MYKOLAS ROMERIS UNIVERSITY-MIDDLESEX UNIVERSITY

BUSINESS AND MEDIA SCHOOL

ROBERTAS MICKUS

Communication and Creative Technologies

MOBILE APPLICATION FOR THE FOOTBALL ACADEMY "ŽALGIRIETIS" PLAYERS: THE PERCEIVED INNOVATION ATTRIBUTES AND ADOPTION

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Supervisor: Assoc. Prof. Dr. Gintarė Žemaitaitienė

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INTRODUCTION

The process of transforming an innovative idea into product or service involves application of information, knowledge, creativity, technical resources, and combined with research on initial people perceptions it opens up possibilities to accomplish this more efficiently and much faster, to avoid incorrect decisions, to achieve greater quality and to generate bigger value. The study of the innovation attributes allows to understand what are subjective and objective intentions to adopt the innovation. In the context of this thesis we will seek to analyze how innovation attributes complement the actual intension of adopting a mobile application. Our attempt to define those attributes could potentially create much deeper understanding of existing situation as well as the state of where the innovation in the eyes of adopting unit is.

Our focus is on the football academy "Žalgirietis" from the capital of Lithuania which is interested in improving the overall communication and education of its players and therefore adopting an innovative mobile application. The author of this thesis finds this topic very interesting which is closely related with his communication and creative technologies studies and especially now when such industries started to impact the quality of our lives in ways that only we are responsible for how small or big, negative or positive, those changes really are. This important and eventually inevitable process of globalization is associated to the latest information and communication technologies and to the more and more intensive cultural and scientific exchanges.

Relevance of the topic. The 21st century has been marked by a rapid increase in the flow of information, introduction of new kinds of learning material (digital information) and tools (virtual learning environments, multimedia) as well as creation of universal methods and better environment for learning and teaching. The relevance of this study appeals to a common belief that every contemporary society should constantly look for new ways of improving as well as directly corresponds to the Educational technology theory – "the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources" (Robinson et al. 2016).

In our society, young people have been stimulated to think of themselves as able of making their own decisions. Moreover, they have learned that the way to connect to and earn respect from others is through self-expression and achievement. Thus, this thesis is aimed at investigating the ways in which young generation, and in particular the football academy "Žalgirietis" players, can be provided with

necessary tools in order to develop themselves as human beings and how those innovative tools are perceived by the academy members.

A host of issues will be tackled in this paper, such as communication among young people, educational tools progressiveness, the effectiveness of digital information, and much more. As technology is changing swiftly, communication and education will be put in context, exploring the meaning of media challenges and the consequences of our responses – for our lives as members of society. Supporters of such thinking argue this process of digitization and impact on creative industries saying that "digital information and communication devices have developed rapidly and they are applied in increasingly sophisticated ways for many tasks and activities" (Towse and Handke 2013).

According to the latest data, 95 percent of kids have access to the Internet by age eleven; 89 percent of families have multiple mobile phones, and 75 percent of twelve - to seventeen year-olds have their own phone; the average age at which young people get a cell phone is around nine and a half (Clark 2012). Furthermore, a study conducted by the Kaiser Family Foundation in 2010 found that young people under the age of seventeen were spending an average of seven and a half hours a day utilizing various media devices – an increase of nearly an hour and a half over the time they spent with media devices just five years earlier.

Author's own understandings of the role of digital and mobile media among young people is impossible to separate from his personal experiences. His own background having a degree in business management as well as professional experience in various forms of media and business such as radio, public relations and advertising is why the relationships between economics, technology, and communication have always fascinated him.

Some of the insights from communication and creative technologies studies will be presented. It has a fundamental angle of theory to bring to these issues of how young people are experiencing digital and mobile media in their day to day basis. These studies remind us to think about communication technologies not as things we simply use but as innovations that evolve in specific contexts. Online communication and mobile technologies not only empower our connections with others and with information. They also create a new layer of meaning to those connections, and by doing it, they modify our relationships with each other. "New technologies make possible certain ways of being, and how we use technologies then further shapes our options for the future" (Wajcman 2004).

Mobile and digital media have made communication work in a lot of ways and about much more than just sharing information. “Rather than simply being permitted to observe social behavior, as was the case with television, we are all participating in new forms of social behavior via communication technology platforms that bridge the private and the public” (Clark 2012). Therefore, as we think about the mobile app that is potentially needed for the football academy “Žalgirietis” players, we have to take into consideration the fact that experiences of young people with technology vary greatly depending on how they are able to incorporate such technologies into their lives in the first place.

Level of investigation. The phenomena of digital and mobile media, virtual learning environments and they link to communication, creativity and technology have been addressed by different scholars (Florida 2002; Hartley 2005; Howkins 2007; Hesmondhalgh 2007; Towse and Handke 2013; Robinson et al. 2016). However, none of them deliberately pose questions what these terms describing modern technologies mean for a young generation and what actual, and perhaps more importantly – systematic, influence they contain.

The first edition of Rogers’ book Diffusion of Innovations, on which our empirical part is based, was published in 1962. Since then thousands of empirical research reports, bibliographies, syntheses, theoretical writings, and other types of reports about innovations were published. This stream of diffusion scholarship over the past fifty years or so represents just how important this topic which impacts our daily lives is. Therefore, the author of this thesis feels that his findings as much as they are interconnected with past studies will lay out new undiscovered directions for a mobile application innovation.

Novelty. The primal focus of this thesis is on the Lithuanian communicational, educational, technological and cultural context. The research is set to analyze the principal aspects of creative technologies and innovative ideas which appear to have drawn scarce attention so far. It is attempted to show that educational technology fundamentals in this research field are still based on rather formal social practices, which most of the time are incomplete if not outdated. Some theorists define that “internet and mobile device supported learning, networked learning, cooperative learning, knowledge and communication technologies are the ways of communicating with student-student, teacher-student, learning sources and between the learning institutions” (Keser and Ozcan 2011).

Although mobile application usage in educational systems is not entirely new topic on a global scale, it still remains more of a phenomenon in our society, especially at the academical level. Nevertheless, this issue becomes more and more important topic of the discussions among representatives of universities and schools as well as those after class activities, such as music,

technologies and sports. Roblyer (2006) suggested that there are important reasons for teachers to use technology in education as well – "motivation, distinctive instructional abilities, higher productivity of teachers, essential skills for information age, and support for new teaching techniques".

Problem of research. The problem which became the reason for creating a mobile application for the football academy "Žalgirietis" players was the initial observations of the communicational, educational and technological tools and methods applied by "Žalgirietis" as well as other football academies in Vilnius, Lithuania. These revealed that football academies don't take full advantages of the mobile technologies which generate a number of communicational and educational possibilities for players' improvement. Furthermore, during the initial research phase some situations emerged where the lack of communicational and educational tools were the main causes of interrupting, slowing down or in some cases stopping players' progress as individuals as well as in teams, therefore the problem formulation of our study is:

What is the perception of the innovation attributes that influence a mobile application adoption for the football academy "Žalgirietis"?

Object of research. Innovative educational methods and communicational tools which enable to improve the football academy "Žalgirietis" players' in communicational, educational, technological and cultural context**.**

Aim of research. To research the perceived innovation attributes which affect the intention of adopting a mobile application for the football academy "Žalgirietis" players.

Objectives of research.

1. To reveal what characteristics define creative technologies and their selectivity in educational environment.
2. To present innovation attributes and to create the conceptual model of perceived innovation attributes in order to predict their impact on intensions of adopting a mobile application.
3. To introduce the football academy "Žalgirietis" and perform the qualitative content analysis of currently used digital communication platforms as well as expert interviews enabling to carry out estimation of the innovation adoption intensions.
4. To evaluate the validity of the original and modified conceptual models of perceived innovation attributes in terms of intensions to adopt a mobile application and provide recommendations for future research.

Research methodology. The research strategy to be used in this study consists of qualitative case analysis. This methodological access includes structured observations as well as content analysis from the expert interviews in order to gain an in-depth understanding of existing situation and possible needs to be able to predict the intensions of adopting and provide valid recommendations. First, the information is extracted from the existing academy's digital sources using structured observations and applying qualitative analysis technique, and in the second stage – the qualitative analysis is applied for analyzing expert interviews, which consists of presumably valid experiential multiple criteria as well as professional interpretative perspectives.

Our reasoning in using existing knowledge to draw conclusions, make predictions and construct explanations will consist of *abductive approach*. It typically begins with an incomplete set of observations and proceeds to the likeliest possible explanation for the set. A wider justification of the appropriateness of the chosen methodology to achieve the objectives is presented in the empirical reasoning including an extensive discussion of diverse alternatives for research strategies and methods, and the specific choices made in this research proposal are clarified.

Research methods.

- Theoretical: literature analysis, conceptual modelling.

By analyzing the scientific literature, the research object and the problem are illustrated as well as the settlement level of proposed objectives are evaluated. Furthermore, the conceptual model of perceived innovation attributes is designed in order to measure the intensions of adopting a mobile application for the football academy "Žalgirietis" players.

- Empirical data collection and analysis: structured observations and qualitative interviews.

Structured observations. The first method is chosen due to the fact, that there is a need for the observation of digital "Žalgirietis" platforms including official website and Facebook page in order to assess the quality of information and communication as well as individual, organizational and social behavior online. We will analyze the content of these communication channels in order to gain knowledge about their relation to our conceptual model of perceived innovation attributes during the selected timeframe.

Qualitative interviews. This method is chosen because it is important to not only measure something that was said, it is even more important to know what was actually said. In order to examine the perceptions of innovation attributes, three formal and three informal interviews with

academy experts over the course of one month were conducted and then analyzed using qualitative content analysis technique.

Structure of the thesis.

This work is divided into four parts, and the first section foregrounds the most well-publicized creative technologies related to the digital and mobile media. The chapter illuminates different aspects of advanced education and tools of communication. It includes a description of how some of the digital and mobile media contexts could improve the quality of young people's experience. Most of this analysis reveal that young generation is able of handling the new situations that materialize with digital and mobile media.

In the second part, the author turns to the innovation-decision process and innovation attributes which are originally proposed by Rogers (2003). We analyze his version of perceptions which influence new creations and in his words "the usefulness of research on the attributes of innovations is mainly to predict their future rate of adoption" (Rogers 2003). After this assessment, we propose our conceptional model of perceived innovation attributes which will serve in our research for data collection and analysis.

The third part is devoted to the current situation surrounding the football academy "Žalgirietis" in terms of information and communication distribution through the digital platforms and their relationship to our conceptional model. Qualitative content analysis is then applied to the stories of coaches and football academy staff. These expert interviews presumably contain answers which reflect the intensions of adopting a mobile application.

