INNOVATION AMONG GEORGIAN JOURNALISM EDUCATORS: A NETWORK ANALYSIS PERSPECTIVE

by

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ABSTRACT

Rapid developments in technology in recent years have disrupted the media's traditional role as a main informer for citizens. The changes have challenged journalism educators worldwide, pushing them to innovate and experiment. One purpose of this dissertation is to examine adoption of innovations by journalism educators in Georgia, a small post-Soviet country with partly free media and lack of professional outlets, that has been and still is a beneficiary of Western aid for media development. Employing innovation diffusion theory and the network analysis perspective, this dissertation uses a census of journalism educators and journalism program leaders in Georgia to understand how much innovation is taking place in journalism programs, and examines the effects of journalism educators' professional network on adoption behavior.

The findings of this study add to the knowledge of changes in journalism education in newly democratic countries and can serve as a basis for studying journalism education in other countries with similar media environments that fall beneath the radar of Western aid organizations.

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CHAPTER 1

INTRODUCTION

Journalism schools need to prepare students "to pursue career paths as journalist-entrepreneurs or journalism-technologists," (Newton, Bell, Ross, Philipps, Shoemaker and Haas, 2012; para 5) wrote directors of six US journalism-funding foundations in an open letter to presidents of American universities. These authors advocated for the adoption of a "teaching hospital" model, implemented at Arizona State University, where students work on special topic classes that prepare them to cover news with the help of news professionals, and run the widely-read community news site. The letter also points to the priorities of these foundations, mentioning that "schools that do not update their curriculum and upgrade their faculties to reflect the profoundly different digital age of communication will find it difficult to raise money from foundations interested in the future of news" (para 4).

The open letter, signed by the Knight Foundation, the McCormick Foundation, Ethics and Excellence in Journalism Foundation, Scripps Howard Foundation, Brett Family Foundation and the Wyncote Foundation, inspired a discussion on the listserv of the Association for Education in Journalism and Mass Communication's (AEJMC) Newspaper and Online News Division. Some comments were more skeptical, providing generalized criticism of the letter, while others thought it would help those who are trying to push for a change in

their universities. Dane Claussen, then editor of *Journalism and Mass Communication Educator*, said that many schools, where teaching by learning is a common practice, already practice the "teaching hospital" model, and emphasized the importance of teaching journalists courses that help them understand the role and importance of journalism:

> I've heard all this rhetoric for years about journalism schools teaching "too much theory." I don't know about you, but I don't consider a well taught media ethics course to be only "theory," and the same goes for a well taught media law course and a well taught media management course. Media history is, I think, extremely valuable in showing students what the news media have accomplished and still, more or less, can, and it can be a powerful socializing agent in terms of students' philosophy of journalism (what is it for? and why is it important?), career goals, etc. (as cited in Finberg, 2012, para. 12).

Not only the US foundations, but also international media development organizations, push for reinvention of journalism education, directing investments in innovative journalism projects and individuals, rather than traditional journalists (Ristow, 2014).

In the rapid pace of globalization, increasing contact between cultures around the world and the similarities in the problems facing journalism education worldwide have inspired movements toward a global approach that could set normative expectations or goals for a global journalism curriculum (Obijiofor and Hanusch, 2011, p. 83). Based on efforts initiated by UNESCO, there have been attempts in recent years to lay a foundation for a universal approach concentrated around notions of professionalism, and most importantly, a combination of theory and practice in curricula, with the goal of producing journalists who possess the required skills to undertake professional work and

who are also capable of reflecting on their own work and the profession at large (Banda, 2013; Obijiofor and Hanusch, 2011, p. 85).

These global approaches led to the establishment of the World Journalism Education Council (WJEC) in 2007 that adopted important principles of journalism education that should be observed around the world: at the heart of journalism education is a balance of conceptual, philosophical and skills-based content. While it is also interdisciplinary, journalism education is an academic field in its own right with a distinctive body of knowledge and theory ("Principles of Journalism Education", World Journalism Education Council, 2007).

This dissertation focuses on journalism education in Georgia, which during Soviet times was intertwined with the teaching of communist propaganda rather than fact-based journalism. The fall of the USSR left universities and journalists in Georgia unprepared for teaching journalism that adheres to the standards of ethical, fair, and balanced reporting. The rest of the former Soviet republics, as well as Eastern European countries, faced similar problems because of the communism legacy. International support, mostly through US donor organizations, came to aid these developing systems, and the aid remains important to today. The number of the journalism programs in Georgia is small, which made it manageable to conduct a census among all journalism educators to understand the communication within the network and adoption of innovations in their courses.

As technological development challenges journalism educators worldwide, whether journalism educators in Georgia keep up with the needs of

the modern global media market and prepare journalist-entrepreneurs or journalist-technologists is an interest of this dissertation.

Employing innovation diffusion theory and the network analysis perspective, this dissertation uses a census of journalism educators and journalism program leaders in Georgia to study adoption of innovations by the journalism programs, understand the countrywide network of journalism educators, and explore the network effects on adoption behavior. To date, no research has looked at journalism education in Georgia, and no study has been identified that has analyzed the professional communication network of journalism educators. This is the first attempt to systematically study the network of journalism educators. This is also the first systematic study of innovations adopted by the journalism educators. It is certainly important to understand the network of Georgian educators, as well as know the most connected influencers in the network, or most connected journalism programs. The importance of this study goes beyond the borders of a small post-Soviet country and has larger implications. Because the findings are based on a census, the results allow the application of these methods in other countries with similar pasts or current environment in terms of media education. For example, findings suggest that although the size of a program is positively related with the adoption of innovations, some innovation is still happening even in the smallest programs.

The purpose of this study was to understand how many specific innovations have been adopted in the Georgian journalism programs and how communication among the faculty members influenced adoption. The study employs diffusion of innovations theory (DOI), which explains how new ideas

and practices spread within and among communities. Diffusion refers to the "process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 2003, p. 35).

Although a vast literature and scholarly interest exists about the innovative behavior in an organization, the most consistently occurring theme is that the research results are inconsistent (Wolfe, 1994). Adoption of social and educational innovations is even more complicated, as they often depend on "professional judgment, creative insight, and practical experience" (Baldridge and Burnham, 1975, p.166) and the effect of innovations is more difficult to evaluate in a short time.

Empirical research on innovation adoption confirms that the spread of new ideas and practices occurs primarily through interpersonal communications (Rogers, 2003; Coleman, Katz and Menzel, 1966), often leading to study of effects of social networks on adoption.

The social network perspective demonstrates "how social structure – who communicates with whom – determines the spread of influence, ideas, and products" (Valente, 1995, p. 1). The central point of this perspective is that relationships influence an individual's behavior above and beyond the influence of one's individual characteristics (Valente, 2010).

Another assumption of the network analysis perspective is that social networks affect perceptions, beliefs and actions of actors. Direct contacts and intensive interactions give actors access to better information and increase probability for an actor to influence or be influenced by others (Coleman, et al., 1966; Rogers, 2003; Rogers and Kincaid, 1981; Valente, 1995).

Thus, applying both diffusion theory and the network analysis perspective helps this research to describe the professional network of Georgian journalism educators and educational institutions, understand the patterns of communication within the whole network, and spot the most influential innovators.

To explore these issues, this dissertation is organized as follows. Chapter 2 discusses current changes in the media landscape, focusing on the innovations taking place in Western universities and debates involving journalism education curricula. It also reviews the history of journalism education in post-Soviet countries, discussing the influence of the West, particularly US aid, on development of media and training of professional, responsible journalists, supported and promoted by UNESCO global journalism education curriculum modules. Chapter 3 covers elements of the theory of diffusion of innovations relevant to this dissertation, as well as introducing the fundamentals of the social network perspective. Chapter 4 provides a description of the research methods employed in this study, describing details of the population, variable definitions and the measures, the instruments, data collection and data analysis procedures. Chapter 5 presents the results of the hypothesis tests and research question analysis. First, innovation acceptance among Georgian journalism educators is explored, followed by the relationships among innovation attributes and innovation adoption, the role of organization characteristics in innovation adoption, and ending with description of the whole network of Georgian journalism educators and programs and correlations between innovation adoption by institutions and network density, reciprocity and centrality. Chapter 6 discusses the findings of this dissertation, reviewing the most important

findings of this dissertation, theoretical and practical implications, acknowledging the limitations of the study and ending with suggestions for future research and conclusions.

CHAPTER 2

JOURNALISM EDUCATION

This chapter provides the context for this dissertation by exploring relevant literature related to journalism education. The chapter begins with a discussion of global journalism models. Next, it reviews perspectives on journalism education in the US, focusing on the debate between theory and practice in journalism education. It presents what is referred to as an American model of journalism education and its spread across the newly democratic countries, focusing on post-communist republics. The chapter ends with a discussion of the current changes and innovations in the media landscape.

Despite the numerous scholarly studies about the ways in which journalists are educated around the world, Obijiofor and Hanusch (2011) pointed out that there are surprisingly few theoretical models that have tried to integrate global journalism education. Deuze (2006) is one of the few who suggested a conceptual overview of journalism education models. He argued that a review of journalism education around the world suggests that most, if not all, are increasingly moving toward the following two models:

1. Training at schools and institutes generally located at universities (e.g. Finland, Spain, United States, Canada, South Korea, Egypt, Kenya, Argentina, the Gulf States, increasingly in Great Britain and Australia; this is becoming the dominant mode of training journalists-to-be worldwide. Some educators,

particularly in Africa and Latin America, resist this model on the grounds that it has neo-colonial features, making local programs increasingly dependent on global Western ideas and economies).

2. Mixed systems of stand-alone and university-level training (France, Germany, India, Indonesia, China, Brazil, Nigeria, Turkey, South Africa).

The rest of the models focus on providing journalism education at stand-alone schools, through on-the-job training, or combining all these models together.

While most countries are moving toward the journalism education model adopted in the US that emphasizes more professionalization and formalization of journalism education, scholars in the US have been calling for a reinvention of journalism education for decades (See for example: Adam, 2001; Deuze, 2006; Carey, 2000; Macdonald, 2006; Medsger, 1996; Reese, 1999; Reese and Cohen, 2000; Rosen, 2006). They have been suggesting different ways to re-conceptualize journalism education, arguing which models to choose, or generally, what and how to teach future journalists. These debates are important for journalism educators around the world, as the changes and challenges facing journalism education in different countries are largely similar (Deuze, 2006). What journalism education should be in the future has been debated for over a century now, but it remains critical as the traditional economic model for journalism is transforming, and media organizations lay off journalists while journalism schools recruit more students than the job markets can take (Forestier, 2013).

Facing these major challenges, three typical approaches to journalism curriculum change outlined by Murray (2007) are taken by the journalism

schools: (1) creating a new curriculum, (2) implementing elements of convergence, or (3) continuing to teach the way journalism faculty traditionally have taught. However, today's audience needs a different kind of journalism, and producing it is fundamentally different from what traditional industrial production had to offer (Beckett, 2008; Jarvis, 2006). In light of this change Tom Rosenstiel (2013) has called for better conversation about the future of journalism education, suggesting four essential components to the new curriculum for teaching news and communication:

1. Teaching of technical skills (how to use different platforms and technology), aimed at enabling students to invent new ways of reporting and teaching enough to make sure that they can master these tools themselves on their own as the tools change (para. 22).

2. Journalistic responsibility (including history, values, ethics, community, material that always made journalists better). Now that journalism is more than whatever journalists do, knowing what the public requires of responsible journalism is even more important (para. 23).

3. Understanding of business (audience metrics, revenue, and entrepreneurship). Journalists are hamstrung if they are illiterate on these matters (para. 24).

4. The intellectual discipline of verification, which is a more conscious, disciplined and clinical approach to what once was called knowing how to report, think and write. "At its best, journalistic inquiry is a rigorous, numerically literate, skeptical and independent way of thinking" (para. 25).

This dissertation's perspective on innovations in journalism schools is based on Murray's classification, and assesses adoption of Rosenstiel's first

component, exploring the teaching of technical skills in Georgian journalism programs, and also touching upon teaching the understanding of the changing business of today's media. Technical and non-technical expertise (Carpenter, 2009) of journalists as seen in the West has been widely introduced into newly independent post-communist countries starting right after the fall of the Soviet Union. Similar to the media outlets in the US that were looking for staffers with the ability to operate new technologies (Lowrey and Becker, 2001), developing media industries in post-Soviet countries also required new skills from new journalism programs. Understanding how much attention is paid to teaching the technical skills, as well as to giving the broader knowledge of the changing business of media, will allow for discussing overall tendency of adoption of innovations by the Georgian journalism programs and educators.

Before reviewing the technical innovations and related skills, this chapter explores the traditions of journalism education in the US and discusses how the University of Missouri model of vocational education of journalists spread to the post-revolutionary and post-communist countries, and also discusses journalism education models in post-Soviet republics, Georgia among them.

2.1. TEACHING JOURNALISM

Until the formalization of journalism education, journalists in most countries used to learn their skills on the job (Obijiofor and Hanusch, 2011). In the past century, there has been a visible trend toward university-oriented education for journalists not only in the West, but also in many developing countries, as different studies demonstrate (Weaver, 1998; Hanitzsch et al., 2011).

This approach to teaching journalism is more theoretical compared to learning skills on the job.

Formalizing journalism education emphasizes the importance of its professional values, skills and conventions. Although journalism is not considered to have all the characteristics of a traditional profession, it is called a "semi-profession" (Beam, 1993). Professionals build the values and norms that inform their work based on knowledge obtained through education (Abbott, 1988). These values and norms set the barriers which control who can enter the field (Becker and Vlad, 2011).

Normative theories describe the ideal structure of a media system and are culturally bound constructs or paradigms rather than existing systems (Christians, Glasser, McQuail, Nordenstreng, and White, 2009). Two theories, Libertarian and Social Responsibility (Siebert, Peterson and Schramm, 1956) inform the values of the Western professional media. Deriving from Enlightenment, Libertarian Theory believes in existence of absolute truth that can be discovered through scientific methods (Siebert, 1956). Social responsibility theory emphasizes importance of not only presenting the facts to readers, but also providing the truth about those facts (Commission on Freedom of the Press, 1947). Meanwhile, authoritarian theory puts all communication in the hands of governments or elites, giving them tools to control and censor the media. Normative theories serve as cognitive maps for media professionals. While the values expressed in Libertarian and Social Responsibility theories define the professionalism and excellence of journalists in the West, Soviet republics were living in Authoritarian system and started transitioning in 1990s from Soviet into Social Responsibility system.

It is often because of the tradition and the culture of these normative theories that media education in the West becomes a subject of criticism for its skills-oriented training of journalism. The next section covers the debate about theory vs. practice abundant among journalism scholars and educators.

Theory vs. practice. Formal journalism education in the US began in the mid-19th century and set the groundwork for a debate that inspires scholars and practitioners to this day: teaching theory vs. practice. The beginnings of this debate lay in the approaches of the founders of two journalism programs at the University of Missouri and the University of Wisconsin (Murray and Moore, 2003). These two programs were differentiated in their views toward training and educating journalists. Missouri was oriented toward the professional skills training tradition, and Wisconsin was oriented toward the liberal arts tradition. It can be argued that although journalism educators understand the need for both theory and practice, those who lean toward the Missouri model are more interested in the opinions of industry; and those who think that journalism education should follow the Wisconsin model are more attentive to opinions of academia.

Some of the critics of professional training argue that it trains people to "do," rather than "think" (De Burgh, 2003). McCombs (1974) criticized this focus on the skills, suggesting that it was a reason for journalism's low status in many universities, as it borrowed from rather than contributed to the profession.

Carey (2000) noted that journalism education emerged when the role of a journalist was to find information, transform it into an accurate story and transmit it promptly to a mass audience via a mass medium. The first journalism schools in the US aimed higher than mere education of journalists or

improvement of newspapers; "the larger goal to which they aspired was to produce a more informed citizenry through better journalism" (Medsger, 2005, p. 208). But for many years, journalism education has been focused on preparing journalists for the news industry (Becker, 2003; Dickson, 2000; Mensing, 2010).

Formal journalism education in most countries around the world has on one hand has traditionally covered the ground of practical skills and standards training, and on the other hand, general contextual and liberal arts courses (Gaunt, 1992, p. 12). However, education of future journalists is often reduced to what Reese and Cohen (2000) called "vocationalism to the extent that it involves learning by emulation" (p. 217). Professionalism among media educators is often discussed in terms of the practice and what ''counts'' as journalism (Mensing, 2010, p. 514), widening the gap between practical understanding of journalism versus how the academy sees it (Zelizer, 2004, 2009).

Both practitioners and academics have criticized journalism education for being focused too much on the teaching of skills and techniques (Dickson, 2000), arguing that students also need to understand "how journalism participates in the production and circulation of meaning in our society" (Skinner et al., 2001). Numerous arguments have been made over the extent of purely professional skills-based education as opposed to a liberal arts degree (Obijiofor and Hanusch, 2011). As Carey (2000) critically noted, journalism schools have not "found their subject matter – journalism. What was taught was rather unsystematic – largely the transmission of the accumulated folk wisdom of the craft, organized around the professional and technological separation of the media" (p. 13), and the same situation was in all American journalism schools,

where "the craft was presented somewhat haphazardly without much historical understanding, criticism, or self-consciousness" (Carey, 2000, p. 13).

The scope of skill-based versus theoretical courses in journalism curriculum is a subject of heated debates in many countries (Banda et al., 2007; Ferreira and Tillson, 2000; Hirst, 2010; Turner, 2000), and scholars from different countries have called for studies on schools of journalism, on the elements of journalism education, professional versus industry training (Cottle, 2000; Morgan, 2003; Reese and Cohen, 2000). The journalism curriculum has attracted the most attention from scholars, and it remains one of the most debated issues in journalism education today (Deuze, 2006).

Most of this debate is focused on theory vs. practice; and some of the journalism scholars in the United States (Glasser, 1992; Reese and Cohen, 2000), in the Netherlands (Deuze, 2001), in South Africa (Rhoodie, 1995), have advocated in the past for integration of theory and practice in the journalism curriculum, while others, for example Herbert (2000) in the United Kingdom and Medsger (1996) in the US, have supported a more vocational approach to journalism education, addressing the media industry's needs and turning journalism schools into "teaching hospitals" (Newton, 2012a).

As Reese and Cohen (2000) mentioned, journalism education at universities has always been characterized as an "industry-academic dichotomy" (p. 217) between what the media industry demands new graduates to know, and what theory-centered academic education requires. Theory-centered academic education also refers to the values of journalism as a profession, which serves as an entry barrier for professional journalists and brings prestige and societal exclusiveness.

This dichotomy is a global occurrence, as various scholars from around the world have described the relationship as "not a bed of roses" (Stephenson, 1997, p. 23). Skinner, Gusher and Compton (2001) along this line referred to journalism education as "the servant of two masters," since on the one hand it seeks to satisfy the demands of news organizations by providing newsroom-ready graduates, and on the other hand, "journalism schools are asked to meet the standards of university administrators who perceive post-secondary education as something more than vocational training" (p. 344). Skinner and colleagues (2001) argued for a holistic approach that refers to an integration of theory and practice, rather than teaching of the two together, and explained that students need to have a skill set and broad social knowledge, but also need to understand the role of journalism in conveying meaning to audiences.

De Burgh (2003) also pointed out the importance of the role of journalists, saying that society needs more from journalists than the industry wants journalism graduates to do. Skills are not enough for journalists, who need to know what to question and how: "Motor skills yes, but also the intellectual confidence which comes from knowledge" (p. 110). Adam (2001) argued along similar lines, outlining a curriculum to "refine the understanding of journalism and the university disciplines so that there is a tight fit between discrete academic disciplines and the Professional Practices of journalism. The yield of such a fit is a profession" (p. 335). Becker, Fruit, Caudill, and Dunwoody (1987) years earlier pointed out that the intent of the curriculum, including the internships and practice, as well as the areas of study outside journalism, were tailored toward producing an individual who can effectively and efficiently function in the "occupations of journalism and mass communications (p. 19)."

