trust; please identify who you are and who you represent on the official platform by providing your full name and title and affiliation with UDC when possible depending on the Social Media platform."

34.   OFFICIAL INSTITUTIONAL PRESENCE

34.1. Make it official with the organization. Register or submit social media accounts to the central institution social media directory. Some organizations require this registration in advance to gain permission to set up an account or approval after registration of the site is complete.

34.2. Designate a community manager who will be associated with the official social media channel for the institution.

34.3. Plan procedures for use of platform. Management of these social media channels must be inline with the institutional policies and legislations.

34.4. Moderate user-generated content regularly on official channels.

34.5.   Indicate in the bio or profile who is moderating and staffing official social media platforms, i.e. the contact information and/or unit website.

34.6.   Ensure users of official channels comply with the institutional branding and visual identity.

34.7.   Detail best practices when acting as official organizational representative.

34.8.   Delete and remove any solicitation, spam, or inappropriate content.

34.9.   Establish protocols for official institution emergency and crisis communication for the social media channels.

34.10.   Confirm facts and official institutional positions before posting.

34.11.   Collaborate with other official social media channels within the organization for updates and posts.

Example from *University of Washington* for recommendation 34.6:

> *"College graphics, including the logo and seal, are available by logging in. You can also fill out a service request form if you would like the Office of College Relations and Marketing to create a customized profile picture for you."*

I.   CONTACT INFORMATION AND ASSISTANCE

This last section details recommendations on how to administer social media guidelines and policies for the organization, specifically with regards to central support at the institution and further advice, tips, and where to follow up for further assistance.

35.   SUPPORT AT INSTITUTION

14.9.   List the name of the administrator, the department, and/or central unit who drafts and supports the social media guidelines and/or policies for the entire institution.

14.10.   Provide contact information of the person(s) who regulates and supervises social media for the organization.

14.11.   Outline the purpose of the social media guideline and/or policy document for the organization.

14.12.   Share how this unit guides and supports social media use. This will differ depending on the type of unit. Common departments within PSE institutions who support social media across the institution include (but are not limited to) Communication and Marketing, Public Relations, Public Affairs, Governing Body/Boards, Policy Department, Teaching and Learning Support, and Information Technology Services.

14.13.   Provide tool kits, helpful resources, and strategies for social media platforms use at the institution.

14.14.   Indicate if this central unit requires specific approval and/or strategic planning prior to developing and implementing a social media account.

14.15.   Share how this unit is available for questions, concerns, and further help for official social media utilization for the organization.

36. ADVICE, RESOURCES AND QUESTIONS

36.1. Offer general advice for using social media both as an individual user and on behalf of the organization, for example:
   i. DON'T: "Don't spam, Don't use the institution logo or make endorsements, Don't use Pseudonyms."
   ii. DO: "Do indicate authors on posts, Do respond to comments and questions in a timely fashion."

36.2. Provide resources to support social media use for the organization, including technical development, content strategy, and administration suggestions.

36.3. Encourage users to ask questions and follow up about the social media expectations, guidelines, policies, and protocols for the organization.

36.4. List contact information of the central unit and/or administrator responsible for responding to questions about the social media guidelines and/or policies.

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