The study is finalized with conclusions and recommendations which reveal the significance of creative technologies in lives of a young generation as well as suggests the further research of this important issue as it could become not only a form of educating, but rather an instrument of learning institution of everyday life.

1. THEORETICAL PRECONDITIONS OF THE DEVELOPMENT OF CREATIVE INDUSTRY PRODUCT

Prior to constructing the theoretical framework of this research, introduction of the thesis was presented including problem exploration, research relevance and novelty, level of investigation, subjective and objective reasoning as well as thesis objectives and implementation techniques. In this part a systematic literature review on some of the most prominent, and consequently most cited studies of creative industries and technologies will be carried out. This is essential in order to get a valid perspective on different theories within this particular topic.

1.1.Creative industries as a new engine of growth

When assessing current social and economic changes on a global scale it is clear that the only permanent feature is *constant changes*. An academic and political discourse is increasingly focusing not on a serial production, but on high quality goods and services. Under these circumstances the importance of creative and cultural industries is constantly growing. “The “Creative industries” idea itself is a product not of industry but of history, both immediate and long-term” (Hartley 2005). Arguably it can be either product or an industry, can't it? Furthermore, Hartley (2005) claimed that “more immediately, the idea of the creative industries arose from recent changes in technology and the world economy, especially during the 1990's, and the beginnings of broad uptake of interactive media forms”. Things like mobile applications and game designs have taken effect in a way so that creative technology is at our fingertips.

The creative industries represent one of the most important areas of the twenty-first century's global economy. Since the 1990s, they have been heralded as one of the fastest growing industry sectors and are now seen as central to the success of most developing and advanced economies (Colette 2007). It is clear that both concepts – cultural industries (that has been circulating in cultural analysis and policy for many years) and creative industries – refer to a domain that no serious cultural analysis can afford to ignore: how cultural goods are produced and disseminated in modern economies and societies (Bennett and Frow 2008).

The French sociologist Bernard Miège introduced a collection of his translated essays in 1989 by outlining the main limitations, from his perspective, of the culture industry idea: its failure to see how technological innovations had transformed artistic practice; its paradoxical emphasis on markets and commodities rather than on culture as an industry, as a process of production with limitations and problems; and the implication in the term 'culture industry' that analysts were addressing a unified field governed by one single process, rather than a complex and diverse set of industries competing for the same pool of disposable consumer income, time, advertising revenue and labor. However, there is another distinction crucial to understanding the term. The term 'cultural industries' was not just a label for a sector of production, it was also a phrase that came to signify an approach to cultural production based on these and other principles, developed and integrated into the 'creative industries'.

The creative and cultural industries are influential sources of employment and wealth generation, and, as in other countries, certain to become even more important in the future with the march of growing wealth and education. They are one of the dynamic elements of the emergent knowledge economy. According to Cultural times (2015), "cultural and creative industries (CCI) last year generated US$2,250b of revenues and 29.5 million jobs worldwide. Also, CCI now employs 1% of the world's active population".

The definition of the creative industries varies from author to author but in terms of classifying and measuring them most scientists agree that they capture the following sectors: advertising, architecture, art and antiques, computer games, crafts, design, designer fashion, film and video, music, performing arts, publishing, software and TV and radio (Florida 2002; Hartley 2005; Howkins 2007; Hesmondhalgh 2007; Towse and Handke 2013; Colette 2007). These 13 creative industries, however, are often recognized as having as many differences as similarities. Even within an industry like publishing – the differences between, say, newspapers and educational publishers are regularly perceived to loom larger than their similarities.

In Figure 1 – which is based on the analysis from the report "Staying Ahead" prepared by The Work Foundation in 2007 – we deploy the concept of suggestive value to map the creative industries in a sequence of parallel circles radiating out from the center of core expressive value creation. The 'bull's-eye' represents where pure creative content is generated. This is the domain of the author, painter, film-maker, dancer, composer, performer and software writer.

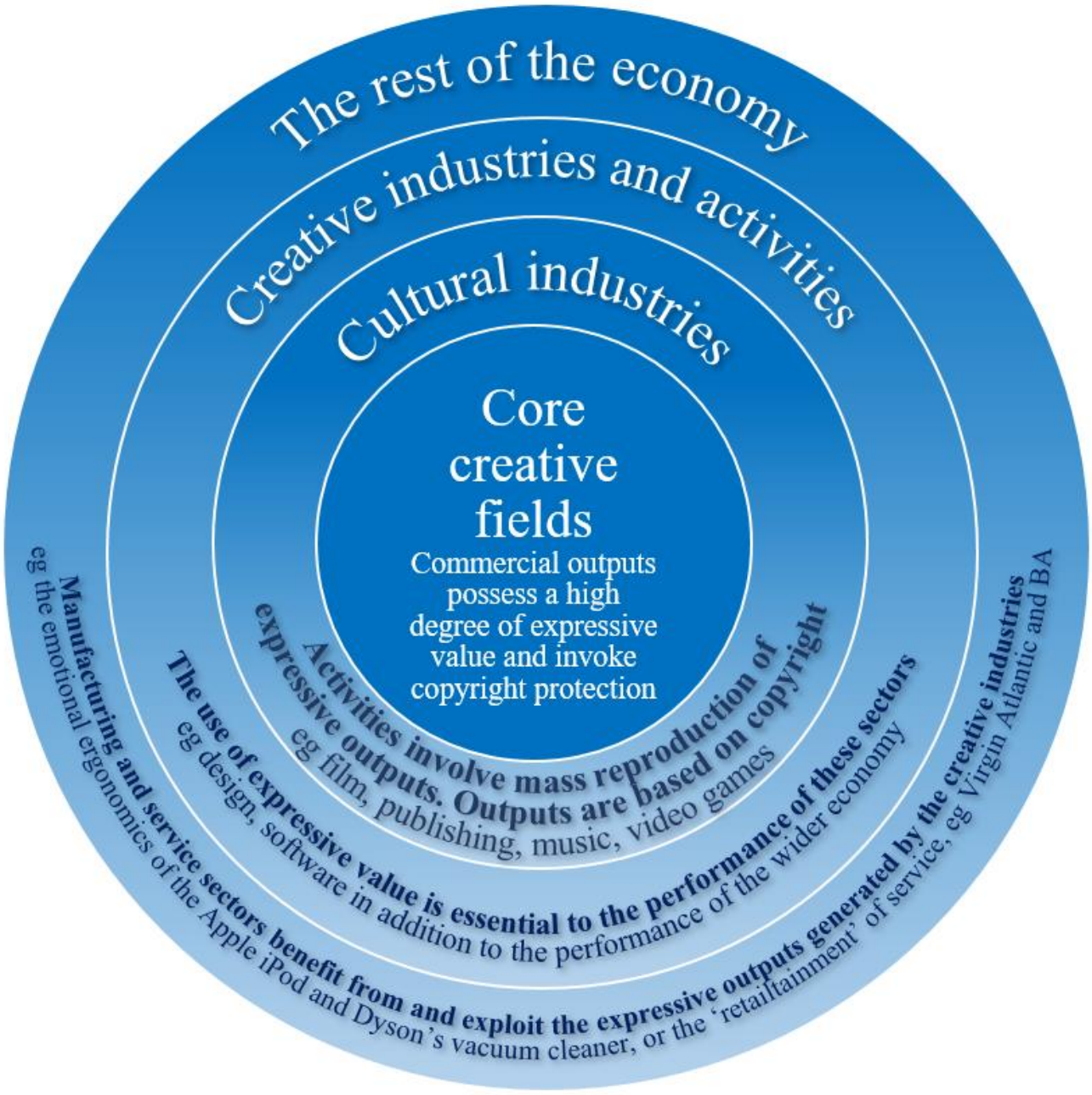


Figure 1. The creative industries typology (Staying Ahead 2007)

In the present day, there remain different interpretations of culture as an industry. In UNESCO, for example, the cultural industries are regarded as those industries that "combine the creation, production and commercialization of contents which are intangible and cultural in nature. These contents are typically protected by copyright and they can take the form of goods or services". An important aspect of the cultural industries, according to UNESCO (2016), is that they are "central in promoting and

maintaining cultural diversity and in ensuring democratic access to culture". This twofold nature – combining the cultural and the economic – gives the cultural industries a distinctive profile.

A number of different models have been put forward over recent years as a means of providing a systematic understanding of the structural characteristics of the creative industries. And it has to be said that there is no "right" or "wrong" model of the creative industries, simply different ways of interpreting the structural characteristics of creative production. The attractiveness of the various models may therefore be different, depending on the analytical purpose, and next we will present the UNCTAD classification of creative industries (Figure 2).