Macdonald (2006) argues that in recent years there has been a shift toward the professional model, going beyond skills training and teaching journalism students the idea of journalism as a profession that pursues a public service ideal. Recently revised journalism program accreditation standards also encourage less focus on skills, instead advocating for "a broad, multidisciplinary curriculum that nurtures critical thinking, analytic reasoning and problem-solving skills that are the essential foundation for journalism and mass communications education" (Accrediting Council on Education in Journalism and Mass Communications, 2013). These standards reflect the concern of media scholars with the vocational focus of journalism education and emphasize the importance of understanding the values, principles and role of professional journalism, especially important in light of the changes in accessibility of content.

Despite the criticism of the vocational approach to journalism education, what the rest of the world, especially the post-revolutionary newly democratic transitional countries are importing from the US referred to as the American model (Volz and Lee, 2009), resembles the Missouri model.

2.2. Spread of the American Model

The formalization of journalism education in the early years of the 20th century coincided with the United States' growing influence in the world and resulted in the establishment of formal schools of journalism outside of Europe and North America. The first such schools emerged in the Republic of China during the 1920s and 1930s (Obijiofor and Hanusch, 2011). Volz and Lee (2009) believed that the reason the American model of journalism education became largely successful is because of the US's "neo-colonial ideology, proclaiming

democratic values and an open-door policy in China" (p. 726). Not only China but India, Australia, New Zealand, and Pacific islands also adopted similar higher education models of journalism (Obijiofor and Hanusch, 2011).

On the African continent, formalization of journalism education took place after decolonization with the establishment of a journalism program at the American University of Cairo in 1930s and followed later in Ghana and Nigeria. These programs were supported by considerable aid from the US (Obijiofor and Hanusch, 2011). Murphy and Scotton (1987) quoted an Eastern Nigerian political leader and editor explaining the success of the American model over the British model by noting that the British model of a university was too academic and the American vocational approach met Africa's needs better. This model was also supported by United Nations Educational, Scientific and Cultural Organization (UNESCO) and, thus spread around other countries in Africa (Obijiofor and Hanusch, 2011).

The spread of the US model of journalism education around the world has contributed to the presence of typically Anglo-Saxon journalism practices in non-Western countries. However, different countries around the world approach journalism education differently. For example, commenting on the studies of 33 European countries, Nordenstreng (2009) pointed out that even on the same continent "the situation of journalism education seems to be quite specific to each country" (p. 513), and much of the debate about the issues related to journalism education occurs within the different national contexts (Bierhoff, Deuze and de Vreese, 2000).

Along with its popularity, reinvention of journalism cultures and journalism education in new democratic countries has been met with resistance

and some disappointment. For example, many countries in Africa, Asia and Oceania were critical of importing the US journalism education model because of its overreliance on Western models of thinking (Deuze, 2006), while journalists in developing countries tend to emphasize somewhat different roles from their Western counterparts, at least in some respects (Obijiofor and Hanusch, 2011). On the other hand, in the post-communist countries, disappointment with Western aid in reforming media systems, as well as education, was caused by the impression that "Western players involved in the process, presented to post-communist societies an unrealistic, idealized and wart-free image of 'free and democratic' media and journalism to emulate, while the reality in their own countries may have been different" (Jakubowicz and Sükösd, 2008, p. 19).

Besides different national contexts, journalism schools in less developed countries lack resources for their programs. Skjerdal and Ngugi (2007) reported that in Eastern Africa, many journalism programs use much older technology than that used in major media organizations of these countries, not allowing universities to adequately prepare graduates for the job market. Some Central Asian countries have similar problems, as Gross and Kenny (2008) noted in their report about Uzbekistan, Tajikistan and Turkmenistan, where educators' lack of knowledge of digital information systems and lack of access to new technologies impede proper education of students for their future technology-oriented work tasks. In addition, as Freedman (2007) noted, in Kyrgyzstan, for example, Soviet-style teaching methods still dominate the curriculum, which focuses on the teaching of theory rather than practical training. However, Kyrgyzstan also hosts some universities with "well-run facilities and up-to-date, US-style curricula that

are computer-driven and housed in institutions that allow for optimum learning" (Gross and Kenny, 2008, p. 55).

These issues have their roots in the communism era and its legacy in Eastern European and former Soviet countries, which saw immense Western aid and influence since the implosion of the Soviet Union in the late 1980s. The next section reviews some aspects of media and journalism education development to help explain the context of this dissertation.

2.3. Soviet and Post-communist Journalism Education

The earliest efforts toward formal journalism education in East and Central Europe date back to the post-World War I period in what is now the Czech Republic, where the first journalism school in the region was established in the late 1920s. Not unlike Western Europe, journalism was practiced by intellectuals, academics, politicians, etc. engaged in polemics, editorial writing, analysis, and some reporting. As for journalistic training, it was offered by numerous newly formed journalism associations (Gross, 1999).

As communism gained more influence in the late 1940s, journalism education became more of a political education combined with propaganda techniques to be exercised both in print and broadcast media (Gross, 1999). As Paletz, Jakubowicz and Novosel (1995) noted, in most East European countries, as well as in the Soviet Union, the mixture of interests of party and state, media, and journalism schools was greater than anywhere else in the world. Journalism programs at universities were either autonomous units as in most of the Soviet Union and Czechoslovakia, part of special party schools as in Romania, or placed

in more traditional departments such as languages, law, political science, and international studies, and were mostly theoretical (Gross, 1999).

During the Soviet times, *samizdat*, or the underground press, which served as an alternative print media for urban, educated Soviet citizens (Mills, as cited in Gross, 1999), was also a training field for some journalists. However, similar to state propaganda media, their publications aimed at mobilizing rather than informing the readers. Such a combination, where "a journalism of information with a measure of objectivity and verifiability, a journalism of systematic inquiry and informed opinion was not to be found or only rarely found in any East/Central European or USSR media, official and legal or unofficial and illegal" (Gross, 1999, p. 152), created context for later development of journalism education. These roots caused conflict between the introduced Western journalism education model and the existing reality in the media system, which was much slower in adopting professional standards (Buffington, 1992). In other words, those journalists trained during the reign of the USSR, as well as the existing institutions of journalism education and the majority of journalism educators, were ill-prepared to enter a non-communist world.

The frequent theme of criticism all over East and Central Europe and the former Soviet republics, according to Gross, (1999) was that fact-based journalism was not the norm (and still is not in many post-Soviet countries), forcing readers to read several newspapers each day to gather enough information to know what is happening. In the meantime, television journalism was and is strongly influenced or controlled by the government.

The fall of the Berlin Wall in 1989 and the Soviet Union two years later dramatically changed the region's societies and their mass media. The number of

media outlets multiplied tremendously: by 1996, the number of publications in Eastern European nations tripled or quadrupled (Aumente, Gross, Hiebert, Johnson and Mills, 1999). Journalism education programs saw similar increase in numbers. However, as Gross (1999) noted, media publications and journalism programs shared a range of problems, conceptual and material, and staff and programmatic.

In this context, new journalism schools sprung up and old ones were reconfigured to meet the demands of a still growing mass media system and interest in journalism on the part of many young people (Hiebert and Gross, 2003). The debate over the need for university-level journalism degrees began almost immediately after the fall of the communist regimes. Some referred to the negative reputation of journalism schools and their role during the communist times, and others argued for the traditional ways of practicing journalism without university-level professional training (Gross, 1999).

Yet the biggest challenge for the new journalism programs remains how to handle low professional and ethical standards, lack of resources, and corruption, despite the considerable sums of money spent by Western European and North American countries (Jakubowicz, 2009). A particular concern for many in the field is the divide between practice and theory and conflicting beliefs in terms of what should be taught (Obijiofor and Hanusch, 2011). As a result, Jakubowicz (2009) argued, " journalism education has made some, but limited contribution to shaping a new understanding of the professional role and definition of journalism, and to raising the professional skills of journalists" (p.355).

Two main training or education options were available to journalism students in the former communist countries: degree programs at newly

established private and public universities, or certificate programs offered by professional/trade associations and journalism centers, mostly established and sponsored by foreign institutions such as the Freedom Forum, the Soros Foundation, International Media Foundation, etc. (Hiebert and Gross, 2003).

Gross (1999) noted that there is no general approach to teaching in the evolution of journalism education in Eastern European and former Soviet Republics. "What binds these programs together are their pre-communist and post-communist legacies. There is much experimentation. The same is true of Western-sponsored journalism centers where there are no set faculties" (p. 172). One of the problems, he pointed out, is that journalism is still defined as not a professional but as an intellectual pastime, a mode of expression on behalf of personal, party, political-ideological interests. As a result, journalism curricula are constantly changing, trying to find a purpose and a direction.

In addition, in some post-communist countries centralized control remains a problem, where the Ministry of Education, or Ministry of Education and Culture, still attempts to be a gatekeeper to all university programs, while accrediting institutions have a difficult time defining criteria for the journalism programs (Hiebert and Gross, 2003).

Gross (1999) reviewed problems shared by the former State University journalism programs that have been reconfigured, as well as the newly established university journalism programs. The majority of these problems exist at the universities of many former Soviet countries until today, and concern a range of issues including proper amenities for the program, salaries for educators and their qualifications, and lack of material resources, such as equipment, libraries and textbooks. He also points out that contacts among journalism

schools and faculty members are generally rare. Although there are exceptions, generally newer faculty members are more apt to develop working relationships with their Western counterparts than with their colleagues in their own regions.

Similar to post-colonial African countries and other developing nations around the world, extensive Western aid started coming to Eastern European and former Soviet countries in 1989. Aid has been funding journalism education and by extension, media, through conferences and workshops, long-term and short courses and programs at universities and media organizations locally and in Western countries (Hiebert and Gross, 1999). US organizations, both private and governmental, established new centers for journalism training and journalism libraries; many US universities hosted groups of individual journalists sponsored by some US governmental or private organization

Journalism trainers from the West taught the basic skills: interviewing, ethics, accuracy, editing, TV and radio, photography, newsroom management, especially inspiring the young journalists (Hiebert and Gross, 1999), despite the limited opportunities to practice Western-style journalism in existing media environments. Training in basic skills and economics of traditional media was the norm for about two decades, until "implosion of long-entrenched advertising-based business model for Western news media in the early 2000s" (Ristow, 2014, p. 9), when emerging practices of online activism, citizen media and social media created a new challenge for media organizations, as well as journalism educators. The next section covers challenges brought by technology development and by the rise of the "network society" (Castells, 1996; Van Dijk, 2012).

2.4 Changing Media and Journalism Education

Rapid developments of technology in the past decades have disrupted the traditional media's role as a main informer of citizens, as "people formerly known as audience" (Rosen, 2006), started practicing "random acts of journalism" (Lasica, 2003). Citizen journalism, also referred as "participatory journalism," was defined as "the act of a citizen, or group of citizens playing an active role in the process of collecting, reporting, analyzing, and disseminating news and information" (Bowman and Willis, 2003, p. 9). Citizen journalism brought a clear shift in the control of communication, as well as journalistic practices (Heinonen, 2011; McNair, 2009; Singer, 2011).

Another change brought about by the changed landscape, was a need for converged newsrooms (Quinn and Quinn-Allan, 2005), defined as "cooperation and collaboration between formerly distinct media newsrooms" (Deuze, 2004, p. 140); a new kind of newsroom, where reporters would be able to work for print, broadcast and online outlets, producing text, photo, audio, and video material (Wilkinson, Grant and Fisher, 2013).

The changing industry has challenged not only traditional media outlets, but also journalism schools (Finberg, 2013).

Although working with students to study information networks and to experiment (Mensing, 2010) is an oft-suggested way to reinvent journalism education, journalism schools around the world face constraints to add these courses in the curriculum because of the lack of flexibility in academia (Folkerts, Hamilton and Lemann, 2013). But some are trying to reinvent, introducing new ways of teaching (Newton, 2012). Journalism education has adapted to the new media technology and production techniques, but as far as the content is

concerned, not much change has taken place over the last two decades (Stephenson, 2009), leaving many journalism educators still in flux, not knowing what to teach and what not to teach (Claussen, 2012). What has become clear, though, is that proficiency with computer technology and the Internet has become central to the ability of journalists to do their jobs (Spiridou et al., 2013). What the proficiency means for the media and what the media industry wants the journalism graduates to know has been explored by scholars (Du and Thornburg, 2011; Dupagne and Garrison, 2006), as well as by the Poynter Institute, which has conducted studies comparing views of professionals and educators on journalism education (Finberg, 2013).

The literature reveals that journalists should be learning these new tools: multimedia reporting, blogging and liveblogging, nonlinear storytelling, using social media for sourcing stories, as well as for promoting the content, engaging audiences through interactive content and graphics, finding stories in big data and visualizing it, search engine optimization, and finally, entrepreneurship start-up skills. The innovative ways of using technology and the Internet are enabling journalists to do their jobs better, but retaining traditional journalism skills such as writing, news judgment, reporting and the ability to meet deadlines remain to be the most important skills expected from the journalism graduates by broadcast, print, or online media editors in the US (Du and Thornburg, 2011; Huang et al., 2006; Pierce and Miller, 2007; Wenger and Owens, 2012; 2013;), as well as in Europe (Opgenhaffen, d'Haenens and Corten, 2013). US journalism educators are in agreement with the industry and professionals that writing and reporting skills are still the most important for students to learn (Blom and Davenport, 2012; Huang et al., 2006; Tanner et al., 2012) and textbooks

addressing online and convergent journalism emphasize these skills as well, adding the importance of writing across different types of media and different platforms (Wilkinson, Grant and Fisher, 2013; Thornburg, 2011). Next a review of studies revealing the importance of learning of the new tools is presented.

New skills, competencies or proficiencies discussed in the past decade generally can be categorized as process- and product-related innovations. Process changes are those affecting the manner in which a journalism product (story, photo-essay, multimedia story)is produced. Process-related innovations have a limited effect on what audience members see, leaving them typically unaware of these changes. On the other hand, product-related innovations have the potential of changing the final product and are apparent to the audience. Sometimes not that clear a line can be drawn between them (Grant, 1997), depending on the content taught under a particular course title. While the indivisibility of the two may be the subject of further exploration in future studies, for the purposes of this dissertation, these categories help us to understand the context of more visible-to-audience product-related innovations, and less apparent process-related innovations.

One of the earliest product-related innovations brought on by the development of online media and technologies, already so abundant across the Internet, are multimedia skills. The importance of multimedia skills is frequently mentioned in studies (Dupagne and Garrison, 2006; Fahmy, 2008; Thornburg, 2011) both from the US and from Europe. Combined in one term, mastering multimedia skills makes a "multiskilled journalist" (Wilkinson, Grant and Fisher, 2013), as he or she learns how to create, edit, produce, and distribute text, digital photo, audio, and video content (Thornburg, 2011).

Blogs, another product that appeared in online media about the same time as multimedia reporting, have long been a part of journalism curriculum, but a new form of storytelling has emerged from it alongside the technology development. One of them is live-blogging breaking news, or events (Wilkinson, Grant and Fisher, 2013). Live reporting, be it blogging or livestreaming from an event, or even tweeting, are among the innovative ways of storytelling bringing new types of content to audiences (Briggs, 2012).

Several innovations getting attention in journalism education discourse challenge both, journalism products as well as the production process. For example, storytelling remains an important skill in journalism, and it is a product, a story that is delivered to the audiences. However, the way it is interpreted and taught needs to be reconsidered (Drok, 2013) and taught in new ways (Pavlik, 2013a; 2013b). Storytelling, whether called transmedia (Jenkins, 2010), or digital, requires understanding of multiple ways audiences access the content – be it a local newspaper, website, television or a smartphone. Each of these has its own forms and means of conveying a story, which requires innovation in the production process. For example, journalists need to know that the verbosity of print translates poorly on mobile, and requires a different way of storytelling (Marron, 2013). Understanding of these differences combined with the use of a content management system can automate the process of storytelling across these different platforms (Briggs, 2012). The necessity of structuring stories is discussed as a premise of future journalism in textbooks, advising students to write in chunks and then link them -- in other words, to learn non-linear storytelling (Blom and Davenport, 2012; Thornburg, 2011; Wenger and Owens, 2012).

The growth of social media as a frequent source for news added another task to journalists, disrupting the journalism process, as well as the product. They have to embrace social media networks and use them not only as sources of information, and for disseminating the content, but also for outreach, conversation, and collaboration with audiences (Briggs, 2012; Hirst and Treadwell, 2011; Wilkinson, Grant and Fisher, 2013). Again, the practice and process of content-creation and distribution is being transformed, while the content distributed online is a product-related innovation, since most often journalism organizations use social media for promotion of content, posting teases and headlines on Twitter and Facebook, and linking to online versions of stories (Grant, 2012). Therefore, there is an expectation that journalists should know how to effectively curate and filter information (Weiss, 2013). If the content is not properly promoted, especially in social media, it is lost and non-existent, as audiences increasingly receive their news from social media (Mitchell et al., 2013).

"Today, in our digital, networked, multidirectional, local/global, mobile/social, real-time, 24/7 web of communication, engagement is the key" (Newton, 2012a; p. 2672) and various media have experimented with various forms of engaging the audiences – publishing user-generated content and crowdsourcing stories (Harrison, 2010; Hermida and Thurman, 2008), creating interactive content and graphics (Schroeder, 2004), inviting audiences to engage with quizzes and polls (Matheson, 2004), thus innovating media product along with the process of its creation. Willingness to engage the audience and ability to manage the user-generated content is another competence expected from journalism school graduates by professional media (Drok, 2013).

Although computer-assisted reporting is not new to traditional journalists, the capability of the emerging "big data" tools asks for new skills from journalists of the future. Understanding how to tell a data-driven story (Briggs, 2012), how to analyze big data and then visualize the story (Weiss, 2013), is expanding the innovative product journalism educators need to consider while teaching future journalists. Closely related to many of the above innovations is necessity of reinventing a process of their creation, or understanding of code. Royal (2013) suggested that basics of programming concepts and syntax have become necessary for journalists to learn, especially those working with the data, and even content management systems.

Content may put journalists to an advantage, but it needs to be made accessible (Thornburg, 2009) not only through social media promotion, but also through search engines, and Search Engine Optimization (Briggs, 2012), including proper tagging, linking, using the most searched keywords, so crucial for online journalism content to be found easily by the audiences (Dirk, 2011).

Because more people graduate from journalism schools globally than the market can employ (Newton, 2012a), journalism schools have been advised to experiment more (Finberg, 2013; Weiss, 2013), start teaching entrepreneurial start-up skills, and have students look at the business site of the media (Ferrier, 2013). As the traditional career paths of journalists are dissolving (Forestier, 2013), educators should start preparing students to become "entrepreneurial self-employed agents" (Baines and Kennedy, 2010; p. 97), who could not only be employed by the traditional media organizations, but also compete with them.

Calls for reinventing journalism education are also supported by the numbers from a changed media landscape, where for example international

reporters working for U.S. newspaper have declined 24% from 2003 to 2010, thirty of the largest digital-only news organizations have about 3,000 employees, and one area of their investment is global news coverage (Mitchell, 2014).

Summary. This chapter has explored a range of teaching models used to train journalists. The foundation of these models is importance of understanding the values and role of journalism, and the balance between theory and practical skill sets. This chapter also addresses the difficulty of importing the Western journalism values into world media cultures, but this background suggests some success in spreading the vocational model of journalism education. This approach informs this dissertation, which explores adoption of innovations and skills appearing in the Western media and journalism schools, by Georgian journalism educators. The underlying theoretical perspectives are discussed in the next chapter.