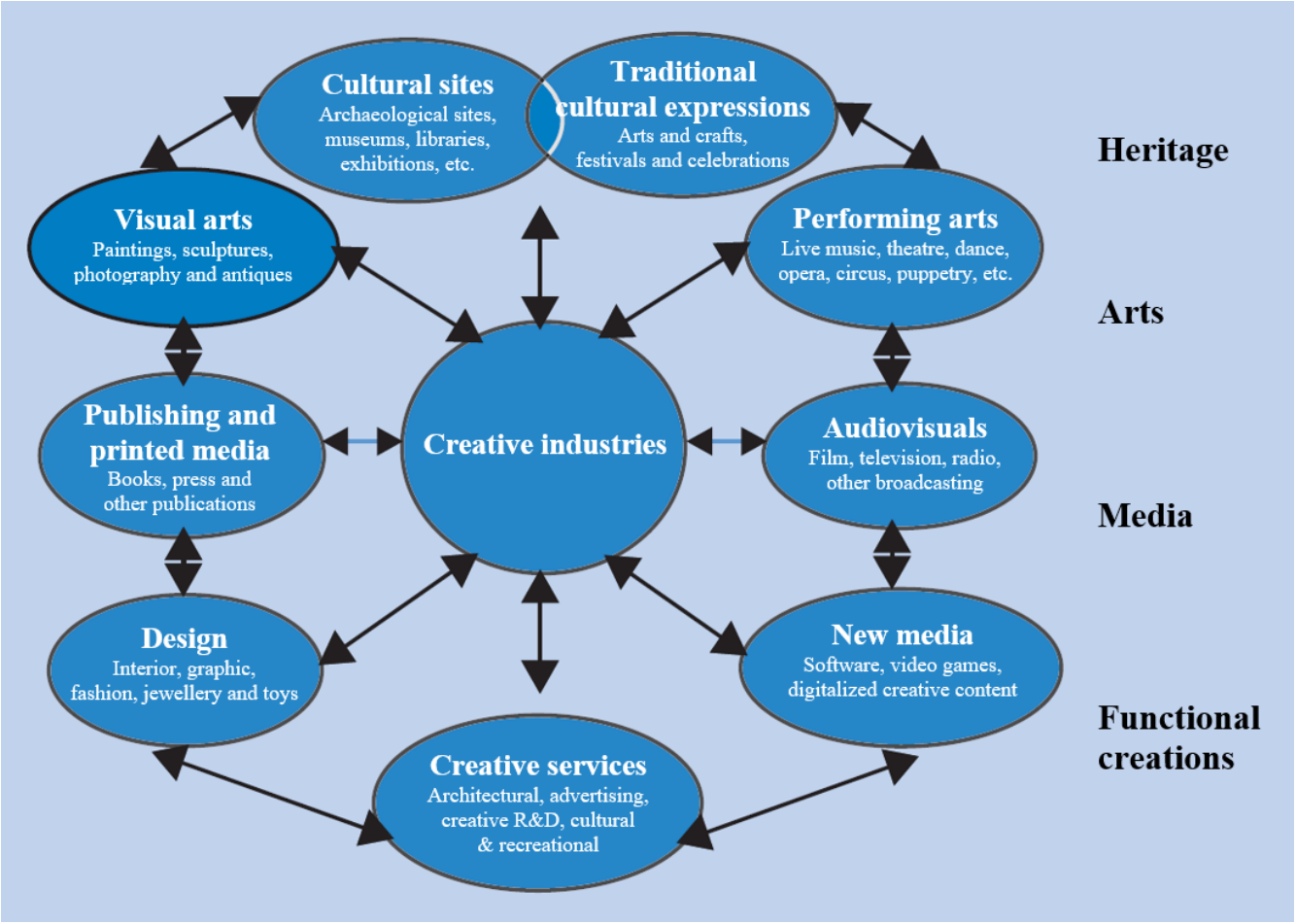


Figure 2. UNCTAD classification of creative industries (Creative Economy Report 2008)

The UNCTAD approach (Figure 2) to the creative industries relies on enlarging the concept of "creativity" from activities having a strong artistic component to "any economic activity producing symbolic products with a heavy reliance on intellectual property and for as wide a market as possible". The major drivers responsible for the extraordinary growth in the creative industries worldwide can be found in both technology and economics. The technological transformations in communications brought about by the digital revolution and the economic environment within which this revolution has taken place have combined to create the conditions for this growth (Creative Economy Report 2008).

In the opening section of the first part we found out how important creative industries are for the global economy and like many other industries it is increasingly focusing not on a serial production, but on high quality goods and services. The mobile application idea which we presented in the introduction of this paper also contains such characteristics of a high-quality product. In addition, we defined and looked at the classification of the creative industries – figuratively speaking – home of our mobile application. In the next section, the author will look at the work of researchers who are broadly advocates of the specific kinds of creative industries described above.

1.2.Key role of the technology for content production and distribution

As it was illustrated in the beginning of this part and studies continue to show, the creative sector is vibrant and growing and more than that – it became one of the leading indicators of global growth, e.g. "in economic terms, the cultural and creative sector is globally one of the fastest growing. Estimates value the sector at 7% of the world's GDP and forecast 10% growth per year" (Department of the Taoiseach 2008). With the advent of new technologies in the last 20 years such as the internet, e-commerce and electronic files that make sharing, trading and consuming cultural goods and services easier than ever before, globalization has had a profound impact on the creative industries (UNESCO 2016).

With the speed of technological change and the emergence of the creative industries as a distinct area of specialization, there are new and varied ways that culture, and particularly cultural goods and services, are now produced, distributed and used. The dramatic development of the internet, e-commerce and digital file formats in particular has profoundly changed the way people create, work in and consume culture over the last 20 years and any new methodologies must take this into account (Ammi 2007).

Creative industries are considered a key sector for facilitating the operationalization of new perspectives and technologies through sustainable national development strategies.

In the contemporary world, a new development paradigm is emerging that links the economy and culture, embracing economic, cultural, technological and social aspects of development at both the macro and micro levels. Central to the new paradigm is the fact that creativity, knowledge and access to information are increasingly recognized as powerful engines driving economic growth and promoting development in a globalizing world. "Creativity" in this context refers to the formulation of new ideas and to the application of these ideas to produce original works of art and cultural products, functional creations, scientific inventions and technological innovations (Creative Economy Report 2008).

Technology plays a key role in the creative economy not only as the essence of creative sectors such as audiovisuals and new media but also as the means by which to access and circulate digitized content in today's interactive multimedia environment. A broad interpretation of creativity as well as technology impact also underlies Richard Florida's (2002) descriptions of the emerging "creative class" in society – "a cohort of professional, scientific and artistic workers whose presence generates economic, social and cultural dynamism". More specifically, the creative class includes people whose economic function is to create new ideas, new technology or new creative content. Florida presented his "3 Ts theory" for economic growth: technology, talent and tolerance. His theory differs from the conventional theory since he argues that talent drives growth. He then goes a step further by adding the third T, tolerance, which is needed to attract human capital.

Along these lines, the new digital and telecommunication technologies facilitate, in effect, a global reach that was previously impossible. In addition, consumers have a greater variety of products and services to choose from and also a greater say in how these products and services are designed and delivered. "New products and new delivery systems present challenges for traditional business models, while providing opportunities for new entrants with digital and virtual business models (UNIDO 2013). According to Hall (2000), the so called innovative technologies are part of the creative economy as well as the center of it (the creative industries).

In this section, we explored the technological aspect of the creative industries, which changed the way we create, work in and consume culture, not to forget our idea of a mobile application which can be associated with this transformation. Moreover, we defined the creative class and the "3 Ts theory" which supplements the importance of technology in the scope of creative industries as well as our innovative idea.

1.2.1. Digital transformation of industries

There is widespread recognition among leaders in most industries that the role of digital technology is rapidly shifting, from being a driver of marginal efficiency to an enabler of fundamental innovation and disruption. Digitalization is the cause of large-scale and sweeping transformations across multiple aspects of organizations, industry ecosystems, and society, providing "unparalleled opportunities for value creation and capture" (Scheipers 2016). The economic and societal implications of digitalization are contested and raising serious questions about the wider impact of digital transformation.

While it is clear that digital technology will transform most industries, there are a number of challenges that need to be understood. These include factors such as "the pace of changing customer expectations, cultural transformation, outdated regulation, and identifying and accessing the right skills – to name just a few" (Pazvakavambwa 2016). These challenges need to be addressed by industry and government leaders to unlock the substantial benefits digital offers society and industry.

Recent research from the McKinsey Global Institute looked at the state of digitization in sectors across the United States of America economy and found a large and growing gap between sectors, and between companies within those sectors. The most digital companies see outsized growth in productivity and profit margins. Companies are investing in digitizing their extensive physical assets, bringing us closer to the era of connected cars, smart buildings, and intelligent oil fields. Looking at just three big areas of potential – online talent platforms, big data analytics, and the Internet of Things – we estimate that digitization could add up to $2.2 trillion to annual GDP by 2025 (McKinsey Global Institute 2015).

The digital revolution is already transforming companies and even entire industries. In this new world, there is a growing need to be able to adapt and this requires far more profound changes than just investing in the latest digital technologies. Organizations will need to search for new work models, fundamentally rethink their operating models and revamp how they attract and foster digital talent (World Economic Forum Report (2016).

As we found out in this section, digitization is changing the dynamics in many industries all over the world. In some markets, there is a winner-take-all effect. For some companies and organizations, this is a wake-up call to use their digital transformation to reinvent every process with a fresh focus on the

customer. Could this be applied for the biggest football academy in the country? Certainly yes. Not far from this Digitalization, being one of the most fundamental drivers of transformation ever and, at the same time, a unique chance to shape our future, has a few technological trends and we will explore these in the next chapter.

1.2.2. Adapting to the digital era

The pace of technological change is accelerating. Just as the steam engine and electrification revolutionized entire sectors of the economy from the 18th century onward, so the internet, robotics, artificial intelligence and data analytics are beginning to dramatically alter today's industries. The decreasing cost of advanced technologies means that the world around us is becoming ever more connected. "In 2005, there were just 500 million devices connected to the internet; today there are 8 billion. By 2030, it's estimated that there will be 1 trillion" (World Economic Forum Report 2016).

The rapidly dipping cost influence technology trends that industry leaders should base their thinking on, as they contemplate how best to digitally transform their organization. Accenture Technology Vision (2015) highlights five emerging technology trends shaping the new digital landscape: the internet of me, outcome economy, the platform (r)evolution, the intelligent enterprise and workforce reimagined. Technology is an integral part of an organization and its strategy, but these trends reflect the fact that it is people who underpin success in a world that continues to reinvent itself at an unprecedented speed.

Tomorrow's leaders are taking these trends on board and executing strategies to secure a clear digital advantage. But one aspect of the creative industries that isn't often mentioned in policy discourse is the extent of their reliance on education. "Educational institutions are routinely excluded from policy discourse because they're not understood as "industry partners" (Hartley 2005). But in fact, education is a major player in the creative industries, both directly, in producing creative personnel, products and services, and indirectly, by providing employment for many who can then use that security to support their "creative habit" in a multitude of different fields. "The vital constraints are in our hands and dependent on how we organize ourselves to spread education and promote creativity, entrepreneurship and innovation" (Leadbeater 2003).

With that in mind, we will turn to the next theoretical aspect of adopting creative innovation for the football academy players – technology in the educational process.

1.3.Mobile technologies for educational development

We have identified a number of recommendations and a set of trends to aid creative industry professionals in their digital transformation. But in order to understand the dilemmas of digital and mobile technology in modern life through the eyes of young people and their families we can argue that two distinct patterns in how families communicate are shaping media use in the digital age, and each of these patterns both is rooted in particular histories and is now evolving in relation to digital and mobile media affordances (Jiang 2011).

According to previous researches, parents in upper-income families encourage their children to enhance their education and self-development through media and to avoid use that might distract them from goals of high achievement. According to Clark (2012), lower-income families, in contrast, encourage the use of digital and mobile media in ways that are respectful, compliant toward parents, and family focused. Each approach has its own benefits and drawbacks, and whatever the parenting style of economic bracket, parents experience anxiety about how to manage new technology.

Educational technology in the first place is used to increase the efficiency in educational settings. Computers and related technology are viewed as the future of teaching and learning as well as a powerful technological machine to promote development of education. When technology and appropriate teaching methods are integrated, positive impact may be observed in both the cognitive and perceptual domains. Inelmen (2009) argue that "educational technology encompasses the design of the teaching environment for detecting student behaviors together with determining certain educational situations and gaining experiences".

The average age at which children begin using consumer electronic devices has declined from 8.1 years in 2005 to 6.7 years in 2007, according to NPD Group's released report "Kids and Consumer Electronics Trends III." Clark (2012) insists that "whenever a new communications technology is introduced, our lives as individuals and as a society are forever changed". It is important to be attentive to the concerns that parents and others have about young people growing up in a mediated environment,

and it also emphasized how important it is to consider the bigger picture of how social change happens when new technologies introduce challenges to existing patterns of social behavior.

Learning by using specifically smartphones, is being integrated within existing education systems to support real-time communication and deliver learning materials. For instance, smartphones are being used in universities as a classroom tool to engage and support students in communicative, collaborative, supportive, and constructive activities. Additionally, mobile technologies enable individual learners to build knowledge and construct understandings; in this they facilitate a change in the pattern of work activity/learning (Lobo et al. 2010).

As discussed in the previous sections and due to the significant diffusion of mobile technologies, most students today already own mobile devices. Hence, the technology is a strong contender to be the next "big thing" in educational platforms (Traxler and Leach 2006). Mobile technology can deliver educational content in several ways. For instance, Wang et al. (2005) reported that mobile phones could be used to deliver online courses to university students. In fact, the multitude of ways in which mobile technology can be used in the educational sector, prompted Prensky (2005) to note that students will be able to learn "anything, if developers designed it right".

The rapidly advancing mobile computing technologies along with abundant mobile software applications make ubiquitous mobile learning possible (Johnson et al. 2012). The major affordances of mobile computing technologies for learning include user mobility resulting from device portability, relatively strong computing power in small devices, and always-on connectivity (Hsu and Ching 2012). These affordances lead to tremendous potential for innovative uses of mobile technologies in education. In addition, mobile devices such as smartphones or iPod touches are vastly gaining popularity (Johnson et al. 2010) due to the availability of various easy-to-use mobile software applications. There were more than 800,000 mobile apps for iOS devices in Apple's AppStore and Android OS devices on Google Play respectively across over 20 categories (Hsu and Ching 2013).

In the first part of this thesis we were able to highlight different aspects of creative industries as well as digital and mobile technologies – factors, which are related to our research topic and are there to be used in order to improve the quality of young people's lives. So far, the theoretical analysis revealed that young generation is able of handling the new situations that materialize with digital and mobile media. In addition, we confirmed that the focus of an academic and political discourse is on high quality goods and services instead of a serial production and this is again related to our unique mobile

application. When technology and appropriate teaching methods are integrated, we found out, positive impact may be observed in both the cognitive and perceptual domains.

It has to be admitted that two issues occur when discussing a diffusion of technology related aspects into the processes of education discourse. First and foremost is the question – what are those technologies and how their influence progressiveness of particular football academy "Žalgirietis" players? The second issue, closely related to the first one, can be summed up in the following way: What kind of information is being distributed among "Žalgirietis" players and how it is related to their interpersonal communication and development as members of the football academy as well as contemporary society? In order to answer these and other questions, in the next part we will introduce theoretical framework for the innovation-decision process and innovation attributes which are directly associated with the academy's intensions of adopting a new mobile application.

2. THEORETICAL FRAMEWORK FOR ADOPTING AN INNOVATION

Previously we have discussed creative cultures and industries, technological and digital aspects, educational and personal development value, and in this section a theoretical framework for the innovation-decision process as well as innovation attributes will be presented. Furthermore, a constructive description and conceptual model of how this framework can be applied in order to investigate academy's intention of adopting an innovation will be given.

The process of adopting new innovations has been studied for over 30 years, and one of the most popular adoption models is described by Rogers in his book "Diffusion of Innovations" (Sahin 2006). A lot of researchers from various disciplines has used this model as a framework. Dooley (1999) and Stuart (2000) mentioned several of these disciplines as political science, public health, communications, history, economics, technology, and education, and defined Rogers' theory as a widely used theoretical framework in the area of technology diffusion and adoption. According to Rogers (2003), "an innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption". It can be stated that innovation has become the symbol of the modern society, a tool for resolving many problems, and a phenomenon to be studied. Innovation as a process will always foreshadow innovation as an outcome (Crossan and Apaydin 2010), and this process doesn't necessarily have to be novel to any other than the organization itself.

In order to understand what are the reasons and at which point the perceived attributes of innovation materialize we have to view this from the systematic process perspective. Rogers (2003) argue, that "an individual's decision about an innovation is not an instantaneous act". He represents these as a series of actions in the innovation-decision process, which is introduced below.

2.1.The innovation-decision process

The innovation-decision process, suggested by Rogers (2003), reflects the process which consists of five stages to go through for the innovation adopters during their decision whether to adopt or reject an innovation. These five steps in this process include knowledge, persuasion, decision, implementation, and confirmation (Figure 3).



Figure 3. The innovation-decision process (Rogers 2003)

The important aspect of this process (Figure 3) is that it reflects separate events that can be described as a time dimension stages when the adoption of an innovation may or may not happen. The author of this thesis during the research will reach the third innovation-decision process stage and the reasons for that are given below with the description of each of these stages.

1. **The knowledge stage.** This stage occurs when decision making unit is exposed to the innovation's existence and gains some understanding of how it functions. It may be a result of either an active, or a passive approach by potential adopters. In case of an active approach the individual has a perceived need for this particular innovation, and thus actively seek information about this innovation. A passive approach means, that the individual has not been aware of his/her need for this innovation, and exposure to the innovation is likely to have happened by chance.

   Within the context of this research, the knowledge-stage has already occurred, as the adopting unit – the football academy "Žalgirietis" – took on an active approach in acquiring knowledge about the innovation.
2. **The persuasion stage.** The persuasion stage is when the individual starts to form his or her attitude towards an innovation. A requirement for initiation of this stage is that the knowledge stage has already occurred.

   This stage is of particular interest for this research as it represents the formation of potential adopters', football academy's, attitudes towards the innovation based on their perceptions of innovation attributes, which we will discuss later.
3. **The decision stage.** It starts when the individual begins engaging in activities that lead to a choice of whether or not to adopt the innovation. The actual adoption is the decision to make full use of the innovation, while rejection simply is the decision not to adopt.

   One of the most important goals for the author in this research is to examine the problems that emerge in the preceding innovation-decision stages. These will form an attitude towards

mobile application implementation among the potential adopters, which will be the equivalent to their intention of adopting an innovation. This intention will then necessarily reflect what the adoption decision will be, regardless of whether the decision has been made.

4. **The implementation stage.** It occurs when decision making unit puts an innovation into use. Until this stage, all the process was strictly mental exercise of thinking and deciding.

   In our case, there is a potential demand for actions rather than change of behavior. An idea could be put into practice if the academy makes a decision to adopt the innovation. Therefore, this penultimate and the last stages of the innovation-decision process are outside of the focus of this research.

5. **The confirmation stage.** This final stage has been reached once the processes of integration or re-invention have been completed. At this point, the organization finalizes their decision regarding the adoption of the technology. One option is exactly that – adoption. At this point, the organization is committed to using the technology to its fullest potential. Another option is a reversal of the original choice to use the technology. This is essentially a delayed rejection.

   The scope of this research is surrounding first three stages of the innovation-decision process, thus the confirmation stage as well as the previous implementation stage are both well outside of the targets set for this research, although these could be potentially crucial stages in terms of adoption process.

Based on the innovation literature, the innovation-decision process is mostly applied in the business strategy (Metcalfe 1998). The significance of the creative industries here is seen not in terms of their relative contribution to the economic value, but due to their contribution to the coordination of new ideas or technologies, and thus to the process of change. In this case, according to Potts and Cunningham (2008), “we are dealing with an evolutionary model of the creative industries”.

An introduction to the innovation-decision process gave us theoretical knowledge about one of the most widely used frameworks in innovation adoption studies. As discussed, an innovation in organizations can be seen as process and therefore the innovation-decision model and specifically first three stages of knowledge, persuasion and decision are closely related to our goal when inquiring about the intension of innovation adoption. In the next section, we will describe the possible attributes of innovations which are vital in the adoption decision making.

2.2.Innovation attributes

The attributes of an innovation refer to the characteristics of the innovation that affects the rate at which it is adopted. According to Rogers (2003), the rate of adoption is "the relative speed with which an innovation is adopted by members of a social system". This particular topic is not the interest of this study, because it generally represents adoptions that are made by an entire social system. Despite the fact that Rogers' framework on innovation attributes is mainly intended to measure adoption rates, there is no reason to believe that it cannot be used to explain adoptions by parts of the social system, and in our case – a single organization. Rogers (2003) emphasizes that for an innovation to successfully diffuse into the social system, it must possess these five factors: relative advantage, compatibility, complexity, trialability and observability, and these will be described in detail below.

1. **Relative advantage.** Rogers (2003) defines relative advantage as "the degree to which an innovation is perceived as being better than the idea it supersedes". The degree of relative advantage is often expressed in economic profitability, in status giving, or in other ways. The nature of the innovation largely determines what specific type of relative advantage is important to adopters, although the characteristics of the potential adopters also affect which dimensions of relative advantage are most important.

   In our case, to integrate a new technology successfully into the football academy's education process, coaches should see the need for it and moreover that it would provide helpful experiences for themselves and their players.
2. **Compatibility.** The next attribute is Compatibility, which according to Rogers (2003) is "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters". Needless to say, that an idea that is more compatible is less uncertain to the potential innovation adopter.

   When assessing if a mobile application for the football academy is compatible or incompatible, we look at the sociocultural values and beliefs, previously introduced ideas and academy's needs for innovations.
3. **Complexity.** It is the degree to which an innovation is perceived as relatively difficult to understand and use. "Any new idea may be classified on the complexity-simplicity continuum" (Rogers, 2003). In other words, some innovations are clear in their meaning to potential adopters while others are not.

If an innovation can greatly improve the football academy's players in terms of skills and results, some of the adoption complexities may even be assisted to overcome by members of the academy.

4. **Trialability.** Trialability is the degree to which an innovation may be experimented with on a limited basis. As described by the author of these attributes, "new ideas that can be tried on the installment plan will generally be adopted more rapidly than innovations that are not divisible" (Rogers 2003).

   Even if an innovation that can be tried is less uncertain for the adopter, it basically refers to the actual testing an innovation, which in our case falls out of the focus of this research.