CHAPTER 3

THEORY

This chapter presents the core concepts of diffusion theory and network analysis in detail. First, the conceptual and theoretical background of the diffusion framework are discussed; then the network analysis perspective employed in this study is presented and explained. A discussion of previous research that focuses on the network analysis perspective applied to innovation adoption in educational institutions follow. Finally, the role of social networks in adoption of innovative journalism curriculum is summarized, leading to a set of research questions and hypotheses.

Education policy around the world is generally characterized by a push for innovation in support of school improvement and increased student achievement (Moolenaar and Sleegers, 2010). Criticism of journalism programs for their lack of instruction to keep up with the changing media landscape is based on this presumption. If journalism schools cannot provide students with the necessary knowledge and skills required by today's job market, students will be less able to find jobs in modern media. Journalism schools across the world are facing the need to make changes in their curricula and include in their programs innovations introduced in the current media landscape.

The present dissertation is interested in the spread of journalism education innovation in Georgia, viewing innovation as "an idea, practice, or

object perceived as new by an individual or other unit of adoption" (Rogers, 2003, p. 36). Application of both diffusion theory, which explains how new ideas and practices spread within and among communities (Rogers, 2003) and use of network analysis methodology will help: 1) describe the professional network of Georgian journalism educators and educational institutions; 2) understand the patterns of communication within the whole network, and; 3) spot the most influential innovators. The network analysis approach is appropriate for this dissertation, as it suggests that there is no sharp distinction between source and receiver, as communication flows occur among "transceivers" in the network (Rogers and Kincaid, 1981) with network analysis being used "to analyze the pattern of interpersonal communication in a social system by determining who talks to whom" (Valente, 1995, p. 2).

The next section reviews the main concepts and assumptions of diffusion of innovation theory, innovation characteristics and adoption of innovation by organizations.

3.1. Diffusion of Innovations

How new ideas, practices or objects diffuse within and among societies has motivated a great number of research studies, especially during the past 50 years, since Everett Rogers first synthesized (Rogers, 1962) and catalogued previous case studies of diffusion from different academic disciplines. Diffusion refers to the "process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 2003, p. 35). The evolution of the diffusion model in the US started earlier, with Ryan and

Gross's (1943) hybrid seed corn study in Iowa, and even earlier in Europe, with Gabriel Tarde's *The Laws of Imitation* (Katz, 1999).

Diffusion research generally describes or explains social and cultural change, and thousands of studies have examined the diffusion of innovations (Rogers, 2004). However, the theory lacks generalizing of findings not only across disciplines, but also within disciplines (Katz, 1999). Researchers in different disciplines and traditions of diffusion research historically were not aware of each other's findings and, as a result, each tradition studied different variables and undertook different approaches (Katz, Levin and Hamilton, 1963). Innovations themselves and their changing nature have not allowed for comparison across disciplines. Complexity of innovations' interactions with the cultures, social structures, and media systems surrounding the potential adopters added to difficulty in generalizing findings (Katz, 1999). Diffusion is a natural social phenomenon that occurs regardless of whether there is any specific theory to explain it. Innovation itself, whether it "involves a new idea, new pattern of behavior, or a new technology, it is also a natural physical phenomenon as well" (Kincaid, 2004, p. 38).

Despite the lack of formalization of a theory of diffusion, there is an "agreed paradigm that allows for the classification of the wide variety of available case studies" (Katz, 1999, p. 147). This paradigm suggests certain generalizations, for example, that adoption of innovations follows the general S-curve; that generally lower status people benefit from innovativeness of those with higher status; and that peers' influence is strong prior to adoption (Katz, 1999). The major diffusion traditions, such as anthropology, rural sociology, education, public health, communication, marketing, geography and general

early sociology have employed this paradigm and generalizations. Rogers (2003) identified eight main types of diffusion research across these academic disciplines: earliness of knowing about innovations; rate of adoption of different innovations in a social system; innovativeness; opinion leadership; diffusion networks; rate of adoption in different social systems; communication channel usage and consequences of innovation (p. 101). Diffusion still attracts researchers of diverse traditions. As a result, an initial model of diffusion theory has been developed over time by adding the following concepts:

- "The critical mass, defined as the point at which enough individuals have adopted an innovation that further diffusion becomes self-sustaining.
- A focus on networks as a means of gaining further understanding of how a new idea spreads through interpersonal channels.
- Re-invention, the process through which an innovation is changed by its adopters during the diffusion process" (Rogers, 2004, p. 19).

While these three concepts have been applied to diverse types of innovation diffusion studies, this dissertation relies on the second model of theory, exploring the spread of ideas about journalism innovations though interpersonal channels.

Diffusion process. Adopting a new idea is difficult, and a lengthy period of time may pass after a new idea becomes available and before the time when it is widely adopted. A common problem of individuals and organizations is how to speed up the rate of diffusion of an innovation (Rogers, 2003). Katz, Levin and Hamilton (1963) noted that the process of diffusion may be characterized as the

"(1) acceptance, (2) over time, (3) of some specific item-an idea or practice, (4) by individuals, groups or other adopting units, linked (5) to specific channels of communication, (6) to a social structure, and (7) to a given system of values, or culture" (p. 240). The following sections will explore these concepts in more detail.

Acceptance. Acceptance of an innovation is usually defined rather arbitrarily and depends on the purpose of a study, whether a measure of continuance is more appropriate, or what is of interest is to consider only if innovation has been ever used by an adopter (Katz, Levin and Hamilton, 1963). For the purposes of this dissertation, acceptance (adoption, implementation) is used with the latter meaning, measured by the frequency of use of specific innovations in classes.

Time. Time is an important characteristic of diffusion studies exploring spread of innovation and categorizing adopters based on time of acceptance from early adopters to laggards (Rogers, 2003). However, data are not always available for researchers to study changes of behavior of adopters over time, so they need to rely on either recollections or other existing records (Katz, Levin and Hamilton, 1963). When the data are not available, researchers study adopters' behavior toward innovation at the given moment, assuming the normal *S*-curve dynamic of adoption of an innovation. Data available for this dissertation does not allow for tracking diffusion of journalism innovations among Georgian journalism educators, rather it examines the state of adoption at a given moment. However, it measures the adoption of a mix of innovations introduced into journalism curriculum discourse at different times during the past decade as explained in Chapter 2.

Innovation. Innovation is a specific item, idea or practice, perceived as new by an individual or other units of adoption (Rogers, 2003). It is problematic to objectively define an innovation, since the meaning of an innovation across cultures and between adopting units can differ; however, Katz, Levin and Hamilton (1963) mentioned that this problem is somewhat reduced "when the items involved are practices more than ideas, items of lesser rather than greater pervasiveness, and when the study is concentrating on diffusion within a particular culture rather than across cultures (p. 243). This dissertation is interested in the composite of innovations in journalism curriculum, discussed in Chapter 2.

Rogers and Shoemaker (1971) described five attributes of innovation that influence its adoption: *relative advantage, compatibility, complexity, trialability,* and *observability*. Although this research project is not a complete study of innovation attributes, some of these attributes require more attention. Innovations in journalism education, as discussed in Chapter 2, originated from the Western culture and educational institutions. Extensive Western aid worldwide brings along changes to the journalism education, sometime causing resistance, other times voluntary diffusion by adopters. Given this context, two main attributes of innovation may be critical: *observability* and *compatibility*.

Observability. It is "the degree to which the results of an innovation are visible to others. Some ideas are easily observed and communicated to other people, whereas other innovations are difficult to observe or to describe to others (Rogers, 2003, p. 258). Sometimes also measured as communicability, observability is characterized by how available and visible an innovation is to an adopting unit. According to Straub (2009) "the idea behind observability is

similar to unspoken peer pressure" (p. 631) – an individual is more likely to adopt an innovation if all her peers have it. "Observability leads to a social threshold – the point when an innovation becomes so pervasive in a culture that even those who would not normally adopt consider adoption of an innovation" (Straub, 2009, p. 631). Whether Georgian journalism educators have access to information about innovations being introduced in journalism curriculum in the West, and whether product and process innovations are equally observable for them, is of interest of this study. Observability is usually positively related to adoption of an innovation, although not considered as an attribute that has a consistent significant relationship to adoption. Among the innovations in journalism, there are product-related innovations and process-related innovations, although they may somewhat overlap as described in Chapter 2. It can be assumed that product-related innovations will be more easily accessible and visible to adopters than process-related innovations, such as, for example, Search Engine Optimization, which may require purposeful examination to discover. However, in some cases specific process-related innovation can be imposed on adopters, and become more easily observable.

Innovations in journalism curriculum taking place in the West are transferred to Georgian education institutions and journalism programs. Even though the US journalism education model has been adopted by UNESCO and included in the model journalism curriculum for the rest of the world, diffusion of this model along with the new subjects and topics to be taught is being transferred "to a given system of values, or culture" (Katz, Levin and Hamilton, 1963, p. 240).

Compatibility. For this study, another important attribute of innovations is *Compatibility*. *Compatibility* is "the degree to which an innovation is perceived as consistent with existing values, past experiences, and needs of the receivers" (Rogers and Shoemaker, 1971, p. 145). This definition assumes that innovation is perceived in a particular context and relation of innovation with other elements of this context influence the adoption. "Innovations that fit into an individual's understanding or schema will be more easily adopted" (Straub, 2009, p. 631). Compatibility of an innovation is its consistency with "values, experiences and needs of the adopting unit" (Ettlie and Vellenga, 1979, p. 431). Compatibility is stated to be positively associated with adoption of innovation, however in their meta-analysis of innovation attribute studies and their relations to rate of adoption, Tornatzky and Klein (1982) suggested that while the findings of the reviewed studies show positive relation of compatibility of an innovation to its adoption, this conclusion is limited by the differences in measures – some studies measured practical compatibility, others value compatibility, and some a combination of both. Similar to value compatibility, Getz, Siegfried and Anderson (1997) in their research on adoption of innovations in higher education, assumed that institutions with different missions may behave differently in adopting innovations and suggest that mission seems to provide some explanation for certain types of innovations.

Given this past research, this dissertation explores the priorities of Georgian journalism education programs in terms of introducing innovations in their curricula and the perceived importance of innovations taking place in journalism education in the West for the Georgian journalism programs.

Adopting units: Individuals. Generally, the innovation adoption process is not separable from the diffusion process, which includes adopting units in its definition. As is the case for the other elements discussed above in the diffusion process, the adopting unit facilitates or blocks the flow of acceptance of innovation (Katz, Levin and Hamilton, 1963). Adopting units can be individuals, groups, organizations, states, etc.

Rogers (2003) described five stages of adoption decision process by an individual (adoption by an organization will be discussed later in this chapter). First is a knowledge stage, when an individual becomes aware of the existence of an innovation and understands how it functions; next is a persuasion stage, when an individual becomes interested in an innovation; the decision step refers to forming an attitude, when an individual may form a negative attitude toward an innovation and discontinue adoption, or form a positive attitude and advance to the next step – implementation, or putting an innovation to use, trying it out and personalizing it; the last step is an individual's need for reinforcement of an innovation-decision made earlier.

This dissertation is based on cross-sectional data, rather than tracking innovation adoption over time. Therefore, it focuses on an implementation stage of the adoption process, where individual educators integrate innovations of journalism in their courses.

Adopting units: Organizations. The literature has focused mostly on the process of innovation adoption by individuals, but in most cases, individuals--being part of a larger social system--cannot adopt a new idea until an organization adopts it. Research on innovation in organizations has been reviewed and criticized extensively over time by scholars (see for example,

Rogers, 2003; Tornatzky and Fleischer, 1990; Van de Ven and Rogers, 1988; Wolfe, 1994), agreeing that the challenge of innovation research in organizations lies in the complex, context-sensitive nature of the phenomenon and it cannot be understood without thorough attention to the personal, organizational, technological, and environmental contexts within which it takes place (Tornatzky and Fleischer, 1990).

Certain processes need to take place for an innovation to achieve a "diffusion threshold" (Grant, 2014, p. 37) and then take off and start diffusing. Along this line, systematic review of adoption of innovations in service organizations carried out by Greenhalgh and colleagues (2004) revealed that empirical research in organizations and management shows that individual adoption is only one component of "assimilation of complex innovations in organizations" (p. 601) and many other factors need to be in place for innovation to diffuse within an organization.

Zaltman, Duncan and Holbeck (1973) defined an organization as a social system created for attaining some specific goals through the collective efforts of its members. According to Rogers (2003) an organization is a stable system of individuals who work together to achieve common goals through a hierarchy of ranks and a division of labor. Innovation in organizations thus is affected not only by organization characteristics, but also by individuals' characteristics.

Rogers (2003) pointed out that innovation in organizations has been studied first by correlating independent variables with organizational innovativeness in cross-sectional data analysis, while later research focused on the innovation process in organizations (Zaltman, Duncan and Holbeck, 1973), divided into two subprocesses: initiation and implementation. Initiation involves

awareness about innovation, information gathering, conceptualizing, and a decision to adopt, while implementation is an action taken to adopt, redefine, and routinize an innovation.

During implementation three stages take place (Rogers, 2003): redefining or restructuring of an innovation, aimed at reinventing an innovation so that it meets organization's structure, needs and goals more closely; clarifying, when the idea of reinvented innovation is becoming increasingly adopted and its meaning for an organization is constructed; routinizing or sustainability refers to the degree to which an innovation continues to be used in an organization.

Study of innovative behavior in an organization, despite vast literature and scholarly interest, shows that the most consistent theme is that "its research results have been inconsistent" (Wolfe, 1994, p. 405). Adoption of social and educational innovations is even more complicated, as it often depends on "professional judgment, creative insight, and practical experience" (Baldridge and Burnham, 1975, p.166) and the effect of innovations is harder to evaluate in a short time.

However, certain characteristics of an organization have been found to influence adoption. For example, studies have been consistent in finding that the *size* (Kimberly and Evanisko, 1981; Rogers, 2003) and *complexity* (Baldridge and Burnham, 1975; Rogers, 2003) of an organization are positively related to its innovativeness. Although measured differently, in line with the social innovation studies (Baldridge and Burnham, 1975; Kimberly and Evanisko, 1981) *size* for the purposes of this dissertation is focused on the human resources of institutions devoted to teaching journalism. The more individuals employed to teach journalism courses, the bigger the journalism education organization. Closely

related to size of an organization is *complexity*, which increases along with the size of an organization (Baldridge and Burnham, 1975). *Complexity* is usually measured by the number of organizational components (in the case of this research: education levels, number of programs, as well as whether it is a stand-alone journalism school or is embedded into another department, such as social sciences or humanities).

Among the organization environmental factors specifically in educational innovation adoption literature, research shows (Moolenaar and Sleegers, 2010) that *perceived innovation-oriented climate* in an organization "may make teachers willing to collectively learn and create new knowledge and practices" (p. 109). Because of the complexity of an innovation adoption by an organization, there could be numerous factors that can influence the adoption process despite of perceived innovative climate. This dissertation studies the effect of organization size and complexity on adoptions of innovation within Georgian journalism programs and, in addition, explores how perceived innovative climate in a journalism program affects overall adoption of innovations.

Communication channels. Information about innovation is transmitted through communication channels. Channels can take direct communication form, observations of peers, or mass media (Bandura, 2001; Rogers, 2003). Different communication channels play different role in and adoption of innovation decision process (Rogers, 2003). Ryan and Gross (1943), for example, in their famous study of Iowa farmers used the decision-making approach to confirm that farmers used mass media channels at the knowledge stage, while early adopters influenced the acceptance of the new seed by later adopters at the persuasion stage.

Cosmopolite communication channels, those linking an individual with sources outside the social system under study, are more essential at knowledge stage, while local channels are mostly more important at the persuasion stage (Rogers, 2003).

Katz, Levin and Hamilton (1963) suggested that a diffusion study should "classify individuals according to their place in a social structure -- that is, according to their relationships with other people" (p. 246) to allow us to understand "whether differential placement in relationship to others has something to do with passing on, or reinforcing, information concerning the innovation" (p. 247). This approach is discussed at length in the next section of this chapter. This dissertation studies professional communication channels among Georgian journalism educators within journalism programs and pays particular attention to the network position of journalism program leaders to understand their role in discussions of professional issues. It also studies communication among programs within a whole network to reveal the centrally positioned actors in the complete network of Georgian journalism educators.

Social structure, also referred to as a *social system*, is "a set of interrelated units that are engaged in joint problem solving to accomplish a common goal" (Rogers, 2003, p. 37). In other words, it is the context, environment, or culture in which an individual is embedded, and can be a social environment, organizational group, informal group, etc. From diffusion research perspective social system constitutes of a set of boundaries within which innovations diffuse and it describes the major communication interpersonal channels through which diffusion occurs (Katz, Levin and Hamilton, 1963).

This dissertation explores the effects of communication among the faculty members within each journalism program and effects of such communication on overall adoption of innovations by the programs.

Diffusion of Innovation theory has thus far been described as a process of acceptance over time of some specific item -- an idea or practice by individuals, groups or other adopting units linked through specific channels of communication as a social structure, and to a given system of values, or culture. The next section will introduce network analysis as a paradigm, which may be used to explore diffusion of innovations. First, the general concepts are described, and then its application to study of innovations with the emphasis on education research follows.

3.2. A Network Analysis Perspective

General concepts and assumptions. The social network analysis perspective demonstrates "how social structure – who communicates with whom – determines the spread of influence, ideas, and products" (Valente, 1995, p. 1), and therefore is often used in explaining diffusion of innovations. The central point of this perspective is that relationships influence an individual's behavior above and beyond the influence of one's individual characteristics (Valente, 2010). Focus on explaining an individual's behavior based on their characteristics, such as education, gender, values and ideology, most of the time ignores the broader context in which actors are embedded and interact with other social actors (Valente, 2010). Network analysis specifically assumes that individuals participate in social systems that connect them to others, and they are an important source of influence on each other's behavior (Knoke and Yang,

2008). Unlike traditionally individualistic and variable-centric social sciences, the network perspective emphasizes identifying and measuring structure and contents of relations among actors, which differentiates network analysis from the rest of the social science methodologies.

The network perspective suggests that structural relations are more important in understanding observed behavior of individuals than are their attributes such as age and gender. Individuals' attributes are same in different contexts, but their observed behavior may change when they are at home, at work, or in other social settings. In other words, the structural relations, unlike individual attributes, are not fixed and they exist only at a specific context (Carolan, 2014; Knoke and Yang, 2008; Rogers, 2003).

Another main assumption of network analysis perspective is that social networks affect the perceptions, beliefs and actions of actors. Direct contacts and intensive interactions give actors access to better information, and increase the probability of an actor to influence or be influenced by others (Coleman, Katz and Menzel, 1966; Rogers, 2003; Rogers and Kincaid, 1981; Valente, 1995). Actors in a closely connected group are more likely to influence one another and have similar adoption times, especially for innovations that are interdependent, such as telephone or electronic communication (Rice et al., 1990; Valente, 1995). However, diffusion of information or an innovation would be restricted to a number of unconnected groups unless the weak ties – individuals loosely connected in a network, were serving as bridges between otherwise unconnected groups and allowing for further diffusion of an innovation (Granovetter, 1973; 1983).

The third assumption of network analysis extends the idea that social network analysis is a perspective integrating theory and method (Mische, 2011). This assumption is that relations are constantly changing as actors interact with other in shifting context (Carolan, 2014; Knoke and Yang, 2008) and this process is hard to explain either with conventional social theory, or by traditional social science methods.