5. **Observability.** The final attribute refers to the degree to which the results of an innovation are visible to others. The results of some ideas are easily observed and communicated to others, whereas some innovations are difficult to describe to others.

   Although the observability of an innovation, as perceived by members of a social system, is positively related to its rate of adoption, it would be impossible to examine this attribute because our aim isn't associated with the development of the final product.

When summarizing the theoretical analysis of the innovation attributes, proposed by Rogers (2003), we can raise a question – are these five attributes understood by all members of organization in the same way? Taking into consideration factors like the social status, age, experience etc., we have to say "no", and consequently we can see a substantial difference between an innovation attribute, and a perceived innovation attribute. Therefore, in the next chapter the author will present the conceptual model of perceived innovation attributes that are specifically designed for this research purpose.

2.3.Conceptual model of perceived innovation attributes

As discussed in the previous section, it is impossible to assume that everyone perceives an innovation in the same way. Rogers (2003) categorized such attributes into five factors that are related to socioeconomic characteristics, personality, and communication behavior. In addition, he argues, that to these perceived attributes of an innovation, such other variables as (1) the type of innovation-decision, (2) the nature of communication channels diffusing the innovation at various stages in the innovation-

decision process, (3) the nature of the social system, and (4) the extent of change agents' promotion efforts in diffusing the innovation, affect an innovation's rate of adoption.

The further examination of such variables would be a separate study, and due to the limitation of this research these cannot be included in detail. Some of these variables are however applicable to the context of this thesis. The author believes that these five original attributes that are discussed in the previous section are dependent on contextual differences, and as a result, he proposes a modified innovation attributes model by replacing irrelevant attributes with specific perceived attributes that have been constructed to perform valid tests (Figure 4).

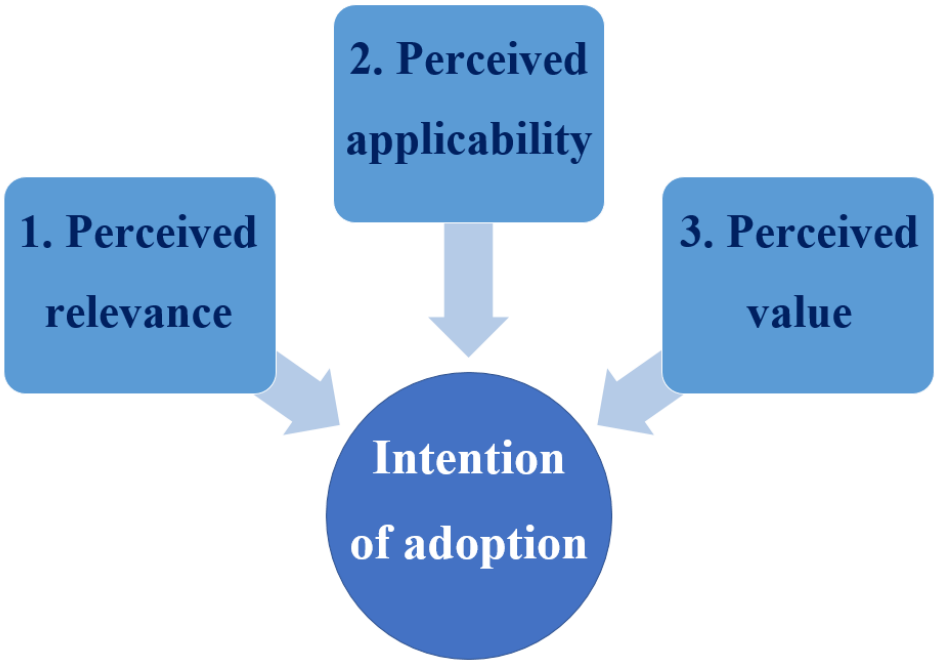


Figure 4. Conceptual model of perceived innovation attributes. Based on Innovation attributes (Rogers 2003). Adapted by the author.

Based on the literature analysis this conceptual model (Figure 4) is adapted to the context of this research. Other scholars have tried to apply their own modifications of the original innovation attributes in the past, most notably Worum (2014) and Tully (2015), but it appears that none of them researched the area of adopting a mobile application for a football academy. This newly designed model will be used to collect the empirical data and then to perform the content analysis. Several of the original innovation attributes, proposed by Rogers (2003), has been replaced in the development of this conceptual model.

The main reason for adjusting these attributes is that in the context of this research they are invalid or unrelated.

"Relative advantage" is adjusted to the wider meaning of "perceived relevance". "Compatibility" in our case falls under "perceived applicability", which also gathers "complexity". The two remaining original attributes of "trialability" and "observability" are exactly those that in our circumstances are inapplicable, because our aim isn't to develop a tangible innovation at this stage. To complement first two perceived attributes, we develop "perceived value", which in the context of this research is extending the level of perception and all of these adjustments are discussed next.

1. **Perceived relevance.** The first attribute in the new concept, as was briefly explained before, expands the overall meaning of innovation adoption intention and allows to measure a whole range of different advantages related to the tools that were used before. The perceived relevance of an innovation will explore what impact the use of the innovation has on members of the football academy without evident reference to the existing technology. This way the respondents will be encouraged to describe what perceptions they have about the concept and overall significance.
2. **Perceived applicability.** Developing a mobile application is a complex innovation due to the contextual structure and software. However, most members of the academy are likely never to be exposed to this complexity, and therefore we are mainly interested in their perceptions of the actual usage of the innovation. Author thinks that it is purposeful to gather opinions about what kind of structural elements could be important for successful implementation as well as suitable content. It is safe to assume that perceived applicability also will have a strong effect in the intention of adopting the innovation in this study.
3. **Perceived value.** The author suggests that perceived value affects the perceived need of an innovation. The perceived value attribute in this study will help to explore how important this innovation is in order for the individuals to form positive intentions towards adoption. There is no reason to believe that the perceived value will not have a positive effect on intentions of adopting the mobile app.

The conceptual model presented above is similar to Rogers' framework and it has equivalent attributes of the original ones. Those perceived attributions of an innovation are supposedly positively related to the intention of adopting it and the following part will explore the level of intension to adopt or reject the innovation.

The purpose of the overall theoretical framework so far has been to estimate the significance of the creative industries to the contemporary society in order to establish policy support in accordance with that significance. In doing so, these studies highlight an important point: the technological aspect of the creative industries may have a more general role in driving and facilitating the process of change across the entire economy, as evidenced by its digital trends, educational value and degree of embedding in the modern world. The author of this thesis will outline some of these findings in the existing evidence to begin the process of sorting among them. The conceptual model of perceived innovation attributes has been developed in order to perform a further qualitative study which is presented in the next part.

3. EMPIRICAL ANALYSIS OF "ŽALGIRIETIS" INTENTIONS TO ADOPT AN INNOVATION

In the theoretical part, we have constructed the framework for the development of creative industry product as well as explored cultural and creative industries, including digital and mobile technologies, educational strengths and innovation adopting intentions – subjects that directly correspond to the research concept, and in relation with research aim – to examine the perceived innovation attributes – they materialize those main objectives. A vast complexity and volatile context of creative industries and adoption of innovations show that the idea of implementing a mobile application for the football academy "Žalgirietis" players will require not only the theoretical study but also an in-depth research, internally and externally, on present situation of information, communication, technology as well as education methodology in order to present valid conclusions and recommendations.

3.1.Methodology of qualitative analysis

In this part the research methodology is presented and explained. We begin by outlining the research strategy and explaining the relation of each research method to different empirical foundations, what we should expect to observe if each approach were used, and the appropriate research framework in each case. Using various methods, the author then undertakes an initial consideration of a set of data collection techniques in order to decide which are most appropriate at this moment of investigation.

Research strategy.

When contemplating the research strategy, the most applicable research methods were considered. The data of quantitative nature in author's view wouldn't offer a necessary in-depth information and have mostly only superficial impact on what's really important when adopting mobile application in terms of versatile experience, know-how and expertise. The author didn't seek "to test specific hypotheses or find numerical answers to specific questions" (Kuada 2012), that's why in this phase of the intention to adopt or reject the mobile application using quantitative data collection methods (e.g. questionnaire-based surveys and interviews) weren't deemed to be efficient.

Quantitative data collection methods and techniques are generally used by researchers that subscribe to an objectivist view of reality. This type of researchers usually treat social facts as things and then attempt to measure these with the aim of describing and explaining their relationships. In contrast, qualitative researchers are more about experiential insights. Hagger and Chatzisarantis (2011) point out that quantitative researchers engage in very little inductive, 'theory generating' or 'theory building' research – that is truly 'inductive' research. For them, "much of the development of theory in quantitative psychology applied to sport and exercise arises though the support and confirmation or lack of support and rejection of research or experimental hypotheses through a series of carefully developed correlational and experimental studies".

In this opening phase of a mobile application adoption, some research methods can be foreseen as having a more obvious outcome therefore the author believes that constructing *case analysis research strategy* is the most fitting approach when seeking highest relevance of the collected data at this stage of the research. It will serve as the basis in order to examine current events and particularly formation of innovation. Therefore, our research strategy was developed to have two empirical stages – first, information is extracted from the existing academy's digital sources using structured observations and applying qualitative analysis technique, and in the second stage – the qualitative analysis is applied for analyzing expert interviews, which consists of presumably valid experiential multiple criteria as well as professional interpretative perspectives.

Our reasoning in using existing knowledge to draw conclusions, make predictions and construct explanations will consist of *abductive approach.* It typically begins with an incomplete set of observations and proceeds to the likeliest possible explanation for the set.

Research design.

An exploration of two origins of context relating to qualitative methods research.

- **Structured observations.** The structured observation objective in this thesis is to find out what kind of information is circulating on the official website and Facebook page of the football academy "Žalgirietis" and how this information is related to our conceptual model of perceived innovation attributes. The main focus is on the qualitative data aspects which are stored on these two mediums and most importantly how they impact the content that we are analyzing. This is also a possibility for us to evaluate the maintenance of these communication channels and the

online visitor behavior. Observations are claimed to be an invaluable means of data collection when it involves the use of new technology (Yin, 2014).

The quality of observation data will be judged on three primary parameters, i.e. innovation attributes – perceived relevance, perceived applicability and perceived value. For the observation, timeframe of 35 days is set, from 24th of October, 2016 until 28th of November, 2016. These communication channels are chosen due to being primary sources of digital coverage and suitability for communication and technology – two leading aspects that are surrounding the research topic. The selected timeframe is determined during the initial observation testing phase which gave analogous results even if it was extended, meaning that the quality of data associated with perceived innovation attributes doesn't change drastically in respect of the time interval.