Foundational concepts of the network analysis perspective are *actor, ties, groups, relation,* and *social network* (Carolan, 2014). Knoke and Yang (2008) have provided definitions of these concepts: "Actors may be individual natural persons or collectivities such as informal groups and formal organizations" (p. 6). "A relation is generally defined as a specific kind of contact, connection, or tie between a pair of actors, or dyad" (p. 7). Relations may be either directed, where one actor initiates communication with another, while the second actor only receives it, or nondirected, where two actors are conversing. A connection between actors creates *ties* (e.g. *dyad* is a tie between two actors, *triad* is a tie between three actors, etc.).

Social network analysis explores the relationships among systems of actors, where a system consists of ties among actors in a bounded group, thus it is critical for the study of system effects – the influences of others in a system on the behavior of an individual member of the system (Rogers and Kincaid, 1981).

Actors have different types of relations, together forming a social network, "a structure composed of a set of actors, some of whose members are connected by a set of one or more relations" (Knoke and Yang, 2008, p. 8). Studying these different types of relations, as Rogers and Kincaid (1981) summarized, a communication network analysis normally is concerned with identifying cliques

(sub-system whose elements interact with each other relatively more frequently than with other members of the communication system) and determining how they affect communication behavior in the system; with identifying certain specialize communication roles, such as liaisons (an individual who links two or more cliques in a system, but who is not a member of any clique), bridges (an individual who links two or more cliques in a system from his or her position as a member of one of the cliques), and isolates; and finally with measuring various communication structural indexes (such as communication connectedness) for individuals, dyads, personal networks, cliques, or entire systems. (p. 83)

Application. Social network analysis has attracted massive scholarly interest in the past several decades. For example, as Borgatti and Foster (2003) found in their analysis, the number of publications using social network perspective within the social sciences in the previous two decades grew exponentially. Education, as a field, has been slower than other social science disciplines in adopting the social network analysis, although interest has increased more recently (Carolan, 2014). However, most of these studies focus more on mapping the nature of social ties among teachers, schools leaders or parents, and describing who is connected to whom, rather than to uncovering what flows through those ties in the way of information, advice, problem solving, material resources, interpretation and influence (Carolan, 2014; Little, 2010).

Application on the organizational level. Adoption of an innovation, or change of behavior toward the innovations by an individual, is a function of the behavior of others in a group or a system, and the behavior of an individual is also partly a function of the communication networks in which the individual is

a member (Rogers and Kincaid, 1981, p. 141) and the potential for diffusing of a particular innovation depends on individual's communication patterns with others in a system.

Common terms to describe the social network characteristics at the organizational level are *density*, *reciprocity* and *centrality* (Carolan, 2014; Daly, 2010). *Density* is defined as the existing proportion of ties in a network to possible ties; in a dense network, many people are connected to one another, while in a sparse network, there are fewer connections among the individuals in the network. *Reciprocity* addresses the mutuality of ties; a relationship between two people is reciprocal when both individuals indicate that they are connected to one another. The higher the reciprocity, the more dyadic relationships are mutual. *Centralization* refers to a network in which relations are focused on one or a small set of actors. Research questions in this study will attempt to map the professional network of Georgian journalism educators, considering their network within their educational institutions as well as outside of these institutions.

Moolenaar and Sleegers (2010) found that density of the network and work-discussion relationships is significantly related to school's innovative climate. In other words, the more densely connected the school's social networks were around work discussions, the more teachers perceived their school to be characterized by an innovation-oriented climate.

Literature review along with the research questions and hypotheses above indicates the importance of both macro and micro lenses of analysis in understanding adoption of innovations from an individual, organizational and whole network perspective, as well as the potential of networking maps and

measures for evaluating the overall innovativeness of Georgian journalism educators.

The previous sections of this chapter have discussed the general concepts of network analysis perspective, as well as the application of network analysis in study of innovation adoption within organizations. In light of these concepts, the present dissertation is interested in exploring the professional network of Georgian journalism educators and the network effect on adoption of innovations in journalism education. By applying the network analysis perspective, it emphasizes the importance of social structure, actor position, and the quality of ties that influence the types of knowledge and information actors receive (for arguments on importance of social structure, see for example, Becker, 1970; Burt, 1980; Rogers and Kincaid, 1981; Scott, 2000). Exploration of and analysis of the network of social relations within journalism programs in Georgia, as well as among these programs and its faculty, can be an important first step to not only understand who are the influencer adopters of innovations in journalism education, but also to identify the potential for acceptance or resistance to such innovations. Besides mapping the network of journalism educators in Georgia, this dissertation is also interested in understanding to what extent characteristics of social networks affect innovative curriculum adoption by journalism programs. Based on the summary above, the next section presents research questions and hypotheses of this research project.

3.3. Hypotheses and Research Questions

In this section research questions and hypotheses are grouped based on variables of innovation and of network perspective.

Innovation acceptance for the purposes of this study examines how much an innovation is used or implemented and routinized in journalism education programs in Georgia. Three research questions help to understand which innovations are accepted and which are considered less important.

RQ1: What is the distribution of innovations adopted among Georgian journalism educators?

RQ2: Which innovations are considered the most important to the Georgian journalism programs?

RQ3: Which innovations are considered the least important to the Georgian journalism programs?

Innovation attributes. Two attributes are of interest in this dissertation – innovation observability and innovation compatibility.

H1: Observability of an innovation is positively related to adoption of the innovation.

RQ4: How does the perceived compatibility of innovations in journalism curriculum relate to actual adoption of innovations in the program?

Organization characteristics. Certain organizational characteristics are found to positively relate to adoption of innovations by organizations. This study is concerned with studying size and complexity.

H2. Size of an organization is positively related to adoption of innovative curriculum.

H3. Complexity of an organization is positively related to adoption of innovative curriculum.

RQ5. How does perceived innovative climate in an organization relate to organizational adoption of innovations in journalism curriculum?

Whole network of journalism educators merely maps the professional communication among the educators and is described by three main measures – density, reciprocity and centrality. The related research questions on an individual level ask:

RQ6-a: How dense is Georgian journalism educators' professional network?

RQ6-b: How much reciprocity is reported in the whole network of educators?

RQ6-c: Are there centrally positioned individuals in the network?

Individuals belong to journalism programs and link them to each other. The following research questions will examine how the Georgian journalism program's professional network looks:

RQ7-a: How dense is Georgian journalism programs' network?

RQ7-b: How much reciprocity is reported among Georgian journalism programs?

RQ7-c: Are there centrally positioned journalism programs in the network?

One of the benefits of studying social network in organizations is that it allows for understanding of informal networks, rather than making assumptions based on the existing formal network, since diffusion and change do not always happen through the formal structure. Thus, this research project asks:

RQ8: How are formal leaders of journalism programs positioned in an informal network of professional communication within organizations?

Analysis of network attributes allow for comparing journalism programs based on network characteristics:

RQ9-a: How do journalism programs compare to each other in terms of density of faculty networks?

RQ9-b: How do journalism programs compare to each other in terms of reciprocity of faculty networks?

Network density, reciprocity and centrality have been seen to be positively related to adoption of innovations, since the intense exchange of communication carries social pressure effect and engages more people in adoption behavior. Thus, the following hypotheses posit:

H4-a. Density will be positively related to innovations adoption by journalism programs.

H4-b. Reciprocity will be positively related to innovations adoption by journalism programs.

H4-c. Centrality will be positively related to innovations adoption by journalism programs.

H5. Density will be positively related to perceived innovative climate in an organization.

Summary. This chapter reviewed the literature on innovation adoption, development of this theory, process of innovation diffusion and stages of adoption among individuals, as well as by organizations. It presented network analysis perspective and explained main components of it and concluded with research questions and hypotheses. The next chapter covers research design, population, measures, instrument and data analysis methods employed in this dissertation.

CHAPTER 4

METHOD

This chapter provides a description of the research methods employed in this study. The chapter begins with a discussion of the value of network analysis for the purposes of this dissertation. Next, a definition of the population studied is presented, followed by the variable definitions and the measures used. Finally, the instruments, data collection and data analysis procedures are explained in detail.

The network perspective provides a robust methodology to describe and examine the structure of relational networks and the related outcomes (Daly, 2010). This study employs a multilevel, complete-network analysis exploring the relations in the whole network, which allows identification of the naturally existing peer networks; collecting data simultaneously on the individual actors and on the structures generated by the relations among them; and identifying indirect ties between and among actors (de Lima, 2010). To address the research questions and hypotheses of this study and understand adoption of innovations among Georgian journalism educators, as well as their professional communication network and how it affects adoption behavior, correlations among network-related variables and variables measuring adoption by the organizations were conducted.

Whole network analysis, employed by this dissertation, measures the relations among actors in a bounded social group by collecting data on relations among the group's actors and includes ego-network (network of each actor) data, as well as information about the network's dyads (Carolan, 2014). Professional network data collected within each organization used the roster method, measuring the frequency of communication between each dyad of journalism educators within a program. Before turning to in-depth results, it is worth noting that several educators were teaching at different universities, two journalism programs had the same acting director, and some program directors were lecturers at other universities. These natural links allowed the collection of data across the whole network in addition to identifying a name-generated network, where actors were asked to give names of those outside of their universities with whom they discussed innovations in journalism. Data on relations with any actor participating in this study were extracted and added to the relational matrix.

Besides describing the professional network and relations among Georgian journalism educators, the primary interest of this dissertation was to explore how this network and relations affect adoption of innovations by journalism programs in Georgia.

The following sections provide details regarding the population, measures, instrument, procedures and tests used in the data analysis.

4.1. Population

The network analysis perspective assumes that actors do not act in isolation; rather, the behavior of individuals in the network is dependent on their relations with other actors (Rogers, 2003). Therefore, for a network analysis

study, defining the target population is especially critical. Who is included in the analysis and who is excluded affects whether the analysis will explain the subject of interest of the study, or will render meaningless results.

To define the population, or address the "boundary specification question" (Knoke and Yang, 2008) this dissertation uses a *nominalist* approach suggested by Laumann, Marsden and Prensky (1989) and used previously by scholars for larger-scale classical network analysis studies (Coleman, Katz and Menzel, 1966; Galaskiewicz, 1979; Laumann and Pappi, 1973). The nominalist approach suggests delineation of network boundaries to be based on what is analytically relevant for purposes of the study. It is more appropriate for this dissertation, unlike the *realist* approach, where boundaries are defined by the actors themselves and the "network is treated as a social fact only in that it is consciously experienced as such by the actors composing it" (Laumann, Marsden and Prensky, 1989, p. 65). Using the nominalist approach, this dissertation studies communication of all journalism faculty members in 16 journalism programs in Georgia.

Aimed at investigating the professional relations among Georgian journalism educators, this research consists of a *census* of Georgian journalism educators. The following steps for identifying the population were taken: first, all twenty-one authorized higher education institutions that had journalism programs were selected from a complete list of 72 authorized institutions published by the Ministry of Science and Education of Georgia.[1] Among the

[1] The Ministry of Education and Science of Georgia carries an authority to set criteria, grant or withdraw authorization from any educational institution in the country. A list of authorized higher education institutions is available from the

selected institutions 15 were universities with all three levels of education (bachelor, master and doctoral), not necessarily all in journalism, and six were teaching universities, offering only bachelor and master level programs.

This research was interested in the already established behavior of educators such as the frequency of use of specific innovations in their courses. Selected programs had to meet the following three assumptions: they had to have been teaching journalism for at least one uninterrupted year (rather than starting in the current academic year, or had authorization revoked in the past year); they had to be accepting students in the current academic year (indicating that teaching journalism remains important for the faculty); and they had to offer at least three general journalism courses (full list of courses taught by the selected educators is included in Appendix A, however, content of courses may differ, but is not explored in depth in this research) to make adoption behavior comparable. After an initial survey of journalism program leaders, 16 universities that met all three criteria were selected for inclusion in the study (See Appendix B for the list of selected universities).

There are three approaches for the determination of boundaries on the inclusion of actors in network analysis perspective: *positional*, *relational*, and *event-based*. *Positional* is the most common way of identifying a complete-network population based on some specific characteristic (Carolan, 2014). The *relational* approach is the most commonly employed in ego-network studies and asks actors to nominate other actors for inclusion, using snowball-sampling and reputational sampling method (Knoke and Yang, 2008). Third, *event-based*

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website: http://www.mes.gov.ge/content.php?id=1855&lang=eng

method includes actors that participated in a set of activities taking place at specific places and times (Scott, 1991).

This dissertation employs a positional (Laumann, Marsden and Prensky, 1989) approach to boundary determination, conducting a *census* of the leaders of journalism programs in all universities that meet criteria set by this study, as well as all faculty members who teach journalism courses in these selected universities (N=73). It was impossible to contact five journalism educators, reducing the number of respondents to 68, and the response rate of the *census* to 93.2%.

General overview of population. Data was collected from 16 journalism schools, including 15 leaders and 53 faculty members.[2] There was a wide variety among the Georgian journalism programs in terms of the numbers of faculty members who teach journalism. Some institutions had up to nine faculty members, while others had only three. Most of them, including journalism program leaders who also taught journalism courses, were full-time faculty (57%, N=33), while adjuncts accounted for 38% (N=22), and only 5% (N=3) were part-time faculty members. 15% (N=9) of the educators also taught at another university. The majority of Georgian journalism educators (60%, N=35) held a Ph.D., 40% (N=23) had master's degrees, and the majority of them have received higher education from a Georgian university (90%, N=52). The journalism

[2] One of the 16 school leaders serves as an acting head of two journalism programs, thus although actual number of subjects was 15, this one actor was interviewed for each school separately. Similarly, among the program leaders some also taught in their or other universities, as well as several faculty members taught at several universities, thus N=76 is not an actual number of educators and program leaders, but represents innovation adoption behavior in all journalism courses, sometimes carried out by a same person.

experience of the faculty members ranged from 0 to 50 years (M=15.24), and almost half 44% (N=26) said that they were currently actively practicing journalism at different media outlets.

4.2. Measures and Instrument

Measures. Most of the measures in the instrument are based on existing scales and previously used measures. One of the problems with innovation studies is that innovation as such is different from one study to another. Because there is no one answer to the question of what journalism educators should teach their students to prepare them for the future careers, based on the review of literature and debate on innovations occurring in today's changing media landscape, this study developed a scale measuring overall innovativeness of journalism curriculum. An initial innovations scale was informed by several sources: UNESCO model journalism curricula competencies (Banda, 2013; UNESCO, 2007), competencies suggested by the literature (e.g. Carpenter, 2009, Du and Thornburg, 2011, Thornburg, 2011; Wenger and Owens, 2012; Wilkinson, Grant and Fisher, 2013) on the needs of industry and requirements from the journalism graduates, as well as from professional discussions in trade publications (e.g. Finberg, 2012; 2013).

The scale that included 35 items was tested with a group of Ukrainian, Armenian and Azerbaijani educators and journalists who were also teaching at universities or have participated in journalism training. *Adoption of innovations* by the faculty members was measured based on a how often during their classes they had covered particular innovation. They had to choose among the following answer options: *Never (1); In less than one complete session (2); in two to four sessions*

(3); in about half of all sessions (4); in most sessions (5); in all sessions (6). Because of the small number of cases (N=16) during the scale test, and large number of items on the scale, factor analysis was not possible, so the decision on how to combine the variables was made based on analysis of variance, means and skewness of the results. The items with very small or no variance were either removed or combined into broader categories and included in the definitions of these categories, as showed in Table 4.1. The instrument presented the nine innovations along with the defining examples for each as presented in Table 4.1.

Since this study included analysis at two levels, the individual level and the organizational level, two measures of adoption of innovations were created – an individual-level measure and an organizational-level measure. Since adoption of individual innovation by a faculty member depends on the courses taught by him or her, rather than specifically measure the subject's innovativeness, a more reasonable approach to measuring individual adoption was using the mean adoption of all innovations as a measure of overall innovation adoption by a person. *Adoption by an organization* was computed as the sum of the means of innovation adoption by all faculty members from this organization.

Size of an educational institution was measured by the number of journalism educators in a journalism program.

Complexity of an educational institution is measured on a scale one to five, where: *1* is a journalism program embedded in a larger department of social sciences or humanities, teaching one program on one (bachelor's or master's) level and has no student media;[3]

[3] Respondents were asked to indicate which type of the student media outlets

Table 4.1. *Innovations and definitions provided in the survey instrument*

Innovation	*Definitions provided in the survey*
Multimedia skills	Refers to teaching digital photo, audio, and video reporting, editing and distributing online
Digital storytelling	Refers to teaching nonlinear storytelling, writing in new ways, in blocks, as well as creating and maintaining blogs
New storytelling forms	Refers to teaching of live blogging, live streaming
Social media	Refers to teaching of maintaining social media accounts; curating information; communicating with the audiences; promoting through social media
Search Engine Optimization	Refers to teaching of tagging, driving traffic to web site through linking, keyword relevance
Engaging audience	Refers to teaching of use of citizen or audience produced content, creating interactive content, creating interactive graphics
Entrepreneurship	Refers to teaching how to assess web analytics, teaching of entrepreneurial "start-up" skills, understanding of new business models of media
Data journalism	Refers to teaching of finding data to support stories, finding story ideas in data, data cleaning and understanding and visualizing data
Programming basics	Refers to teaching programming concepts and syntax, HTML, CSS basics, App developing basics

2 is an embedded program, one level only, with some student media;

3 is an embedded program, both, bachelor and master's level, some media;

they have: TV, radio, print, online.

4 is an embedded program, both levels, at least half of the media;

5 is a stand-alone journalism school, at least half of the media.

The scale to measure *perceived innovative climate* in an organization was adopted from Moolenaar and Sleegers (2010) and was measured on a six-item scale asking subjects to indicate whether they *strongly disagree, disagree, agree*, or *strongly agree* with each of the following statements:

- *Teachers in your program are generally willing to try new ideas;*
- *Teachers in your program are continuously learning and developing new ideas;*
- *Teachers in your program are constantly trying to improve their teaching;*
- *Teachers in your program are willing to take risks to make this school better;*
- *Teachers in your program have a positive 'can-do' attitude;*
- *Teachers in your program are encouraged to go as far as they can*.

Observability of an innovation was measured by asking subjects to name as many sources as they could where they had seen each of the nine individual innovations being used. Sum of means of numbers of sources of all individuals measured observability of an innovation at the individual level.

Compatibility with the school's mission of each innovation was measured by asking journalism program leaders to indicate on a nine-point scale (1 being *does not meet the goals and values* and 9 being *meets exactly goals and values*) how much an innovation fit their program's mission, goals and values.

Social network data was collected by asking the subjects intensity of communication (*0 – never, 1 – less than once a month, 2 – once a month, 3 – few times*

a month, *4 - weekly*) with each faculty member in their institution and any other professional alters outside their institution within the past six months.

Density is the number of ties in the network reported as a fraction of the total possible number of ties (Carolan, 2014). Density of the whole network of Georgian journalism educators, as well as of individual organizations comprising of more than three faculty members, was computed.

Reciprocity is the extent to which a tie from A to B is matched by one from B to A and is measured by counting the number of reciprocated ties and dividing these by the total number of ties (Borgatti, Everett and Johnson, 2013).

Centrality refers to a node's position in a network, its structural importance. It is a family of concepts, rather than a single measure, however, for the purposes of this study one of the most commonly used measure, degree centrality is employed. Degree centrality is measured by a number of professional ties a node has (Borgatti, Everett and Johnson, 2013).

Instruments. This exploratory cross-sectional study used two survey instruments to address the research topic through a *census* of journalism program faculty members in Georgia. The survey method is vital source of network data for the many situations where information is not otherwise available and direct observation or other methods of data collection are impractical (Marsden, 2011).

Procedures. Two questionnaires were developed for data collection. One was directed at journalism program heads (Appendix C) and included a set of close-ended questions related to organizational attributes, such as size and complexity, mission, personal attitudes, and network and innovations adoption behavior (if he or she also taught a journalism course); as well as open-ended questions regarding student media and other additional information to help

better understand how journalism is taught in their university. The second questionnaire was directed at journalism educators (Appendix D) and covered the professional network, organization's perceived innovative climate, and adoption behavior of innovations. Both questionnaires were translated into Georgian by the author. To avoid confusion or misrepresentation of terms that may not have been widely used in Georgian yet, innovations were presented in both Georgian and English language. Both questionnaires in Georgian were pre-tested and revised based on the responses with former journalism department heads and educators in Georgia.

4.3. DATA COLLECTION

To reduce the nonresponse bias that is considered to be one of the biggest challenges for a complete network analysis (Knoke and Yang, 2008), instead of self-administered questionnaire, two trained interviewers conducted in-person interviews after obtaining approval for the study from the Internal Review Board (Appendix E). Interviews were conducted during the summer of 2014. A letter of consent containing information about the research, author and types of questions to be asked, were read before the interview in order to inform the subjects about the research they were taking part in and allow for voluntary participation or withdrawal. Answers were filled in on the paper questionnaire that was also read by the interviewer. Data were entered in password-protected network storage space, names of actors were recoded for anonymity purposes and data were extracted for further analysis.

4. 4. Data Analysis

First of all, since this study used a new scale of innovations, its reliability was assessed using Cronbach alpha reliability estimate. Alpha for all subjects of the study was .901.

SPSS and UCINET (Borgatti, Everett and Johnson, 2013) were used to analyze data. To address the research questions with regard of innovations adoption and importance of each innovation for all organizations, descriptive statistics including mean adoption of innovations by individual faculty members, overall innovation adoptions and their compatibility and importance for all Georgian journalism programs were computed. To test hypotheses on effects of innovation attributes, as well as of organization characteristics on adoption of innovations, Pearson's correlations were executed.

This dissertation describes network of Georgian journalism educators based on their reported professional communication frequencies with others within their institutions, as well as within the whole network. Data was entered in a relational matrix in UCINET and Netgraph was used to map the whole network, as well as a network of the journalism programs based on reported communication between program faculties. Communication within each organization was also mapped.

Because eight of 16 programs had only three faculty members, to produce meaningful results, they were excluded from further network analysis within organizations, leaving eight universities with more than three members of faculty to be analyzed individually. Cohesion of organization-level communication was measured to understand the networks within organizations. Degree centrality was measured for each organization to examine how the

formal leaders are positioned within the organization network. In addition, density and reciprocity of ties within organization networks were measured, as the most frequently used characteristics of network analysis.

Since network data do not satisfy assumptions of statistical inference because of the non-independent observations, special quadratic assignment procedure (QAP) was used (Borgatti, Everett and Johnson, 2013) to run the correlations between network variables (*density, reciprocity, centrality*) and innovation adoption, as well as perceived innovative climate. QAP is identical to its non-network counterpart with regard to parameter estimates, but uses a permutation technique (Borgatti and Cross, 2003) to construct significant tests, levels of which are based on distributions generated from 5,000 or 10,000 random permutations (Borgatti and Cross, 2003, p. 438).

*Summary***.** To summarize, this research used two survey instruments and network analysis to explore the innovation adoption among Georgian journalism educators and journalism programs. The study conducted a *census* of journalism educators (N=53) and journalism program leaders (N=15). In-person interviews were used for data collection, with an instrument that measured innovation adoption behavior by educators, as well as their professional communication frequencies to other journalism faculty members within and outside their organizations. Innovations scale was constructed and used for overall innovation adoption in an organization. In addition, another instrument designed for journalism program leaders asked for compatibility of each innovation to their program values and goals. Another set of questions asked them to describe the organization complexity.

The following chapter presents the results of the hypothesis tests and the analysis of the research questions.

CHAPTER 5

RESULTS

This chapter presents the results of the hypotheses tests and research question analysis. First, innovation acceptance among Georgian journalism educators is explored. Next, relation between innovation attributes and innovation adoption are presented, followed by the role of organization characteristics in innovation adoption by educational institutions. Then descriptive results of the whole network of Georgian journalism educators and journalism programs are presented, followed by correlations between innovation adoption by institutions and network density, reciprocity and centrality. Finally, a table summarizing the hypotheses, their tests and results end the chapter.

The first three Research Questions addressed *Innovation acceptance:*

RQ1: What is the distribution of innovations adopted among Georgian journalism educators?

Analysis showed that all educators mentioned at least one innovation use in their classes. Responses to all innovations were approximately normally distributed with skewness between -0.389 and 1.004 and the variances are also approximately equal. Table 5.1 presents percentage of journalism educators that have adopted each innovation, as well as percentage of educators reporting number of sessions devoted to covering it.

The results showed that multimedia is the most frequently taught innovation with the highest mean adoption and about 37% (N=27) of educators

Table 5.1. *Frequency of covering innovations in journalism classes*

Innovation	*M*	*SD*	*Never*	*In less than one session*	*In two to four sessions*	*In half of all sessions*	*In most sessions*	*In all sessions*
Multimedia skills	3.84	1.67	16.4%	4.1%	16.4%	26%	16.4%	20.5%
Social media	3.48	1.57	17.8%	6.8%	26%	16.4%	24.7%	8.2%
Digital storytelling	3.44	1.68	20.5%	6.8%	27.4%	11%	21.9%	12.3%
Data journalism	3.23	1.74	23.3%	13.7%	21.9%	13.7%	12.3%	15.1%
SEO	3.14	1.62	26%	9.6%	16.4%	28.8%	11%	8.2%
Engaging audience	2.99	1.51	26%	8.2%	30.1%	16.4%	15.1%	4.1%
New storytelling forms	2.85	1.72	39.7%	2.7%	16.4%	21.9%	12.3%	6.8%
Entrepre-neurship	2.66	1.65	37%	15.1%	17.8%	12.3%	11%	6.8%
Program ming basics	2.1	1.46	56.2%	11%	11%	12.3%	8.2%	1.4%

cover it in most or all sessions. It is closely followed by digital storytelling, which is either covered in most or all of the sessions as indicated by 34.2% (N=25) of lecturers. Social media comes next, also covered in all or most of the sessions by 32.9% (N=24) of educators. These results are not surprising given the abundance

of these three innovations in today's media landscape. One innovation, data journalism, that gained popularity relatively recently appeared to show diverse results, as 27.4% (N=20) of educators indicated that they cover it in either all or most of the sessions, while 23.3% (N=17) do not cover it at all. Although a defining example was provided for each innovation (e.g., "Data Journalism refers to teaching of finding data to support stories, finding story ideas in data, data cleaning and understanding and visualizing data"), there is possibility that the item was misinterpreted.

Basic programming skills, not surprisingly, are never taught by 56.2% (N=41) of Georgian educators, who also frequently commented that this it is "not part of journalism education" or is taught in their university "to computer science people, not in journalism departments." New storytelling forms, such as live-blogging, live-tweeting, and live-streaming do not seem to be commonly adopted innovations either, as 39.7% (N=29) of educators said they never cover these forms. Neither is entrepreneurship, which is never covered by 37% (N=27) of Georgian educators in their courses. Search Engine Optimization, is another innovation with M=3.14, SD=1.62 and 28.8% (N=21) of educators indicating that they cover it in about half of all sessions.

RQ2: Which innovations are considered the most important to the Georgian journalism programs?

To address this research question, journalism program leaders were asked to indicate on a scale of one to nine how much each individual innovation fit with the values and goals of their program. While all journalism program leaders suggested rather high importance for all the innovations, with mean scores on innovations ranging from 7.06 to 8.56, three most important innovations for

journalism programs were multimedia (*M*=8.56, *SD*= .73), data journalism (*M*=8.63, *SD*= .72), and social media (*M*=7.94, *SD* = 2.02). Table 5.2 presents detailed results.

Table 5.2. *Innovation compatibility with organization values*

Innovation	*Compatibility to values/Importance Scale of 1 to 9 (N=16)*	
	M	*SD*
Multimedia skills	8.56	.727
Data journalism	8.63	.719
Social media	7.94	2.02
Digital storytelling	7.75	1.48
Entrepreneurship	7.69	2.39
New storytelling forms	7.56	1.31
Search Engine Optimization	7.38	3.01
Engaging audience	7.31	2.57
Programming basics	7.06	3.15

RQ3: Which innovations are considered the least important to the Georgian journalism programs?

The least important innovation to journalism programs is basic programming skills (*M*=7.06, *SD* = 3.15). Audience engagement is also of less

interest (*M*=7.31, *SD*=2.57) compared to others, as is search engine optimization (*M*=7.38, *SD*=3). Journalism program leaders value digital storytelling more (*M*=7.75, *SD*=1.5) than new forms of storytelling (*M*=7.56, *SD*=1.3), but think entrepreneurship is very important for their programs (*M*=7.69, *SD*=2.39).

Hypothesis 1 and Research Question 4 addressed two innovation attributes: *observability* and *compatibility.*

Observability was measured by asking the subjects to name as many sources as they could, regarding where they have seen each innovation used. The averages of the number of sources named were computed to see what innovations were the most and the least observable. The results showed that four innovations were more observable: multimedia (*M*=2.33, *SD*=1.4), social media (*M*=2.11, *SD*=1.6), storytelling (*M*=1.83, *SD*=1.3), and new forms of storytelling (*M*=1.43, *SD*=1.4), while audience engagement, SEO, data journalism, entrepreneurship and programming had mean close to 1 and standard deviation not higher than 1.3, indicating that most program leaders and educators could name only one or two sources where they have seen these innovations being used.

H1: Observability of an innovation is positively related to adoption of the innovation.

To investigate whether there was a significant positive association between observability of an innovation and its adoption by the educators, one-tailed Pearson's correlation was computed. Table 5.3 presents correlations between innovation observability and adoption.

Table 5.3. *Observability and compatibility correlations with adoption*

Innovation	*Observability (N=76)* *r*	*Compatibility (N=16)* *r*
Engaging audience	.301*	.179
New storytelling forms	.249*	-.164
Data journalism	.185	-.238
Search Engine Optimization	.166	-.065
Social media	.165	-.287*
Multimedia skills	.131	.020
Programming basics	.120	.169
Digital storytelling	.021	-.024
Entrepreneurship	-.031	-.483*

Note: asterisks (*) show innovations with high substantive significance

One-tailed Pearson's correlation results are provided without significance level reports, as this dissertation uses a census of the study population. While statistical significance is not a factor with census results, the effect size of correlation indicating the proportion of variance shared between two variables, were reported. The results showed strongest positive relationships between observability of *audience engagement* ($r = .301$, $R^2 = .091$) and its adoption and observability of *new forms of storytelling* ($r = .249$, $R^2 = .062$). However, observability of the rest of the innovations could predict 3 and less percent of variance in adoption of these innovations; moreover, results showed negative

correlation between observability of *entrepreneurship* and its adoption (r = -.031). Thus, Hypothesis 1 was only partially supported.

RQ4: How does perceived compatibility of innovations in journalism curriculum correlate to actual adoption of innovations in the program?

Perceived compatibility of innovations in journalism curriculum was measured by asking the journalism program leaders (N=16) how much each innovation fits with the goals and values of their journalism programs. To examine the relationship between the compatibility and adoption of innovations, two-tailed Pearson's correlation was run. Table 5.2 presents correlation values, where five innovations show negative correlation between compatibility and innovation adoption. *Entrepreneurship* had strongest negative (r = -.483) correlation with adoption, followed by *social media* (r = -.287). Never more than 3% of variance in adoption of innovation could be predicted by its *compatibility* with the program's goals and values. These results indicate that innovation adoption in a journalism program may be a function of other factors, rather than of compatibility of the innovation with the program goals and values.

Organization characteristics. Hypotheses two and three, along with research question five are focused on organization characteristics, such as *size* and *complexity*, as well as perceived innovative climate.

H2. Size of an organization is positively related to adoption of innovative curriculum.

Pearson's one-tailed correlations, which are appropriate test when prediction is one-directional, were run to test Hypothesis 2. The results showed that in line with the previous research, the size of an organization and adoption of innovations were positively highly correlated (r = .418) and *size* of an

organization accounted for about 17% of variance in innovation adoption by this organization. Hypothesis 2 was supported.

H3. Complexity of an organization is positively related to adoption of innovative curriculum.

Relationship between innovation adoption and another organizational characteristic complexity was measured by Pearson's one-tailed correlation. The results did not demonstrate strong correlation between the two variables (r = -.086, R^2 = .007), indicating that adoption of innovations is not a function of complexity.

RQ5. How does perceived innovative climate in an organization relate to organizational adoption of innovations in journalism curriculum?

To address this Research Question, Person's two-tailed correlation was run between adoption of innovations by organizations and perceived innovative climate in organizations. The results showed a moderate negative correlation (r = -.209), which means that more the organization members perceive their organization innovative, less adoption takes place.

Network variables. To address research questions 6-a, 6-b and 6-c, whole network analysis was necessary. Figure 5.1 shows map of Georgian journalism educators' professional communication network.

RQ6-a: How dense is Georgian journalism educators' professional network?

To answer this question, the valued data was symmetrized as a product of the value of two actors and density of the whole network was computed. Average value of symmetrized complete network density was .468, which means that of all the possible ties, almost half of the ties existed. While absolute density

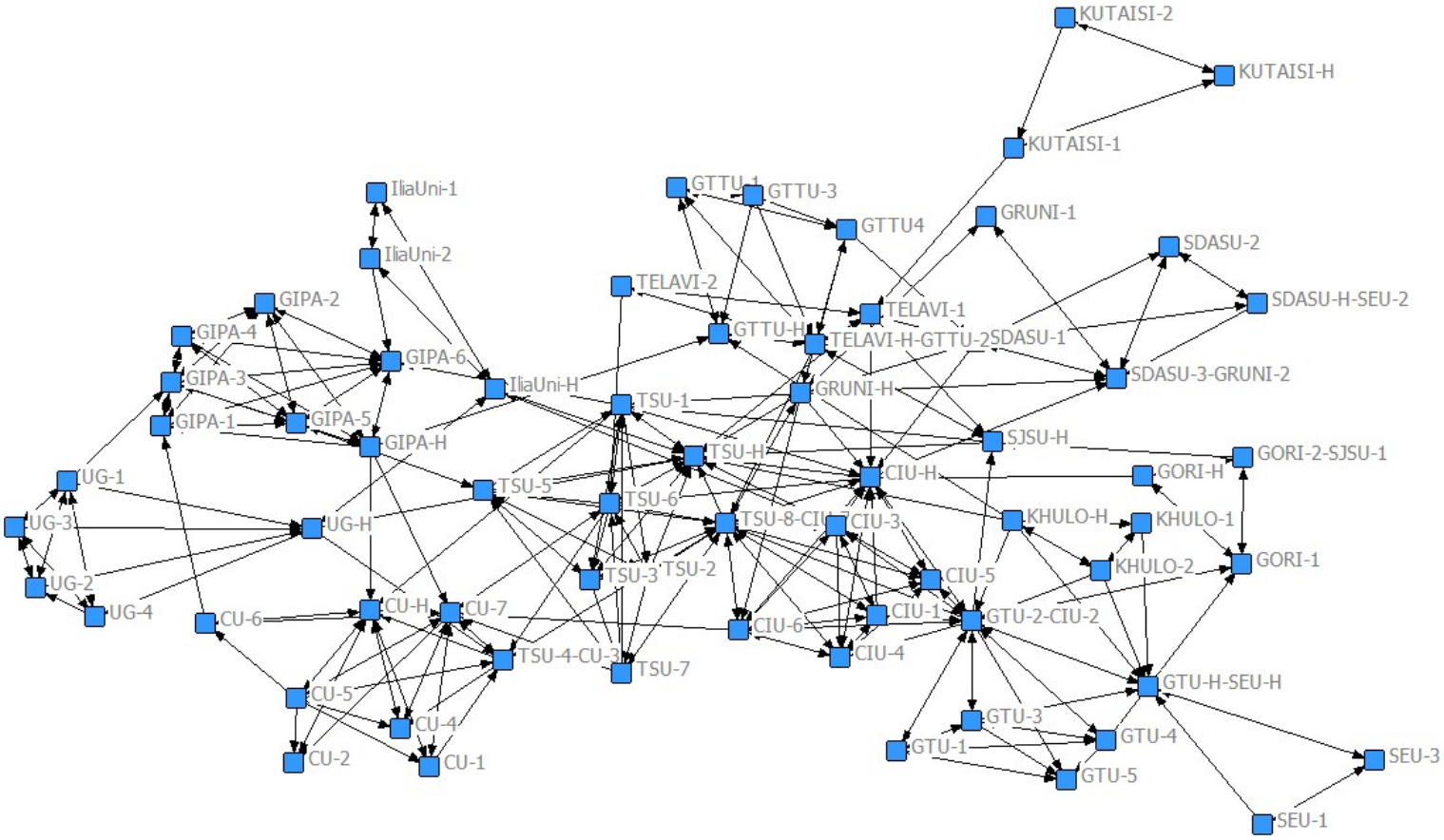


Figure 5.1 *Complete professional network of educators*

can be difficult to assess, for a network of 68 educators, such density was assumed to be high.

RQ6-b: How much reciprocity is reported in the whole network of educators?

To address this Research Question, symmetrized data analysis was carried out and showed that the network overall reciprocity was .521. This indicated that half of the network ties were mutual.

RQ6-c: Are there centrally positioned individuals in the network?

To answer this question, multiple centrality measures were computed. While average degree centrality of all actors was 3.59, some actors had much higher scores. Table 5.4 shows degree centrality, as well as betweenness scores for these actors (See Appendix F for complete degree centrality and betweenness results of all actors).

Table 5**.4** Centrality and betweenness of network actors.

Actor	*Degree centrality*	*Betweenness*
TSU-8-CIU-7	10	208.1
GTU-2-CIU-2	9	141.4
CIU-6	7	24.75
TELAVI-H-GTTU-2	7	56.50
Average of all actors	3.59	

These results demonstrated that four actors were centrally located in the network and connected to the most nodes in the network, since mean degree

centrality for the whole network was 3.59 and mode = 2. Two of these actors also had the highest betweenness centrality scores, indicating that they could serve as information gatekeepers in the professional network of Georgian educators.

The networks of Georgian journalism programs were examined in the research questions 7-a, 7-b and 7-c.

RQ7-a: How dense is Georgian journalism programs' network?

Nodes in the network were 16 programs, connected to each other through their faculty and leaders. Figure 5.2 shows Netgraph visualization of this network.

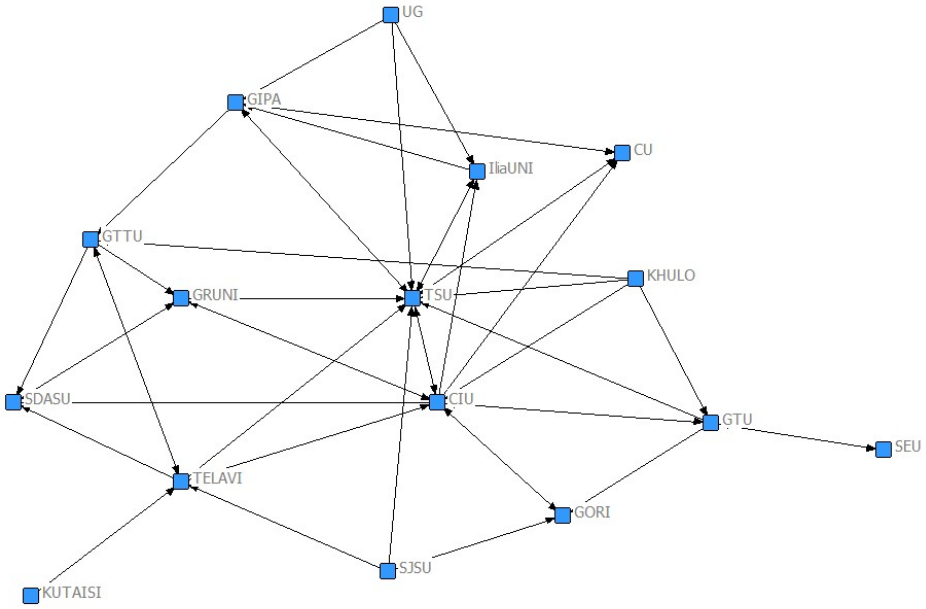


Figure 5.2. *Journalism programs' professional network.*

Symmetrized data density was 0.588, indicating that almost 60 percent of dyads were present in this professional network.