- **Qualitative interviews.** The observation is supplemented by the qualitative interviews that were conducted in order to examine those predetermined and possibly new emerging perceptions of innovation attributes. To explore how different members of the football academy understands and appreciates the idea of implementing a mobile application, the author conducted six in-depth interviews over the course of one month – November, 2016. These interviews took place in Vilnius, Lithuania. Three formal interviews with experts of the academy as well as three informal discussion interviews including one academy coach and two players were carried out. The important question of why exactly these respondents were chosen for this research is discussed in detail in the further section of sample selection.

The questionnaire for the expert interviews was designed as a semi-structured nature (see Annexes), because some of the construction was necessary in order to gather those perceptions for the conceptual model. In order to explore any additional attributes, subjects were encouraged to contemplate freely. To support this approach, Bogner et al. in their book "Interviewing Experts" (2009) states that semi-structured questionnaire design "can make it possible to gain access to information that might not otherwise be revealed". More specifics on acquiring the necessary information from the experts is discussed in one of the upcoming sections of data collection.

The limitations of an expert interviews were mainly consequences of bypassing the busy schedule of the respondents. Some intended population that were supposed to be included in the research process became unavailable during the course of this study, but these limitations were determined not as severe that they would significantly affect the outcome of this study. As

Gaižauskaitė and Valavičienė (2016) states, "usually the more important role of an expert is, the more difficult it is to perform a qualitative interview with him/her" and this limitation was realized by the author during the execution of these interviews.

Sample selection.

The next step would be determining the appropriate sample and because the body of digital content in *the structured observations* that is available online, including academy's website and Facebook page, isn't excessive, therefore we are going to work out a total population sample and define the specific characteristics in the further analysis. "Sampling in content analysis is not so much different from sampling in surveys" explains Prasad (2008) and continues – "a typical description of samples in content analysis specifies a topic area and time period". Thus, the description of the sample for structured observations in our study combines those three innovation attributes – perceived relevance, perceived applicability and perceived value, and the time interval of 35 days – from 24th of October, 2016 until 28th of November, 2016.

As for *the qualitative interviews*, the author will use a non-probability sampling method, where "the inclusion or exclusion of elements in a sample is left to the discretion of the researcher" (Hair et al. 2011). In our case, these were subjective criteria to select the respondents, such as their role in the academy and professional status. The author aimed to conduct the interviews with experts from the football academy "Žalgirietis", and in particular those who have most responsibility or are most qualified in terms of discussing the topic of this research, and specifically aspects such as information, communication, education, technology and innovation. Three respondents were carefully chosen to include them in the formal qualitative interview process – one from each of these departments – management, coaching and administration. Also, three informal interview discussions took place but this unique data will be reflected only as general findings without having a direct impact to the sample trustworthiness.

Data collection.

Data for the empirical part of this research was collected online and offline. The content analysis data during the period of *structured observations* was gathered through the football academy's website as well as their Facebook page, in addition some of the other websites locally and globally were briefly analyzed during the initial content analysis – mostly for the broader conceptual understanding. Due to the practical reasons and limited financial resources, this method of acquiring the necessary data provided

low cost possibilities to observe the mentioned sources. The data collection associated with this method took part from 24th of October, 2016 and lasted until 28th of November, 2016. The designed conceptual model of perceived innovation attributes served as the coding base, looking for those specific meanings in terms of perceived relevance, perceived applicability and perceived value.

The qualitative interview data involving "Žalgirietis" staff was obtained during the month of November, 2016. Audio recording devices were used for the two of the formal interviews as well as a telephone interview record was performed for one of them. In addition, three informal talks were conducted without recording mainly for the purpose of getting a better reflection on the topic. Yin (2003) supportively states, that "The most significant source for obtaining qualitative study information is interviews". According to Saunders et al. (2009), there are three types of interviews: structured, semi-structured, and unstructured. As mentioned before, in this thesis, a semi-structured interview data collection method is applied. The author wants to ask open ended questions to be able to get the views of the respondents rather than asking direct yes or no questions. He also thinks that semi-structured interview provides more flexibility rather than structured interview.

All the recorded interviews were transcribed by the author. The consent for participation in interview research for the formal interviews were provided to the respondents as well as the research agreement for the academy's representative of the management department (see Annexes). Complete confidentiality was maintained for the respondents as they were assigned fictive names in the transcriptions (expert 1, expert 2 etc.).

Our qualitative questionnaire design consists of four parts, where the first part is focusing on individual and academy in terms of the past, present and future (see Annexes). Three remaining parts are related to perceived attributes of innovation. The questions are designed as open ended and they intend to find answers for our research questions. Furthermore, we code the gathered perspectives according to our perceived attributes of innovation that were conceptualized at the end of the theoretical part of this study.

Data analysis.

It is time to discuss what data analysis strategy is chosen for this research. Prior to this we have to mention that analytic memos were used during the process of writing this thesis. Although at first sight this could be a trivial detail, but for us it provided some valuable material in order to explain some of the decisions that were taken or changes that were made during the research process. We have to thank

Gaižauskaitė and Valavičienė (2016) for this particular tip, who themselves say, that "analytic memos may indicate the direction of analysis, ..., open your eyes".

Our data analysis approach is formed towards qualitative content analysis which begins with specific objectives to be studied and those are presented in the introduction of this paper. We not only ask the general question "what do we want to find out from this communication content', we also compare those gathered patterns during the analysis with conceptualized ones that we specifically designed in order to explain the phenomena. "The objective of content analysis is to convert recorded "raw" phenomena into data, which can be treated in essentially a scientific manner so that a body of knowledge may be built up" (Prasad 2008). Therefore, the author of this research has located those sources of communication in order to extract relevant data that could be significant in order to answer those research questions.

Throughout the analysis process the author will comparatively analyze how those perceived attributes match the actual perceptions of the idea to adopt the mobile application for the football academy "Žalgirietis" players and resulting interpretations will subsequently determine how valid (or invalid) the conceptional model in the scope of this research is. As a reminder, those three attributes of perceived relevance, perceived applicability and perceived value emerged in the creation of the conceptual model process based on the theoretical perspective applied in this study.

Both, the formal expert interviews transcripts and structural observations data for qualitative analysis were coded through thematic coding according to the corresponding attributes using necessary software of Microsoft Word 2016 and Microsoft Excel 2016 as well as Wave Editor 14. Chadwick et al. (1984) suggested a method of calculating a coefficient of reliability, which is "calculated by dividing the number of units placed in the same category by the number of units coded". Theoretically the author tends to agree, but practically he believes that there is a degree of variables, such as new emerged meanings and interpretations. Analysis in our research is done by quoting the participants directly, by paraphrasing their arguments and by applying related citations from the digital sources to support the interpretations.

Ethics.

All of the respondents' participation in this research was based on voluntary participation. The informed consent for the formal interviews were provided to the respondents as well as the research agreement for the academy's representative of the management department (see Annexes). Partially free

confidentiality was maintained – citation mentioning only institution and department (real names and surnames are known to the author).

Limitations.

Limitations in research involving organizations with children and young people means that their involvement needs to be placed within the context of an international rights-based framework within which children and young people were granted a right to have a say. In our case, the chosen research methodology didn't require their participation at this stage.

Other limitations are associated with time and financial resources which have restricted the overall scope of this research. Another difficulty emerged when trying to conduct qualitative interviews, because it required a lot of effort in order to arrange them with experts, mainly due to their busy schedules.

In this part a discussion regarding choice of research methods and design took place. The author can state that it benefitted the understanding and clarification of the overall direction of the next stage, which includes one of the biggest challenges – interpretation of the qualitative data. On the other hand, it also provides a vast amount of freedom with some integrated eagerness to finally test the concept.

Next, the empirical findings will be presented and analyzed. They are based on the conceptual model of perceived innovation attributes that were used for the data collection and were designed in the theoretical section of this study. Since the research is evolving around one specific academy, this study cannot examine the circumstances involving different academies. Yet, according to Eisenhart and Graebner (2007), "single-cases have the ability to explain phenomena in greater detail than multi-cases". Before we proceed, the author will present his constructive presentation about the academy, which was prepared using the official websites of the academy and the parent club "Žalgiris".

Case introduction of the football academy "Žalgirietis".

The football academy "Žalgirietis" belongs to the famous football club "Žalgiris" from Vilnius, Lithuania. Academy was founded in 2008 and now it is the biggest in the country where more than 650 young players are training in the age groups from 5 to 17 years old. 10 academy coaches, all of them

professional footballers in the past, have either A or B licenses from UEFA (the official governing body of European football).

A modern football training methodology, sincere communication and engagement in the game are the main focus areas of the academy. "Žalgirietis" targets consist of keeping young players interested, using appropriate physical training methods, encouraging love for the game, and of course – preparing players for the professional level. The training sessions are organized in six different venues in order to be easier accessible from various parts of the city. The academy concentrates not only on football training but also on educational quality in terms of young players' formation as human beings and personalities, working closely with teachers from "Daukšos" secondary school as well as "Kačialovo" and "Senvagės" gymnasiums. Collaboration with these learning institutions are helping to integrate better educational and motivational values, such as self-confidence and team work.

According to the "Vilniaus futbolas" website (2014), who evaluated playing results from different age groups of all Vilnius football academies in 2014, the best results showed "Žalgirietis", leaving "Vilniaus FM" and "Ateitis FM" in the second and third places respectively. The most advanced 16-17 years of old "Žalgirietis" players are the basis of the parent club "Žalgiris" reserve team which is called "Žalgiris B" and is competing in the football league championship. "Žalgiris" main team currently hold the championship of Lithuanian "A League" for the consecutive 4th year in a row (2012-2016).

3.2. "Žalgirietis" website observation

A brief representation of academy's website structure is important, first of all in understanding how this organization is communicating online, and secondly to look for eventual relationships to the mobile application structural ideas during the observation, which started on 24th of October, 2016 and ended on 28th of November, 2016.

The main page structural elements of "Žalgirietis" website are: News, About Us, Training, Contacts, Coaches, 2% Support, Žalgirietis Cup. Supportive elements: Clothing catalog, Facebook link, Sponsors, Requisite information incl. account no. Links: Lithuanian Football Federation, UEFA, FIFA, "Vilniaus Žalgiris".