RQ7-b: How much reciprocity is reported among Georgian journalism programs?

To answer this Research Question, data was symmetrized and reciprocity was computed. The results showed that 50 percent of ties in the network of organizations were reciprocated, which resembled reciprocity of ties among educators in the whole network.

RQ7-c: Are there centrally positioned journalism programs in the network?

Multiple centrality measures were computed to answer this Research Question and the results showed that while degree centrality ranged from 1 to ten, two universities (Tbilisi State University and Caucasus International University) had the highest degree centrality (10 and 9, respectively), followed by Telavi State University (6), rest of the programs had either 5 or less degree centrality. Figure 5.3 shows centrality graph of journalism programs.

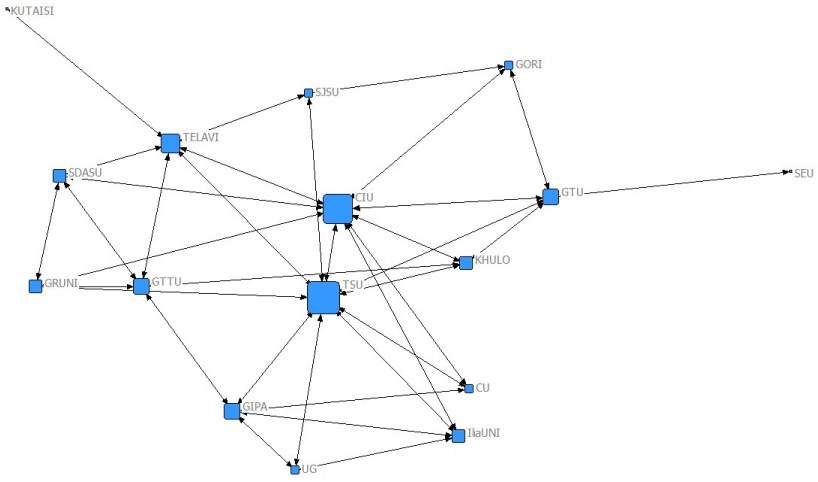
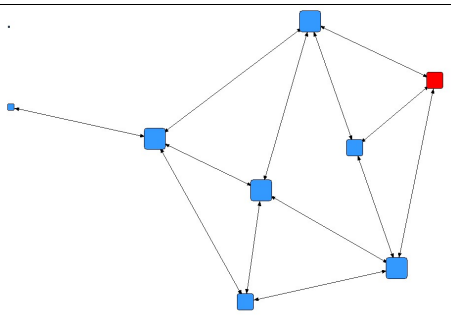
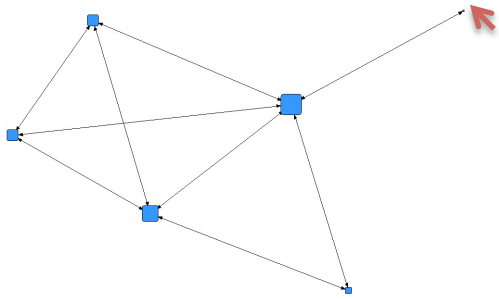


Figure 5.3 *Journalism programs' centrality graph*

While the formal structure of journalism programs can be somewhat comparable in terms of decision-making, network analysis can also reveal the structure of communication within organizations. Research question eight explores position of journalism program leaders in organization's informal network.

RQ8: How are formal leaders of journalism programs positioned in an informal network of professional communication within their organizations?

To answer this question, multiple centrality measures were computed for eight programs. Figure 5. 4 shows graphs of network centralities for each program, where red squares represent program leaders, red arrows show leaders with low degree centrality, blue squares are journalism faculty. For the purposes of anonymity names of the universities were removed and replaced with "U" for "university" and numbers.

U1. Leader degree centrality – 3	U2. Degree centrality – 1
	
U3. Isolate	U4. Degree centrality - 2

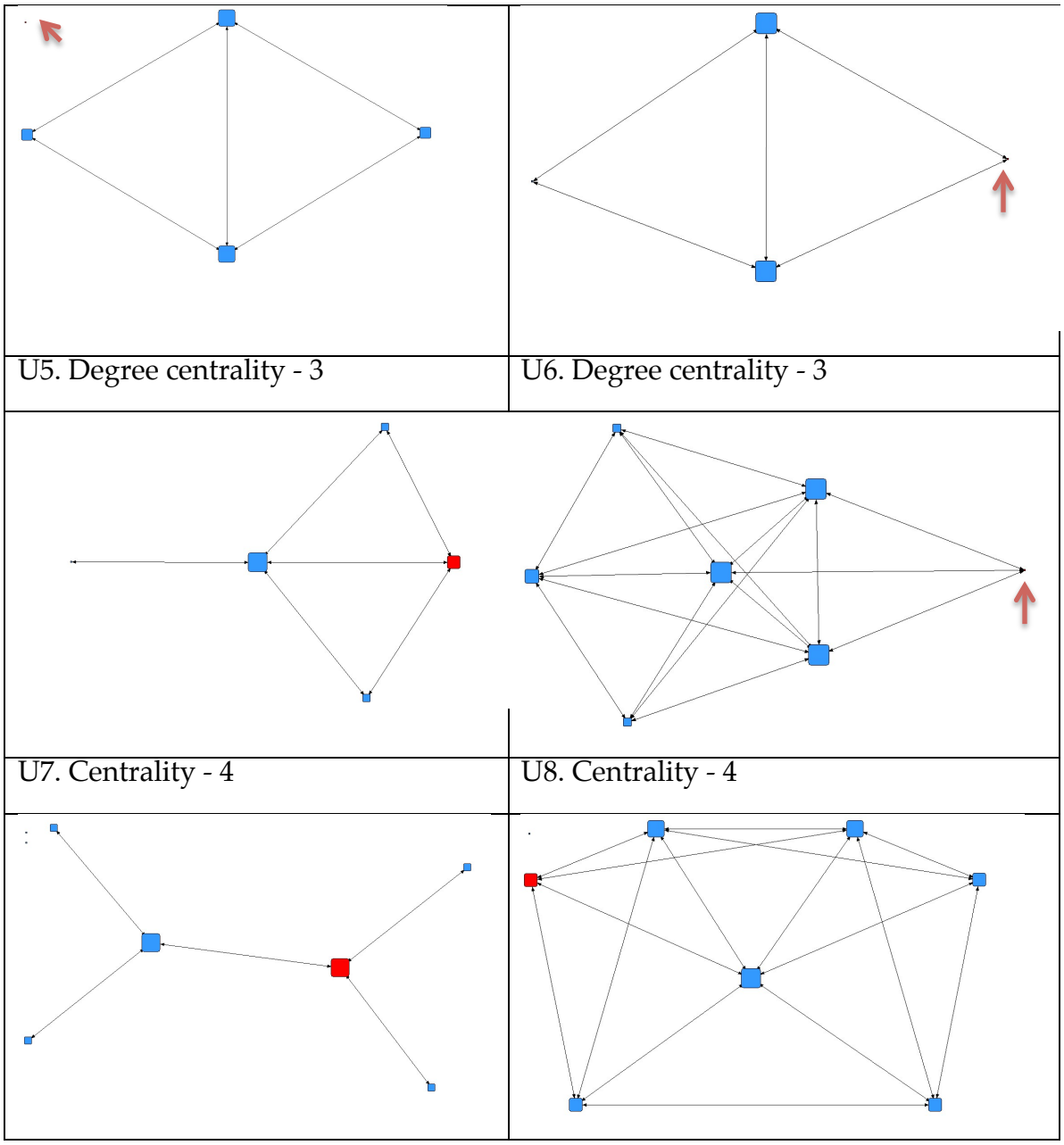


Figure 5. 4. *Centrality graphs.*

The program leader of U1 has same centrality degree (3) as two other members, while four members have higher degree (4), one actor has 1, and one has 0. The U2 leader has lowest degree centrality (1) in the organization, while one actor has degree of 5, one four and others 3 and 2. The U3 leader is an isolate,

and the network does not have any centrally positioned actors. The U4 program Leader's centrality degree (2) is lower than one of two actors (3) and same as another actor. The U5 head is as centrally positioned (3) as are two other members, while one node has degree centrality of 4 and one has centrality 1. The U6 program leader has lowest centrality (3) in the network of faculty members, while three nodes have centrality of 6, one has 5 and two have 4. The U7 program leader has equal centrality (4) in the network as one other node, while everybody else has degree centrality of only 2 or 1. At U8 one node has degree centrality of 6 and two other nodes have 5, program leader has same (4) as two other nodes. One node has centrality of 0.

These results indicate that journalism program leaders are not the most central figures in the communication networks of their organizations. Generally networks in organizations do not seem to have very centrally positioned figures; rather communication is less hierarchical and more horizontal. In one case the program leader is an isolate, which can be explained by the fact that the person is the head of larger social sciences department and may not be engaged in the network of professional communication among journalism faculty members. In three cases program leaders are rather less involved in professional communications in the organization. In four organizations program leaders have similar network positions, as do other actors in the network.

Some network attributes are more meaningful when compared across networks depending on the interests of a study. This dissertation analyzed density and reciprocity of eight institution networks to draw comparative conclusions about the educational institutions.

RQ9-a: How do journalism programs compare to each other in terms of density of faculty networks?

RQ9-b: How do journalism programs compare to each other in terms of reciprocity of faculty networks?

Density analysis showed that density of networks was rather high, almost equal to 1 in two universities (.917 and .905), but very low (.179) in one university. The rest had .5 and higher density scores. Table 5.5 shows density scores of faculty networks of each university, as well as reciprocity of ties in the organizations to address research questions 9-a and 9-b.

Hypotheses 4-a, 4-b and 4-c predicted positive relationships between network characteristics of organizations and adoption of innovations by organizations.

H4-a. Density will be positively related to innovations adoption by journalism programs.

Table 5.5 *Faculty network density and reciprocity*

Uni ID	*N of faculty*	*Density*	*Reciprocity*
SDASU	4	0.917	0.833
GIPA	7	0.905	0.81
CIU	8	0.768	0.593
GTU	6	0.733	0.692
GTTU	5	0.6	0.667
TSU	9	0.556	0.482
UG	5	0.5	0.5
CU	8	0.179	0.238

QAP Pearson's correlation did not show relationship between the two (r = -.022, R^2 = .000). Hypothesis 4-a was not supported.

H4-b. Reciprocity will be positively related to innovations adoption by journalism programs.

QAP Pearson's correlation did not show correlation between reciprocity and adoption of innovation either (r = -.058, R^2 = .003). Hypothesis 4-b also was not supported.

H4-c. Centrality will be positively related to innovations adoption by journalism programs.

Similar to hypothesis 4-a and 4-b, this hypothesis was not supported either (r = -.036, R^2 = .001), and direction of correlation was again negative. Analysis showed that innovation adoption by these organizations was not a function of network density, reciprocity or centrality.

H5. Density will be positively related to perceived innovative climate in an organization.

Based on the previous studies, hypothesis five posited that density of the network within an organization would be positively related to perceived innovative climate in an organization. QAP Pearson's correlation showed a strong correlation (r = 0.738, R^2 = .544), supporting this hypothesis and demonstrating that the density of employee network can predict almost 55% of variance in perceived innovativeness of an organization.

Summary. Results showed that Georgian journalism educators among innovations favor multimedia, social media, digital storytelling, and data journalism (although the results were somewhat mixed on this item) and have them integrated in their courses. These innovations seem to fit best the goals and values of the journalism programs. Two predictors, *observability* of innovation and *size* of an organization were found to influence innovation adoption by

organizations. *Compatibility* was found to be negatively related to adoption, if at all. *Complexity* of organization, as well as *density*, *reciprocity* and *centrality* of the professional networks within organizations did not show correlations with the dependent variable.

The next chapter discusses the implications of this study, focusing on their importance for the theory of innovations and for journalism education in Georgia, as well as in the world. It explains the limitations of the study and offers suggestions for future research.

CHAPTER 6

DISCUSSION AND CONCLUSIONS

This chapter discusses the findings of this dissertation. First it highlights value of use of the network analysis perspective in studying adoption of innovations. Next, it discusses the most important results of the study. Further, it discusses the implications of the findings for diffusion of innovation theory and implications for journalism education not only in Georgia, but also beyond its borders. The chapter then presents the limitations of this study, suggestions for future research and conclusions.

Over the past two decades, rapid technological developments have disrupted traditional media models and challenged journalists, as well as journalism educators, around the world. Modern journalism schools across the world face the necessity of keeping up with the pace of the changing media landscape to properly prepare journalists for future jobs in the evolving environment. Scholars and professionals have called for educators to reinvent journalism curriculum (Beckett, 2008, 2000; Jarvis, 2006) and experiment with new journalistic forms (Mensing, 2010). Debates about how to educate future journalists across boundaries are not a concern for just developed countries. Along with international media development aid these debates reach educators of newly democratic countries. Journalism educators in these countries, where sustainability and quality of educational and training opportunities remain

problematic, funding is scarce, and only a handful of universities have funds to invest in program development, teacher training, libraries or facilities, (Mikashavidze, 2009), struggle to keep themselves informed and innovate in their courses to meet the demands in today's media environment. In developing countries, where the advertising market is not big enough to support independent media, media development organizations such as International Center for Journalists, IREX and Open Society Institute, play an important role in supporting journalism to function properly and serve the public interest. These organizations put increasingly strong emphasis on funding innovative journalism projects and individuals (Ristow, 2014). Although media professionals and educators agree that the basic skills, such as writing and reporting, are still the most crucial skills journalism graduates need, it seems that in the new media landscape these are not enough anymore. Educators are expected to experiment and adopt innovations appearing in not only professional online media, but generally in the online environment.

This dissertation explored the adoption of innovations in journalism programs in Georgia. Innovations, defined as the "idea, practice, or object perceived as new by an individual or other unit of adoption" (Rogers, 2003, p. 36) spread among individuals or groups of individuals over time through specific channels of communication (Katz, Levin and Hamilton (1963), leading to their adoption and implementation. Based on diffusion of innovations theory, this dissertation employs the social network analysis perspective, which views communication among individuals or groups as determinants of the spread of influence, ideas, and products (Valente, 1995). Application of diffusion theory and the network analysis perspective helped to describe not only innovations'

adoption among the Georgian journalism educators, but also their professional network together with a network of educational institutions; it helped to understand the patterns of communication within the whole network, and to spot the most influential individuals and institutions within the network.

Significance of the current study. There is solid body of literature on challenges to journalism education; about adoption of innovations; about impact of network on innovation diffusions, and there is a body of literature studying media in post-communist countries. However, this study is a first attempt to study the network of journalism educators and innovations' adoption by them. Study is a census of journalism educators in Georgia, a small post-Soviet country, with partly free media and lack of professional outlets, that has been and still is a beneficiary of solid Western aid in media development. The findings of this study add to the knowledge of changing journalism education in newly democratic countries and can serve as a basis for studying journalism education in other countries with similar media environment that fall under the radar of Western aid organizations.

While about a decade ago there was only one formal journalism education program following the American model in Georgia, focused on "learning by doing", this study shows that student media outlets and practical exercises have become important part of majority of today's journalism programs across the country and leaders of journalism programs express willingness to bring more innovations in their curricula.

This dissertation studies a subset of innovations appearing in the media in light of current technological developments, and it is important to note that they will change in time. However, this study explored adoption of diverse

innovations, looking at some of their characteristics in relation to the extent of their adoption, and allows for demonstrating the patterns of adoption and innovativeness of the journalism programs, their leaders and faculty.

Another purpose of this research was to study a professional network of journalism educators based on the extent of their communication within and outside their education institutions. The results revealed that despite geographical distance, the educators' professional network is very dense with most of them talking to each other, thus potentially helping spread of innovations (Valente, 1995). This finding adds to the knowledge of diffusion of innovations, that geographical distance does not have to be a factor when analyzing spread of innovations among educational institutions, and the density of network overcomes the distance.

This research also looked at the individual educational organizations to understand whether the program leaders serve as gatekeepers in terms of reinventing curricula and implementing innovations. The results show that they indeed see importance of innovations for the goals and objectives of their programs; however this importance is not reflected in actual adoption of the innovations. It can be also explained by the fact that the formal leaders never have a central role when it comes to communications among journalism faculty members about innovations. Leaders have other tasks and they have their vision about the program; however they are not influencing what and how much innovations faculty is teaching. This finding is significant for the future research in education, to take as a precaution when trying to understand adoption of innovations, and to consider studying faculty as innovators, rather than the

formal leaders who may at first sight seem important gatekeepers in terms of changes in the curricula.

6.1. FINDINGS

Innovations in journalism programs. This research aimed at understanding the distribution of innovations adopted among the Georgian journalism educators. They were asked to describe how often they cover each of the nine innovations in their journalism classes. Results showed that all educators cover at least one innovation in their classes. Multimedia skills are the most frequently and widely covered in journalism classes in Georgia. Defined as teaching reporting and editing digital photo, video, and audio, the majority of educators cover multimedia skills in half, most or all sessions. Multimedia reporting grew out of the basic skills taught in vocational training courses across the country (or the world) for a number of years and their higher visibility increased its adoption making it one of the core courses in journalism curricula in Georgia. When it comes to organizations, diffusion theory suggests that the larger organizations are the ones that adopt innovations. Findings of this study show that there is evidence of saturation of the idea of bringing innovation to journalism curriculum among Georgian journalism educators, as even the smallest journalism program has at least one innovation adopted and implemented.

The reported frequency of covering social media supports the idea of abundance of an innovation resulting in being more frequently covered in these journalism programs. Almost half of the educators cover social media in half, most, or all sessions. Ease of use and popularity of social networks, especially

Facebook in Georgia, naturally brings it into the classroom, where students mostly share their stories and content on their own profiles, distributing the content to their own audiences, rather than building a larger audience for their student media outlets.

Digital storytelling is reported to be the third most frequently covered journalistic innovation. It refers to mainly teaching nonlinear storytelling, writing in blocks, as well as creating and maintaining blogs. While one-fifth of interviewed educators never cover digital storytelling, the majority covers it in two or more sessions.

Patterns of adoption of the above innovations suggest that their accessibility and ubiquity match with their adoption, and although this study is not longitudinal to measure adoption over time, it points in the direction that their adoption may have followed the *S*-curve of diffusion among the Georgian journalism educators. However, adoption of data journalism suggests somewhat different pattern. Over 60% of educators reported covering it in two or more sessions, while this innovation has been introduced to Georgian journalism educators relatively recently, when a month or two before the data were collected *The Data Journalism Handbook* by European Journalism Center and Open Knowledge Foundation was translated and published into Georgian. It is possible that this has raised interest in the topic and influenced the responses. On the other hand, data journalism was defined in the instrument as "teaching of finding data to support stories, finding story ideas in data, data cleaning and understanding and visualizing data" and there is possibility that it could have been misinterpreted as part of generally finding information, rather than specifically working with data.