We start from assessing “About us” section which generally contains very similar information to which we presented in the introduction section of this paper. “Training” includes schedules for different age groups while “Contacts” provide information how to reach each of the academy coaches and in addition requisite information with account no. We can draw a conclusion that this specific information involving academy’s account number it is something that presumably is very relevant to the website visitors (possibly parents) and something that they are looking for on more regular basis, and having in mind that it is also presented in the main page, it should be carefully considered in the application of the innovation and that’s why we associate this with “perceived applicability”.

The fact that “Coaches” section includes detail description of all academy coaches is important aspect because it outlines the level of experience as well as those training licenses they possess. “2% Support” is basically irrelevant to the mobile app we are interested in developing because it is mainly aimed at the parents and possibly fans who wish to support the academy by appointing 2% of their paid governmental tax to the academy’s wellbeing. “Žalgirietis Cup” is linked to the external website which is dedicated to the organization of international children’s football tournament where representatives from Lithuania and other European countries participate. The uppermost supportive element of “clothing catalog” forwards us to concentrated explanation of how one can obtain the official outfit for the training sessions. This element which can be called as a part of training equipment supposedly is very important and has to be contemplated in creation of the mobile application structure, therefore we match it with our conceptual attribute of “perceived applicability”. “Sponsors” generate entirely new opportunities for the football academy in terms of financing the idea of a mobile app and although it is not the aim of this research, this subject could stimulate even a new study. “Links” to the external sites like Lithuanian Football Federation, UEFA, FIFA and “Vilniaus Žalgiris” in some sense are communicating the volume of the academy as well as provide useful references and those we think would contribute to the “perceived applicability”.

The most vibrant section is “News” which together with “About Us” accommodate all active communication on the website from the academy and so it attracts the biggest portion of our attention in order to identify circulating topics and their relation to those conceptual perceived innovation attributes. In the period of our structured observation, from 24th of October, 2016 until 28th of November, 2016 we discovered five new posts in the mentioned sections. Four of these articles are directly associated with performance of different age groups and they are in the spirit of this example:

"Last Saturday, "Žalgirietis" players who were born in 2008, participated in the football tournament in Marijampolė. […] Our team has won the tournament without conceding a single goal" – "Žalgirietis" website, 2016-11-24.

All of these posts about achieved results are indeed very significant focus area of our study, because this type of messages and their frequency show what is the dominant factor in terms of online communication. Furthermore, we can debate that the nature of it touches all three of our developed attributes – perceived relevance, perceived applicability and perceived value. One remaining article that was posted during the observation period was about late transfer of funds from the Non-formal education center:

"Please be informed that on 18th of November, 2016 the Non-formal education center informed us that because of lack of the project funds they weren't able to transfer funds to all Lithuanian municipalities" – "Žalgirietis" website, 2016-11-22.

First of all, this article has the informative intention and in addition it contains external link to the mentioned organization, which allow us to position it primarily as the perceived applicability, but also it affects those other two attributes of perceived relevance and perceived value. As described in methodological part the selected timeframe for the observation is determined during the initial observation testing phase which gave analogous results even if it was extended. What it means is that other articles outside of the intended observation timeframe are one way or another equivalent to these two types – performance or/and information.

3.3."Žalgirietis" Facebook page observation

We started the content analysis from analyzing the football academy's official website and our applied framework of observation will remain unchanged in studying the official Facebook page of "Žalgirietis". Those perceived attributes will be pursued in order to perform the qualitative observation of this social media channel and in particular the published posts in the period of 35 days, from 24th of October, 2016 until 28th of November, 2016.

The posts on "Žalgirietis" Facebook profile mainly consists from photos, events and links to the main academy's website articles of which the majority are uploaded by "Žalgirietis" administration. The

page has 1,820 total page likes (as of 1st of December, 2016) and the nature of the posts on this communication channel lets us assume that it is mainly aimed at the football academy players who supposedly prefer the Facebook platform ahead of the regular website, where they are able to comment, like and share content among their friends and other users. This last finding in the author's opinion has to be taken into consideration when implementing a mobile application because it basically expresses the importance of user friendliness or in our case – perceived value.

For the qualitative analysis of the published posts we are not going to divide them into videos, pictures and posts in quantitative forms. Instead the content of the posts is determined according to three perceived attributes of innovation which we have designed previously. The main idea of the procedure of analysis is thereby, "to preserve the advantages of quantitative content analysis as developed within communication science and to transfer and further develop them to qualitative-interpretative steps of analysis" (Mayring 2000).

In the period of observation there were 11 posts made in total, 5 of which were linking to the official academy's website, i.e. they contain the identical content that was extracted from "Žalgirietis" website in the previous section using same set of circumstances. One of the 6 remaining Facebook posts provided another external link to the informative type of article about training methodology therefore we assign this post to all three of our conceptional attributes of perceived relevance, perceived applicability and perceived value. The same approach of assignment to each and every perceived attribute will be performed on three of the remaining five Facebook posts in our analysis, because they contain information about academy events. And the final two Facebook posts are about results and just like we explained in the content analysis of the "Žalgirietis" website in the previous section, the nature of it touches all three of our developed attributes.

The significance of the commenting on these "Žalgirietis" Facebook page posts in author's view is trivial as they predominantly contain comments like "well done", "good job". Although as explained above the user friendliness factor of being able to comment and like the posts has to be taken into consideration when implementing a mobile application. Author feels, that estimated site metrics should be taken into account as well in order to point out which sections are of most interest and therefore should be considered to analyze when developing a mobile application. The scope of this research is limited and this is one of the main reasons not to include it in this study.

As explained at the beginning of this part the structured observations were conducted from 24th of October, 2016 and lasted until 28th of November, 2016. The main objective of this observation was

to examine perceived innovation attributes that appear in the content of digital "Žalgirietis" communication channels. So far, we have identified the presence of all three of those attributes on both – academy's website and the Facebook page. The perceived applicability has been the dominant attribute until now but the ultimate significance of these attributes will be extracted after the performance of qualitative analysis of expert interviews which is our next step.

3.4. Qualitative interviews with "Žalgirietis" experts

The qualitative analysis in this section is driven by the perceived innovation attributes, which will be analyzed consecutively. All of these three attributes – perceived relevance, perceived applicability and perceived value emerged in the conceptual model developing process which was introduced at the end of the theoretical reasoning. Our main focus will be directed towards searching for the relationships between the perceived attributes and intentions of adopting a mobile application, which were expressed by the football academy "Žalgirietis" experts during the qualitative interviews. Furthermore, the meaning of combining all of these three perceived attributes as well as complementing each other will be investigated.

Six qualitative interviews in total with members of "Žalgirietis" over the course of one month – November, 2016 were conducted. Three of these were formal nature and remaining three were informal – conversation type interviews. To select the respondents a non-probability sampling method was used in order to gather as much versatile illustration of opinions on the matter as possible and therefore for the formal interviews the author included members from each of these departments – management, coaching and administration. As explained in detail during the methodological discussion, three informal interview conversations with one coach and two players will be reflected only as general findings in this analysis without having a direct impact to the sample reliability. The list of all conducted interviews is presented below (Figure 5).

Type	Expert	Department	Form	Date	Dur., min.	Expertise
Formal	1	Management	Face to face	2016-11-30	20	Managing, organizing, administrating, communicating, promoting, developing.
	2	Coaching	Face to face	2016-11-30	20	Coaching, communicating, promoting, implementing.
	3	Administration	Telephone	2016-11-24	15	Organizing, administrating, communicating, promoting, implementing.
Informal	4	Coaching	Face to face	2016-11-15	10	Coaching, communicating, promoting, implementing.
	5	Player	Face to face	2016-11-04	30	Communicating, playing, attending.
	6	Player	Face to face	2016-11-04	30	Communicating, playing, attending.

Figure 5: "Žalgirietis" experts interviewing table. Prepared by the author.

For the expert interview analysis, a sufficient number of participants (Figure 5) took part in this research. When providing citations of the experts we will use the coded names of Expert 1, Expert 2 etc. The racial/ethnic background of all the respondents was European. Interviewees were located through online networks and on-field sources. Respondents that had been interviewed first were asked to recommend additional interviewees, especially those with particular experiences.

In authors view, the important moment to be noticed is that the overall structure of the questionnaire (see Annexes) allowed to extend the qualities of some of the answers, for example the past experiences of present coaches are serving as perspectives of players, and therefore they combine views of two types of experts. The semi-structured questionnaire was created in order to gather those perceptions for the conceptual model and it consists of four parts, where the first part is focusing on individual and academy and three remaining parts are related to perceived innovation attributes. As

explained before, the collected data was extracted through specific codes according to three perceived attributes of innovation from the conceptual model and we start our analysis from the first one.

3.4.1. Perceived relevance

The intention of this attribute was to identify all initial attitudes towards a mobile application for the football academy "Žalgirietis" adoption. Needless to say, this attribute has a very important aspect in the knowledge stage when respondents are encouraged to describe what perceptions they have about the concept and overall significance. The interview questions in relation to this attribute were designed in the manner where respondents could elaborate on how they feel this innovation would influence the academy's micro and macro climate.

The first example of this attribute is extracted in relation to conclusive answer starting from respondent's elaboration on overall academy progress and leading to evaluating the proposed idea:

"...since then every year we set ourselves goals that we want to achieve, in terms of the developing the academy and infrastructure of the stadiums, so the idea of adding something like a mobile application is very interesting" – Expert 1.

This answer gives as a very clear indication of what kind of perceived relevance this respondent towards the innovation has and in addition he then talks about the development of the academy which in his opinion is reflected in the results. From the previous content analysis sections, we draw a connection in terms of performance importance to our perceived attributes where we debated that the nature of it touches all three of our developed attributes. Author also believes that this answer has a perceived value indication because of the expert touching the development subject.

Another interviewee shared his opinion in terms of perceived relevance saying, that:

"...it would be great for engaging players" – Expert 2.

It is actually a significant point as it expands the overall impact that a new mobile application could potentially have and it also is justified by more evidence from another expert:

"...the application would be most needed to attract players to like football, maybe in some form of a digital game or doing some practical exercises at home with or without the ball" – Expert 3.

This factor on engaging players not only suits our purpose of reasoning the conceptual model but also, in personal author's view, has a deeper philosophical dimension on solving the youth occupation and possibly some other problems. So maybe not surprisingly, the perceived relevance was the attribute that the respondents spent significant amount of time talking about. The responses from the experts regarding perceived relevance were quite consistent and we can say that the most frequently mentioned was players' engagement together with expansion of the existing tools and here we make a logical link to the original innovation attribute of "relative advantage", which Rogers (2003) defined as "the degree to which an innovation is perceived as being better than the idea it supersedes".