Some of the relatively newly introduced innovations yield drastically different responses. For example, about one-third of educators say that they cover SEO (search engine optimization) in half of all sessions, while about the same number of people never cover it. Similarly, while one-third of the educators teach how to engage the audience, use citizen or audience produced content, or create interactive content and graphics, over one-fouth of educators never teach these skills. New storytelling forms such as livestreaming and liveblogging are covered in half of the sessions by a little over one-fifth of educators. However, about 40% say they never teach these. Entrepreneurship is another innovation never taught by 40% of educators. Such differences in adoption indicate that there are different types of adopters among journalism educators and these particular innovations have not saturated the journalism programs yet.

The least covered innovations are basic programming skills, with the majority of Georgian educators mentioning that they never cover them. Some of the faculty interviewed even mentioned in their comments that these are not the skills that journalists should know because there is a department of computer science in their university. About one-fifth say they cover these basic skills in half or most of the sessions.

This study also looked at the most and the least important innovations in terms of their importance to Georgian journalism programs. Determined by the program leaders rather than by the faculty, all the innovations were ranked as being highly important. It seems that the majority of them match with the journalism program values and goals, ranging from 7 and 9 on a nine-point scale. Leading among the innovations were multimedia, data journalism, and social media, while among the least important were basic programming skills,

audience engagement, and search engine optimization in reverse order. Journalism program leaders value digital storytelling more than new forms of storytelling, but think entrepreneurship is very important for their programs.

To summarize, it is apparent that Georgian journalism educators are keen on adopting established skills and innovations, but may have strong opinions against much experimentation with code, which is not of much importance for journalism programs, according to the program leaders. Clearly, more research is needed regarding what is taught and how it is taught.

Innovation attributes. ***Observability.*** Observability is an innovation characteristic and refers to the extent to which an innovation is visible to others. The reason it is an interesting variable is that more observability of an innovation stimulates communication among peers about this innovation. As Straub (2009) notes, observability of an innovation leads to a social threshold – when an innovation becomes so prevalent that "even those who would not normally adopt consider adoption of an innovation" (p. 631). Innovation adoption literature suggested and Hypothesis One of this dissertation predicted that observability of an innovation would be positively related to its adoption. The results suggest that overall there is mostly small correlation between these two variables. Two innovations had the strongest relation *audience engagement* (r = .301, R^2 = .091) and *new forms of storytelling* (r = .249, R^2 = .062). These results partially support Hypothesis One, but suggest evidence that supports diffusion of innovations theory.

Compatibility. Besides *observability*, *compatibility* of an innovation was also measured in this study. How much an innovation is perceived in a particular context, and relation of innovation with other elements of this context, influences

the adoption. Compatibility of an innovation in diffusion literature refers to its consistency with values, experiences and needs of the adopting units (Ettlie and Vellenga, 1979) and is generally positively associated with adoption of innovation. However, the results are not consistent because of the differences in measures of compatibility employed by different studies. Some studies have measured practical compatibility, others value compatibility, and some a combination of both. This research focused on value compatibility, asking the program leaders to indicate the value of each innovation for the goals of their program. Because the previous literature reported inconsistent results, rather than hypothesizing the positive relation between the value and adoption of innovation, this study addressed the relation between these two variables in research question four. The results showed that the strongest correlations were negative: for example, adoption of entrepreneurship had ($r = -.483$) strongest negative correlation with compatibility, as did social media ($r = -.287$). The most frequently covered multimedia skills that seemed to be very important for Georgian journalism programs had virtually no correlation. On the other hand, programming skills adoption had small, but positive correlation ($r = .169$) with the compatibility of this innovation.

Journalism leaders and educators agree with each other about the role of programming skills, since they do not think teaching them is important or valuable to their programs, and consequently these skills are not covered in journalism courses. However, negative relations between compatibility and adoption point to the fact that what the program leaders think are important to teach and match with their goals and values are not always taught in their programs. This can also be explained by the position of program leaders in the

informal network of faculty members, as discussed later in this chapter, showing that the formal leaders are never in the center of professional communication within the educators network. They hold high positions, are willing to be innovative, but don't influence actual implementation of innovations in their programs. Thus, negative relation of compatibility and adoption.

In general the literature on innovation adoption suggests that compatibility of an innovation with adopter's values is positively related to its adoption. This conclusion is limited because of the differences in measures of compatibility (Tornatzky and Klein, 1982). This study asked program leaders to explain compatibility of innovations to the goals of the programs, while actual adoption of innovations in a program is executed by faculty members, rather than program leaders. Different measures and respondents could have produced different results and the future research can move beyond this limitation.

Organization characteristics. *Size* and *complexity* of an educational organization and their role in adopting innovations were measured in this research. The innovation adoption literature has been consistent in finding that the size (Kimberly and Evanisko, 1981; Rogers, 2003) and complexity (Baldridge and Burnham, 1975; Rogers, 2003) of an organization are positively related to its innovativeness. Similar to compatibility of innovation, these variables have been defined differently. This research defines *size* as the number of journalism faculty members and the reasoning behind it is that the more individuals employed to teach journalism courses, the bigger the journalism education organization. Closely related to size of an organization is complexity, usually measured by the number of organizational components, which increases along with the size of an organization (Baldridge and Burnham, 1975). Hypothesis two predicted the

positive relation between size of a journalism program and innovation adoption in this program. The results showed a strong correlation (r = .418) between the two, supporting hypothesis and theoretical assumptions tested in previous studies. Within the context of this research this means that journalism schools with more courses and faculties are more innovative than those with smaller academic staff and fewer journalism courses.

Complexity of a program was measured for this study based on whether journalism was taught in a stand-alone school or an embedded program into a social sciences or humanities department; whether teaching was taking place on only one or more levels of education, as well as whether the program had smaller structural units related to different types of student media. The results did not show a strong relation between the two, suggesting that adoption of innovations in journalism programs is not a function of their complexity. One of the reasons why the results did not comply with the previous literature can be related to the measure of complexity, which may need to be improved. However, the findings do suggest that further improvement of definition of this characteristic is necessary.

Another factor related to organization context and environment measured in this study was the perceived innovative climate of the organization. Educational innovation adoption literature has suggested (Moolenaar and Sleegers, 2010) that perceived innovation-oriented climate in an organization might make teachers adopt new behaviors or practices. The results in fact showed negative correlation between adoption and perceived innovative climate (r = -.209), so this construct will require further tests in the future studies.

In summary, the only organizational attribute proved to influence adoption of innovation in journalism programs was size, and although the larger journalism programs have adopted more innovations, even the smallest programs had at least one innovation adopted. Overall, more sophisticated measures and more characteristics may lead to better understanding of organizational factors in adopting innovations.

Whole network characteristics. One of the goals of this study was to explore and describe Georgian journalism educators' professional network, particularly, density, reciprocity, and centrality of the whole network of Georgian educators. Analysis showed that the network is very dense (.468) that of all the possible ties almost half of the ties exist. It is difficult to assess absolute density, but for a network of 68 educators, such density can be assumed to be high (Valente, 1995). Moreover, these network members come from different universities across the country and from geographically distant places, which emphasizes the importance of this finding. Valente (1995) noted that while connectedness of the community facilitates faster innovation spread, density does not lead to more extensive diffusion – more dense networks are not more likely to have innovations spread to a greater proportion of the network. High density of Georgian educators' network can be helpful in diffusing innovation faster, but it will not result in higher overall adoption.

Network mutuality is also very high in the whole network of educators (.521); half of the ties in the network are reciprocal. This probably should not be a surprise, since educators were asked to indicate frequency of communication with other members of their faculty, which could have yield more reported reciprocities than if another method of network data collection was employed.

Multiple centrality measures showed that on average educators and program leaders are connected to 3.59 nodes. Those educators, who teach in two different programs, tend to be more connected. Analysis revealed two such actors with degree centrality of ten and nine. These two actors are also connectors between larger numbers of nodes and practically serve as gatekeepers in the network.

Understanding the network of the country's educators, how they are connected, who are the gatekeepers, and who are influencers can help in planning for more effective outcomes when it comes to introducing an innovation in the network.

Positioning of formal leaders. In educational institutions it can be expected that the program leaders are the most important gatekeepers in terms of reinventing curriculum and implementing innovations. One of the research questions was related to understanding how the formal leaders of organizations were positioned in the professional communication network within their programs. Network analysis provided insight into who discusses innovation and journalism education-related topics with whom in the organization and how often. The results demonstrated that formal leaders are not centrally positioned in their individual networks. Analysis of the eight programs with at least four or more journalism faculty members revealed that in half of the institutions, there are individuals in the programs who are more influential than the program leaders, while program leaders are only as connected as other members. Formal leaders in informal networks of three other programs are minimally connected. The results indicate that the program leaders have almost the lowest degree centrality scores within their programs, suggesting that journalism faculty

members do not discuss professional issues with their leaders frequently, but rather talk with other colleagues. In one case a formal leader was an isolate in the network of journalism faculty of this particular university.

What these results mean for innovation adoption among educators is that bringing change to journalism curriculum in institutions should not start or end with formal leaders. Results show that formal leaders have less or equal influence than other faculty members, and in this study there was always somebody who had more influence. Understanding these dynamics in an organization is helpful when a change needs to be implemented. Acceptance of innovation is a crucial step in the innovations adoption process, and it is strongly influenced by peers. As Rogers and Kincaid (1981) explained, adoption of an innovation by an individual is a function of the behavior of others in a group or a system, and the behavior of an individual is also partly a function of the communication networks in which the individual is a member. These results suggest that the communication patterns in a system determine acceptance and implementation of an innovation. While formal leaders may have more power to implement a change, those who are the most connected within an organization's professional network may have more persuasive power, stimulate change and help its implementation more effectively. These findings underscore once again the importance of applying the network analysis perspective to the exploration of adoption of innovations by journalism programs.

Network description and effects. The whole network analysis, the results of which were discussed earlier in this chapter, also allowed for analysis of communication among journalism programs. A total of 16 journalism programs were studied, five of which were embedded in the universities outside the capital

of Georgia; the rest were based in the capital city of Tbilisi. The majority of the programs in these regions are former branches of a state university (TSU) that gained autonomy after the fall of the Soviet system, but maintain some professional connections with the former central university. Analysis of the density of the network of all journalism programs in Georgia suggests that almost 60 percent of all possible dyads are present in this professional network. Reciprocity analysis also shows that half of ties are reciprocated. In other words, it is evident that the journalism education programs have a lot of links with each other.

Multiple measures of centrality suggest that two programs, the former state university and relatively new Caucasus International University have the highest degree centrality (10 and 9 respectively) in the network, followed by regional Telavi University (6). The rest of the programs have degree centrality of 5 or less. All three programs differ from each other. The first is the largest university in the country and its journalism program was first established during Soviet times; now it is embedded in the Social Sciences department. This last characteristic is what unites the three programs; all of them are part of a social sciences department. They differ in the number of faculty, number of students, and number of journalism courses. The literature suggests that networks are dynamic and tend to change, but those with higher density are more relatively stable (Valente, 1995). These factors add value to employing the network analysis perspective.

Individual programs' network density and reciprocity were measured for eight programs with four and more faculty members. Analysis of density scores of faculty networks of each university, as well as of reciprocity of ties in the

organizations, showed that density of networks is very high, almost equal to 1 in two universities (.917 and .905), but very low (.179) in one university. The rest have .5 and higher density scores.

Discussion of the results above describes two different networks. First, connections among journalism programs were discussed and then connections within these organizations were discussed. However, most of the descriptive indicators matter only in the context of their effect on behavior change by individuals or groups. This research predicted positive relations between adoption of innovations and organization network density, reciprocity and centrality. However, the results did not show any relation, indicating that adoption of innovations in the curriculum is not a function of these network variables. This finding suggests that a deeper analysis of network communication and influencers is needed, as well as better measures of innovation adoption. The latter may indeed be a reason for the negative correlation between the network variables and innovation adoption, because density proved to be a very important factor ($r = .738$) in perceived innovativeness of an organization.

To summarize, the network analysis revealed the interconnectedness of journalism programs in Georgia, indicating the relative stability of this network over time. Interconnectivity within a network may facilitate faster diffusion of innovations, but it may also lead to restriction of the innovation from some members of the community (Valente, 1995). It should be also considered that this research was cross-sectional, rather than longitudinal, and shows the network at a given point, not taking into account the fact that the network may change over time.

6. 2. IMPLICATIONS FOR THEORY

This dissertation added to the knowledge and understanding of innovations in journalism education. It found, for example, that some innovations are adopted by even the smallest organizations, indicating their saturation and can be used as a measure for innovativeness of journalism programs in other countries as well.

Adding to understanding of innovation adoption behavior, this dissertation found strong support for the theory of diffusion's suggestions that size of an adopting organization and observability of an innovation do influence adoption of innovations. Larger organizations adopt more innovations than the smaller ones. Innovations that are more visible to adopters spread faster. Making innovations more observable will positively influence adoption of innovations among journalism educators.

This study employed a network analysis approach when studying the professional network and communications among educators. One of the assumptions of network perspective is that social relations are constantly changing as actors interact with one another in shifting context (Carolan, 2014; Knoke and Yang, 2008). This process is difficult to explain either with conventional social theory or by traditional social science methods, adding to the value of employing network analysis. Innovation diffusion and adoption are particularly subject to network changes and positions of actors within the networks of communication, as individuals' behavior toward innovations is influenced by the behavior of others, or on a general note, by the social systems an individual is embedded in.

Education studies have been slower than other social science disciplines to employ social network analysis, despite the increased interest in this perspective in recent years (Carolan, 2014). Most of these studies mainly have mapped the nature of social ties among teachers, schools leaders or parents, rather than detecting flow of information or influence through these ties (Carolan, 2014; Little, 2010). This dissertation added to this body of knowledge by mapping the network of Georgian journalism educators. Analysis of the whole network revealed the influence of connections that would not be visible though other social science research methods.

This dissertation also detected an important relationship between network density and the perceived innovative climate, supporting the role of communications among the actors within organizations. Although the network effect was not found to correlate with innovation adoption, these findings add to the knowledge of diffusion theory in terms of necessity of further improvement of innovation scales as indicated by previous studies (Rogers, 2003).

6.3. Practical Implications

Technological developments and impact on media has challenged journalism educators around the world to constantly update and reinvent the courses they are teaching. Spreading through the personal, professional or public diplomacy networks from the West, the challenges travel to the newly democratic countries, Georgia among them. A decade ago, among a number of journalism programs in Georgia, there was only one formal journalism education program following the American model with emphasis on practical, hands-on approach to teaching journalism, pioneering in use of technology and equipment

in and outside the classroom. Establishing a school based on an American model of journalism education was not without inherent bias toward the West, and this remains true to date, when innovations in the Western media challenge Georgian educators willing to be at the forefront of changes. This study shows that all journalism programs now report having student media outlets, using practical exercises, teaching innovations, and value innovations highly.

All faculty members teaching journalism in Georgian higher education institutions, no matter the complexity, resources, or size of the organization, have adopted at least one innovation brought by the technology-related changes in the media landscape. Size of the organization has been found to be a factor in adoption, but even in the smallest university adoption of innovations is happening to some extent. This can be explained by the pervasiveness of social pressure effect of adoption behavior, or pervasive reference to its importance, and can be true of any country where discussion about modern developments and changes in media has been taking place.

No previous study has explored journalism educators, their innovation adoption behavior and network analysis in the whole network in a country. In most cases, a study of a complete, countrywide network can be costly or impossible to carry out. Although networks are dynamic by nature and tend to change over time, the density results in this network were very high indicating relative stability of the network. This study found that journalism educators communicate frequently with each other and this may mean that innovations, once they enter the network, will spread among the journalism educators. This communication seems to also overcome geographical distance between organizations.

6.4. LIMITATIONS

As with any study, this research is not without limitations. First of all, it developed a journalism innovation scale, which has not been previously employed by other studies. The results suggest that some respondents could have interpreted definitions provided for some items on this scale differently than this study presumed. Thus, some of the results might be inaccurate, altering the aggregate measure of innovation adoption by organizations.

Employing the survey method for collecting network analysis data is widely accepted (Marsden, 2011), and attempts to establish control for inaccurate reports of communications were taken, but it is still difficult to obtain completely accurate data from respondents. Network analysis may be very sensitive to these inaccuracies, resulting in overall errors in the results. For example, there is possibility that when provided with a roster of nodes, respondents will report communication links and frequencies that do not accurately reflect reality. On the other hand, with name-generation method, where respondents are asked to name those with whom they have communicated in the near past, they may not be able to recall all of them, thus distorting the description of the network. Another factor that potentially could influence the responses was affiliation of the researcher with a US university, information that was read to them as part of the consent form.

The lack of a complete census is one of the limitations of this study because it is difficult to establish whether these missing respondents would have given different results.

Time is an important aspect of diffusion of innovations and diffusion, and adoption processes are understood the best when studied over time. This cross-

sectional research does not study adoption over time, which is another important limitation of this study.

Finally, the results are based on the data collected in one country and apply to its specific context of journalism education and adoption of innovations. Further tests will need to be carried out to see if the findings hold true in different contexts.

6.5. Suggestions for Future Research

This exploratory research revealed journalism innovation adoption patterns among the Georgian educators. It also studied countrywide – as well as within – department professional communication networks of journalism educators, identifying the most influential individuals and institutions. Continuing to study how the innovations are taught and analyzing the content of courses would add to the knowledge of journalism education in Georgian institutions, but also tell more about the network effects on adoption behavior.

Employing ethnographic methods could allow for collecting more accurate data, rather than self-reported adoption behavior and communication frequency. Observation of classes where journalism is taught could collect descriptive data to understand how these innovations are taught, how they are interpreted by the educators, and how often they discuss them with their colleagues.

Future research will need to develop a better scale to measure innovations adoption within journalism schools. Although the scale created and tested for this study showed strong validity, it was dependent on mean scores and did not allow for understanding innovation adoption by individuals. The main reason

for this is that scale items are diverse and different journalism courses may be covering different innovations. It also means that educators may be more innovative than it seems from their behavior toward an innovation within the courses they teach. Future research could develop a scale that will measure individual innovativeness and then study influences the individuals receive to better understand innovation diffusion process.

Another important suggestion for future research related to one of the important components of diffusion theory – time. Innovation adoption is best studied over time. Considering this factor in the future studies and conducting longitudinal rather than cross-sectional studies would add to the knowledge of adoption of these innovations.

Future research should replicate the method employed in this dissertation in different contexts of different countries, including larger countries with more universities. This will help measure how much the findings of this study truly add to the understanding of innovation adoptions in journalism education despite the country context.

6.6. Summary and Conclusions

The changing media landscape has challenged journalism educators to respond to the innovations taking place in professional media organizations. Journalists and media scholars criticize educators for being slow to react and experiment in classrooms. The extent to which journalism educators use specific innovations in their courses was one of the focuses of this dissertation, which attempted to study all the journalism faculty members in Georgia. This research employed diffusion of innovations theory and applied a network analysis

perspective to understand the professional communication network of Georgian journalism educators and the effect the network has on the adoption of innovations.

Using this theoretical framework, this study contributed to the innovations adoption literature by developing a scale of journalism innovations adoption that can be used and developed in future studies. This research also found that although organization size is positively related to innovation adoption by a journalism program, there is still some adoption even in the smallest program. In addition, the results of this dissertation did not find network density effect on adoption behavior, but found that density influences faculty members' perceptions, specifically measuring perceived innovative climate in organizations.

While journalism educators report that they cover multimedia skills and social media along with digital storytelling in the most of the sessions in their courses, it remains to study and understand how these skills and innovations are taught and how much their methodologies prepare students for the future of journalism.

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APPENDIX A

LIST OF JOURNALISM COURSES TAUGHT BY SELECTED FACULTY MEMBERS

Reporting and writing
Reporting
News reporting
Print journalism
Photojournalism
Visual communication
Magazine writing
Investigative reporting
Data Journalism
TV-reporting
TV journalism
Television editing
Radio journalism
Advanced radio reporting
Internet journalism
New media
Social media
Online Journalism
Convergence journalism

APPENDIX B

LIST OF UNIVERSITIES SELECTED FOR THE STUDY

1. TSU – Tbilisi State University
2. GTU – Georgian Technical University
3. IliaUni – Ilia State University
4. KUTAISI – Akaki Tsereteli State University
5. GORI – Gori TeachingUniversity
6. TELAVI – Telavi State Univeristy
7. JAVAKHETI – Samtskhe-Javakheti State Teaching University
8. KHULO – Tbel Abuserisdze State University
9. GIPA – Georgian Institute of Public Affairs
10. CIU – Caucasus International University
11. CU – Caucasus University
12. GTTU – Guram Tavartkiladze Teaching University
13. GRUNI – Grigol Robakidze University
14. SDADSU – David Aghmashenebeli University of Georgia
15. SEU – Georgian National University
16. UG – University of Georgia

APPENDIX C

QUESTIONNAIRE FOR PROGRAM LEADERS

1. I am going to start with the questions about program/department/school *(choose appropriate based on the type of the specific unit, look on their website. If it is mentioned as school, always use "school", if mentioned as department, use "department", if belong to another department and is only a direction or program, use "program").* Could you give me the names of programs you have for each level?

Bachelor's degree:

Master's degree:

PhD: yes no

2. How many students do you have at the moment in all these programs? *(make sure you have good estimates if not exact numbers)*

How many of these students are in journalism program or major in journalism? *(Ask specifically for the following)*

In Bachelor's

In Master's

How many have you accepted in journalism program in the year of 2013-2014?

3. Do you have any student media outlets?

TV *(if yes, ask to describe what kind and record verbatim)* Radio *(if yes, ask to describe what kind and record verbatim)*

Print *(if yes, ask to describe what kind and record verbatim)*

Online *(if yes, ask to describe what kind and record verbatim)*

Social Media channels or pages *(if yes, ask to describe what kind and record verbatim)*

4. Any other important components of the program?

5. Now I'm going to read a list of statements. For each one, please think about your organization and indicate whether you strongly disagree, disagree, agree, or strongly agree with them *(mark answers below)*

	Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4
Teachers are generally willing to try new ideas				
Teachers are continuously learning and developing new ideas				
Teachers are constantly trying to improve their				

teaching				
Teachers are willing to take risks to make this school better				
Teachers have a positive 'can-do' attitude				
Teachers are encouraged to go as far as they can				

6. In the past six months, where did you go for information about what can be taught in journalism program? Any journals, trainings, websites, other university websites? Any others? *(for journals, books, or other readable sources write down exact name; for websites write down website address or name, for example if person says media.ge, white it; if person says New York Times website, record as NYT website; for trainings, ask for topic of training, name of trainer, or who organized training; ask to name at least three sources, not more than seven)*

7. During the past six months how often did you go to each source, more like weekly, few times a month, monthly, or less than monthly? *(record next to each source appropriate answer from these options in the table above)*.

Source (Q6)	Frequency (Q7)			
	Weekly	Few times a month	Monthly	Less than monthly

8. I am going to read some innovations happening in journalism. Please name some examples of where you have observed each of the following being used or adopted, for example, seen media organizations using them, other schools, specific websites or organizations in Georgia or anywhere in the world. *(Read each item, and then ask them to give you sources, record as much details as you can. If you don't understand what they are saying, ask to clarify. Next, ask the following question before moving on to the next item in the table. Write NONE if they cannot recall any example/source).*

8b.In terms of the goals and values of your program, how would you rank this item on a scale of one to nine, where one is "does not meet the goals and values", and nine being "meets the values very much" *(circle number under Ranking).*

ITEM	*SOURCES*	*(Q8b) - Ranking*
Multimedia skills such as: Digital photo, audio, and video reporting, editing and distributing online		1 2 3 4 5 6 7 8 9
Digital storytelling which includes nonlinear storytelling, writing in new ways, in blocks, creating and using blog		
Advanced storytelling forms, such as: Using advanced Content Management System, Live blogging, live streaming		
Social media that includes maintaining social media accounts; curating information; communicating with the audiences;		

promoting through social media		
Search Engine Optimization means students learn tagging, driving traffic to web site through linking, keyword relevance		
Engaging audience that means using citizen/audience produced content, creating interactive content, creating interactive graphics		
Entrepreneurship in a sense of for example assessing web analytics, entrepreneurial "start-up" skills, understanding of new business models of media		
Data journalism including how to find data to support stories, how to find story ideas in data, cleaning and dealing with data, visualizing data		
Programming basics such as programming concepts and syntax, HTML, CSS basics, App developing		

basics		

9. When you think of journalism education and innovations, who do you normally discuss this within your organization? *(You will need to use the roster of faculty that teaches journalism. Ask for each individual Q10 and Q11 if the subject says Yes. Write in the table below under Q9 identifying number from the roster and answers to 10 and 11 across this number).*

10. Have you discussed these topics in the past six months with these people? *(Write Yes or No in the table above, next to name)*

11. *(Frequency)* Approximately how often have you discussed these issues with each individual, more like weekly, several times a month, every month, less than once a month? *(ask for each individual and write next to the individual's names in the table above)*

12. Anybody else? (*write down the name under "Colleague Q9" in the table and ask Q10 and Q11 for the named individuals as well*).

Colleague (Q9)	Discussed in past six months (Q10)		Frequency (Q11)			
	Yes	No	Weekly	Few times a month	Monthly	Less than monthly

13. How about people outside the organization, have you discussed any journalism education and innovations with people outside your program/department/school within past six month or past year? Who? (*record names, ask them to name at least three, but not more than seven. Remind them that these*

people will not be interviewed or approached within this research and their identifications are needed to enable the researchers to map the larger professional network of journalism educators).

14. What do they do, could you give me their position or affiliation, for example, are they journalists working for any media outlet, trainers, foreign colleagues, or faculty of other universities? *(record for each individual as specific as possible in the table above)*

15. Approximately how often have you discussed these issues with each individual, more like weekly, several times a month, every month, less than once a month? *(ask for each individual and write next to the individual's names in the table)*

16. Anyone else? (*write down the name under "Name Q13" in the table and ask Q14 and Q15 for the named individuals as well*).

Name (Q13)	Affiliation (Q14)	Frequency (Q15)			
		Weekly	Few times a month	Monthly	Less than monthly

17. When it comes to purchasing equipment or software or meeting similar needs for the journalism courses, who normally helps the most? Anybody in the University? Donors? Sponsors? Others? Please list those, with whom you've talked about these matters in the past six months. Can you rank them based on the frequency of communication in the past six month or past year? *(read out all*

the names they gave and ask who goes on the first place based on frequency of communication, on the second, on third, etc)

18. Sometimes people within an organization have only working relationships, sometimes they become best friends, in your program are there people with whom you also meet outside the work settings and discuss more personal topics?

(Write down the names)

Anybody else?

19. Do you also teach journalism in your school/department/program?

(If NO, go to Q23 only, if YES, continue with Q20)

20. *Background:* journalism experience: yes no *(if YES, ask for the number of years)*

Currently practice: yes no

Highest degree received?

Institution awarding degree:

21. Titles of Courses taught in the past year:

22. I am going to read examples of some skills and topics possibly covered in journalism programs, please think about the journalism classes you teach and tell me if each is covered or practiced not at all, in less than one complete session, in two to four sessions, in about half of all sessions, in most sessions, or in all sessions. *(Read each item and remind the answer options, then mark in the table below)*

	Not covered at all	Covered in less than one session	In two to four sessions	In about half of all sessions	In most sessions	In all sessions
Multimedia skills such as: Digital photo, audio, and video reporting, editing and distributing online						
Digital storytelling which includes nonlinear storytelling, writing in new ways, in blocks, creating and using blog						
Advanced storytelling forms, such as: Using advanced Content Management System, Live blogging, live streaming						
Social media that includes maintaining social media accounts; curating						

information; communicating with the audiences; promoting through social media						
Search Engine Optimization means students learn tagging, driving traffic to web site through linking, keyword relevance						
Engaging audience that means using citizen/audience produced content, creating interactive content, creating interactive graphics						
Entrepreneurship in a sense of for example assessing web analytics, entrepreneurial "start-up" skills, understanding of new business models of media						
Data journalism including how to find data to support stories, how to find story						

ideas in data, cleaning and dealing with data, visualizing data						
Programming basics such as programming concepts and syntax, HTML, CSS basics, App developing basics						

Any other interesting topic/skill/practice you teach that was not mentioned above?

(Record, ask to describe or give example, ask the frequency and record the number based on above answer options)

23. Is there anything else you think is important for me to understand how you prepare journalists for their future careers?

APPENDIX D

QUESTIONNAIRE FOR FACULTY MEMBERS

Position: Full-time, part-time, adjunct *(circle)*

Background: journalism experience: yes no *(if YES, ask for the number of years)*

Currently practice: yes no

Highest degree received?

Institution awarding degree:

Teaches at any other university? *(if yes, where; if yes, fill out separate questionnaires for each)*

Titles of Courses taught in the past year:

1. Now I'm going to read a list of statements. For each one, please think about your organization and indicate whether you strongly disagree, disagree, agree, or strongly agree with them *(mark answers below)*

	Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4
Teachers in your program are generally willing to try new ideas				
Teachers in your program are continuously learning and developing new ideas				

Teachers in your program are constantly trying to improve their teaching				
Teachers in your program are willing to take risks to make this school better				
Teachers in your program have a positive 'can-do' attitude				
Teachers in your program are encouraged to go as far as they can				

2. I am going to read some innovations happening in journalism. Please name some examples of where you have observed each of the following being used or adopted, for example, seen media organizations using them, other schools, specific websites or organizations in Georgia or anywhere in the world. *(Read each item, and then ask them to give you sources, record as much details as you can. If you don't understand what they are saying, ask to clarify. Next, ask the following question before moving on to the next item in the table. Write NONE if they cannot recall any example/source).*

Multimedia skills such as: Digital photo, audio, and video reporting, editing and distributing online	
Digital storytelling which includes nonlinear storytelling, writing in new ways, in blocks, creating and using blog	
Advanced storytelling forms, such as: Using advanced Content	

Management System, Live blogging, live streaming	
Social media that includes maintaining social media accounts; curating information; communicating with the audiences; promoting through social media	
Search Engine Optimization means students learn tagging, driving traffic to web site through linking, keyword relevance	
Engaging audience that means using citizen/audience produced content, creating interactive content, creating interactive graphics	
Entrepreneurship in a sense of for example assessing web analytics, entrepreneurial "start-up" skills, understanding of new business models of media	
Data journalism including how to find data to support stories, how to find story ideas in data, cleaning and dealing with data, visualizing data	
Programming basics such as programming concepts and syntax, HTML, CSS basics, App developing basics	

3. When you think of journalism education and innovations, who do you normally discuss this within your organization? *(You will need to use the roster of faculty that teaches journalism. Ask for each individual Q4 and Q5 if the subject says Yes. Write in the table below under Q3 identifying number from the roster and answers to 4 and 5 across this number).*

4. Have you discussed these topics in the past six months with these people? *(Write Yes or No in the table above, next to name)*

5. *(Frequency)* Approximately how often have you discussed these issues with each individual, more like weekly, several times a month, every month, less than once a month? *(ask for each individual and write next to the individual's names in the table above)*

6. Anybody else? (*write down the name under "Colleague Q3" in the table and ask Q4 and Q5 for the named individuals as well*).

Colleague (Q3)	Discussed in past six months (Q4)		Frequency (Q5)			
	Yes	No	Weekly	Few times a month	Monthly	Less than monthly

7. How about people outside the organization, have you discussed any journalism education and innovations with people outside your

program/department/school within past six month or past year? Who? (*record names, ask them to name at least three, but not more than seven. Remind them that these people will not be interviewed or approached within this research and their identifications are needed to enable the researchers to map the larger professional network of journalism educators).*

8. What do they do, could you give me their position or affiliation, for example, are they journalists working for any media outlet, trainers, foreign colleagues, or faculty of other universities? *(record for each individual as specific as possible in the table above)*

9. Approximately how often have you discussed these issues with each individual, more like weekly, several times a month, every month, less than once a month? *(ask for each individual and write next to the individual's names in the table)*

10. Anyone else? (*write down the name under "Name Q13" in the table and ask Q14 and Q15 for the named individuals as well*).

Name (Q7)	Affiliation (Q8)	Frequency (Q9)			
		Weekly	Few times a month	Monthly	Less than monthly

10. In the past six months, where did you go for information about what can be taught in journalism program? Any journals, trainings, websites, other university websites? Any others? *(for journals, books, or other readable sources write down exact name; for websites write down website address or name, for example if person says media.ge, white it; if person says New York Times website, record as NYT website; for trainings, ask for topic of training, name of trainer, or who organized training; ask to name at least three sources, not more than seven)*

11. During the past six months how often did you go to each source, more like weekly, few times a month, monthly, or less than monthly? *(record next to each source appropriate answer from these options in the table above)*.

Source (Q10)	Frequency (Q11)			
	Weekly	Few times a month	Monthly	Less than monthly

12. Sometimes people within an organization have only working relationships, sometimes they become best friends, in your program are there people with whom you also meet outside the work settings and discuss more personal topics?

(Write down the names)

Anybody else?

13. I am going to read examples of some skills and topics possibly covered in journalism programs, please think about the journalism classes you teach and tell me if each is covered or practiced not at all, in less than one complete session, in two to four sessions, in about half of all sessions, in most sessions, or in all sessions. *(Read each item and remind the answer options, then mark in the table below)*

	Not covered at all	Covered in less than one session	In two to four sessions	In about half of all sessions	In most sessions	In all sessions
Multimedia skills such as: Digital photo, audio, and video reporting, editing and distributing online						
Digital storytelling which includes nonlinear storytelling, writing in new ways, in blocks, creating and using blog						
Advanced storytelling forms, such as: Using advanced Content Management System, Live blogging, live streaming						
Social media that includes maintaining social media						

accounts; curating information; communicating with the audiences; promoting through social media						
Search Engine Optimization means students learn tagging, driving traffic to web site through linking, keyword relevance						
Engaging audience that means using citizen/audience produced content, creating interactive content, creating interactive graphics						
Entrepreneurship in a sense of for example assessing web analytics, entrepreneurial "start-up" skills, understanding of new business models of media						
Data journalism including how to find data to						

support stories, how to find story ideas in data, cleaning and dealing with data, visualizing data						
Programming basics such as programming concepts and syntax, HTML, CSS basics, App developing basics						

Any other interesting topic/skill/practice you teach that was not mentioned above?

(Record, ask to describe or give example, ask the frequency and record the number based on above answer options)

14. Is there anything else you think is important for me to understand how you and your colleagues prepare journalists for their future careers?

APPENDIX E

INFORMED CONSENT AND IRB APPROVAL LETTERS

Informed Consent for Dissertation Interview

University of South Carolina

Innovation Among Georgian Journalism Educators: A Network Analysis Perspective

Description of the Study and Your Part in It

Ana Keshelashvili, doctoral candidate at University of South Carolina invites you to take part in a research study. The purpose of this research is to better understand innovations in journalism education in Georgia.

You are asked to participate in a private interview, in which you will be asked about adoption of certain innovations in your courses and about your professional communication about journalism education. It will take you about 30 minutes to participate in the interview for this study.

By participating in this research you should not face any risks or discomfort. Principal researcher and interviewers will do their best to protect your privacy and confidentiality. Information you give will not be shared in a manner that would allow linking of your answers to you, other than being translated into a professional network description. Names will be removed right after data is collected, entered and stored in secure network storage. No one will see the data except for Ana Keshelashvili.

You have right to choose not to take part in this study, and may stop answering the questions at any time before or during the interview.

If you have any questions or concerns about this study or if any problems arise, please contact Ana Keshelashvili at keshelas@email.sc.edu.

Consent

By participating in the interviews, I give my consent to be part of this study.

UNIVERSITY OF
SOUTH CAROLINA

OFFICE OF RESEARCH COMPLIANCE

June 26, 2014

Ana Keshelashvili
Mass Communications & Information Studies
Journalism and Mass Communications
701 Assembly Street
Columbia, SC 29208

Re: **Pro00036243**
Study Title: *Innovation Among Georgian Journalism Educators: A Network Analysis Perspective*

FYI: University of South Carolina Assurance number: FWA 00000404 / IRB Registration number: 00000240

Dear Ms. Keshelashvili:

In accordance with 45 CFR 46.101(b)(**2**), the referenced study received an exemption from Human Research Subject Regulations on **6/25/2014.** No further action or Institutional Review Board (IRB) oversight is required, as long as the project remains the same. However, you must inform this office of any changes in procedures involving human subjects. Changes to the current research protocol could result in a reclassification of the study and further review by the IRB.

Because this project was determined to be exempt from further IRB oversight, consent document(s), if applicable, are not stamped with an expiration date.

Research related records should be retained for a minimum of three years after termination of the study.

The Office of Research Compliance is an administrative office that supports the USC Institutional Review Board. If you have questions, please contact Arlene McWhorter at arlenem@sc.edu or (803) 777-7095.

Sincerely,

Lisa M. Johnson
IRB Manager

APPENDIX F

DEGREE CENTRALITY AND BETWEENNESS OF THE WHOLE NETWORK

Actor	*Degree Centrality*	*Betweenness*
TSU-1	3	3
TSU-2	1	0
TSU3	4	18
TSU-H	3	3
TSU-4-CU3	1	0
TSU-5	4	27.5
TSU-6	5	176
TSU-7	3	9
TSU-8-CIU-7	10	208.1
GTU1	3	0
GTU-2-CIU-2	9	141.4
GTU-3	3	0
GTU-4	3	0
GTU-5	0	0
GTU-H-SEU-H	2	52
CIU-1	5	24.35
CIU-3	6	22.8
CIU-4	5	0.4
CIU-5	6	24.35
CIU-6	7	24.75
CIU-H	6	24.35
CU-1	2	0
CU-2	1	0
CU-4	2	0
CU-5	2	0
CU-6	1	0
CU-7	6	154.5
CU-H	6	54.5
GIPA-1	4	0
GIPA-2	6	1.25
GIPA-3	5	0.25
GIPA-4	4	0

GIPA-5	6	1.25
GIPA-6	6	1.25
GIPA-H	3	0
GORI-1	2	0
GORI-2-SJSU-1	2	0
GORI-H	2	0
GORI-1	2	0
GORI-2-SJSU-1	2	0
GORI-H	2	0
GRUNI-1	2	0
GRUNI-H	2	0
GTTU-1	4	12.5
GTTU-3	1	0
GTTU-H	3	0
GTTU-4	3	0
IliaUNi-1	2	0
IliaUni-2	2	0
IliaUni-H	3	2
KHULO-1	2	0
KHULO-2	2	0
KHULO-H	2	0
KUTAISI-1	1	0
KUTAISI-2	1	0
KUTAISI-H	2	1
SDASU-1	4	41.5
SDASU-2	3	1.5
SDASU-3-GRUNI-2	4	22
SDASU-H-SEU-2	2	0
SEU-1	1	0
SEU-3	2	27
TELAVI-1	2	0
TELAVI-2	2	0
TELAVI-H-GTTU-2	2	56.5
UG-1	3	0.5
UG-2	2	0
UG-3	3	0.5
UG-4	2	0
UG-H	1	0
SJSU-H	1	0