As discussed before, in our case, to integrate a new technology successfully into the football academy's education process, coaches should see the need for it and moreover that it would provide helpful experiences for themselves and their players. To support this, we present a citation where the responded contemplates about existing tools:

"...we are performing various tests as well as collaborating with teachers form LEU (Lithuanian University of Educational Sciences), we have a physical fitness trainer who is measuring the speed ranges, rates of instantaneous speed, also using some other platforms, and all of this data is collected and subsequently taken into account in the training process" – Expert 1.

Such information says a lot about academy's openness for improvement and in a way ability to adapt to technological changes therefore we take it into account when assessing a potential intension of adopting a mobile application and associate this fact with perceived relevance. The ability to use relevant digital technologies is supported by another expert:

"I would like to mention the mobile application "Stats 4 Sport" that we are implementing for our coaches who can manage training attendance records using their smartphone or an iPad. [...] ...so little by little a new technology is adopted into our academy" – Expert 3.

The evidence of using digital tools for educational and operational purposes by the academy's staff is relevant to our study because they will be closely involved in the adoption of the players' app and cannot be separated from it. Perhaps the most significant perceived relevance finding that we were able to extract during our interviews was this inside information about players' types:

"There are two or even three types of children, where one type is really interested and football is a big part of their lives, then there's a second type, where they are interested mostly from the physical

fitness side and finally the third type, whose parents are really happy that we accepted them to train, because they need the physical exercise" – Expert 2.

The nature of our semi-structured questionnaire allowed us to ask a follow-up question in order to increase the depth of our data – "In your opinion, would this mobile application be adopted differently by these three types of players?".

"Without a doubt, differently. For example, the 3rd and probably the 2nd type wouldn't even need things like video analysis, unless maybe from the entertainment or gaming side, but in terms of professional point of view, I think those two types wouldn't be interested" – Expert 2.

Such inside view of what kind of impact the use of this innovation could potentially have on members of the football academy is of course connected with perceived relevance and moreover it serves as an indication of possibly different levels of relevance as of what it means to different types of players. This discovery leads us to entirely new perception of our own conceptional model which asks to be reevaluated and possibly require remodeling due to this new information and this assessment will be performed after the completion of qualitative interviews analysis.

3.4.2. Perceived applicability

During the structured observations of the academy's digital communication tools we have witnessed perceived applicability as being the dominant attribute of our conceptional model and in this section, we will analyze what influence it has to "Žalgirietis" experts. First of all, we are interested in their perceptions of the actual usage of the innovation, although in our case it is of course imaginary perceptions at this stage, and therefore we ask what kind of structural elements as well as suitable content could be important to them and their players if they were to adopt this innovation.

The author thinks it is important to start from one example that we have already touched on when talking about previously analyzed attribute of perceived relevance. Our expert from the management department was elaborating on what kind of tests and measurements are applied in the training process using digital tools and then he finished his thoughts by:

"...all of this data is collected and subsequently taken into account in the training process" – Expert 1.

Immediately we can draw a connection between two attributes of perceived relevance and perceived applicability because the innovation that we are proposing would create numerous possibilities not only to be able collect data but also to distribute it between the members of the academy in terms of achievement indicators and therefore it also strengthens our conceptional attribute of perceived value.

Generally, opinions of the experts about perceived applicability differentiated depending on their positional status. If players during those informal conversations thought that it would be beneficial to implement features like "tips for skills improvement" as well as "chat room", coaches were much more methodical in this sense:

"Football is not just running on a football field and doing particular exercises, it is also video analysis, familiarizing children with their good or bad episodes, it is all training process, which must be controlled" – Expert 2.

We can say that coaches are concerned with operational utilization first and foremost and the reason for this could be that none of the functionality examples of a mobile application were available during the data collection of this study. Players largely see perceived applicability as new opportunity to take the most of new idea and they have mentioned other potential usages such as "training schedules", "player ratings" and "assessing other players".

Another factor which is directly associated with perceived applicability is using mobile application as a communication tool. A simple solution like adding notifications function in order to work as a reminder or information transmitter would undoubtedly extend the overall employment of the app and this idea is supported by this expert:

"I think it would be very useful, because it wouldn't require individual writing and calling so it would make our life easier" – Expert 2.

More evidence that additional tool of communication would be potentially beneficial can be extracted from this answer which mainly is about negative experiences related to lack of communication distribution to the players:

"Just simple things like player oversleeps, forgets and so on..." – Expert 1.

Two experts who we have questioned said that they see mobile application as some sort of a game and as discussed already in the previous section about perceived relevance, this factor suits our purpose

of reasoning the conceptual model because it works as a tool for engaging players and moreover, when talking about perceived applicability, it opens up all kinds of different structural app abilities:

"...the application would be most needed to attract players to like football, maybe in some form of a digital game..." – Expert 3.

"...unless maybe from the entertainment or gaming side..." – Expert 2.

Judging from the content analysis that was performed in this section it is safe to assume that perceived applicability will have a substantial effect in the intention of adopting the innovation. Questions like "how the mobile application should look like" and "what kind of elements should it include" were those that we were asking our experts and therefore we were able to obtain valuable insights that will be concluded after investigating the last innovation attribute of perceived value.

3.4.3. Perceived value

It has to be admitted that value concerning new technologies is more or less associated with making our daily lives easier, our ordinary tasks faster and more efficient, our experiences more advanced. Keeping these characteristics in mind we have developed the questionnaire (see Annexes) which allowed us to gather experts' opinions on how important this innovation in terms of these components is for them.

During the structured observation of "Žalgirietis" Facebook page we have already extracted one post which provided external link to the informative type of article about training methodology therefore we not only identified this as having a perceived value but also, we now will establish a separate classification as the educational value, and the mentioned post on training methodology is supported by all of our experts who were touching this perception of the educational value:

"...to think in a football field, it is necessary to have a right foundation. We also started to work with the same system used by the Lithuanian national team. [...] ...to control the process of training since childhood. [...] ...this database and structuring of it allows us to have a better understanding about every player" – Expert 3.

"Talking about specific tools like video analysis, training exercises, or sending some moments from his playing techniques to see what are the pluses and minuses..." – Expert 1.

"...a lot of nuances, like a coach, time, space etc. are important and determine whether the education methodology can be adapted" – Expert 2.

From this evidence, which illustrate how important the aspect of education value to our experts is we can clearly state that it would play a crucial role in deciding whether to adopt or reject an innovation. And when analyzing the content of our qualitative interviews, we discover even more variations of perceived value. Just like those posts from "Žalgirietis" website about players' performance and results as well as Facebook page, which offers the user friendliness factor of being able to comment and like the posts, perceived value is enlarged by the communicational value that is potentially created by our mobile application:

"We are creating now popular Facebook groups and each coach communicates with parents and children, also we are using e-mail communication, so most of the information is reaching players" – Expert 3.

"...together with additional communication tools it would provide a big help in the process of managing the academy where there are a lot of kids and even more parents" – Expert 1.

"...it wouldn't require individual writing and calling so it would make our life easier" – Expert 2.

All three of the above citations are directly connected with the communicational value, expressing the additional usefulness in terms of notifications and reminders this innovation would bring. One more perceived value characteristic that was repeatedly touched by each and every expert during those qualitative interviews was the technological value. It is the last of our three new perceived value characteristics that have emerged during the qualitative analysis and it is reasoned by providing these examples of expertise:

"...the situation has changed 100% including interaction between the player and the coach, training methodology, quality of an inventory, overall training conditions, technological tools etc." – Expert 1.

"In 2008 we have adopted the Lithuanian Football Federation's methodology which is applied by our technical department using methodological examples from England, Holland and Spain" – Expert 2.

"...we as older generation sometimes are struggling to adapt to the innovations such as social networks, but little by little we are acclimatizing" – Expert 3.

The last example by our Expert 3 about being able to adjust to new technologies raises a question – would implementing a mobile application help to solve this issue or would it encourage more technical barriers? And considering the area we are focusing on in our research – the intensions of adopting a new technology, we won't be able to answer this question about technical problems, but if this study had different objectives, this could become one of the main goals when entering the next stage of the innovation-decision process – the implementation, which occurs when decision making unit puts an innovation into use.

To sum up the content analysis we can say that we have extracted evidence of all three innovation attributes that we have developed in our conceptional model – perceived relevance, perceived applicability and perceived value. In addition, we have discovered some fundamental findings which asks for revaluation of our model and the reasons for that will be discussed in the closing section of the empirical part.

3.5.Research findings

During the structured observations of "Žalgirietis" website and Facebook page as well as content analysis of their expert interviews we were searching for the relationships between the innovation attributes of perceived relevance, perceived applicability and perceived value. These emerged in the conceptual model developing process which was introduced in the theoretical reasoning and they translate academy's intentions of adopting a mobile application. Furthermore, the meaning of combining all of these three perceived attributes as well as complementing each other was investigated. The strong evidence of all of these perceived attributes was discovered and in parallel it indicates the overall potency of our conceptual model.

First of the innovation attributes that we have analyzed is perceived relevance and it was present in both of the digital sources of "Žalgirietis" in terms of large amounts of communication about players' performance and informative nature messages, therefore we conclude that these aspects are closely related to our mobile application and will have important say in the intentions of adopting it. Experts though, expressed their perceptions in terms of academy development, players' engagement and

attraction, openness for new technology as well as the ability to collect and distribute various types of data. Moreover, they have pointed out to three different types of players to whom the perceived relevance would have different meanings in relation to their professional level. This significant information, which was confirmed by at least two of our interviewed experts, gave us reason to rethink our original conceptual model and discuss the remodeling case by adding these three different types of players in order to extract the largest level of validity possible not only in terms of this, but also – future researches. But main reason to reject this idea of remodeling is that those three different types of players in terms of perceived relevance – least interested, neutral, most interested – bring the balanced final perception and therefore in our interpretation it doesn't influence the validity of perceived relevance and its effect to the conceptual model.

As was described during the content analysis, the dominant attribute was perceived applicability. If "Žalgirietis" website and Facebook page analysis indicated this attribute being most influential in terms of requisite information, external links, clothing catalog, results and information, our experts perceived it from perspective of data collection and distribution, operational and training process control, communicational and using as a gaming tool. Here we can also mention those informal discussions with academy players who expressed their perceived applicability in terms of tips for improving their skills, chat room, training schedules, assessing and rating other players.

Perceived value in the academy's digital mediums was witnessed in the communication about players' performance, informational messages and user friendliness ability on the official Facebook page. Coaches and staff members were associating this attribute with academy's development as well as the ability to collect and distribute various types of data. Three other perceptions that were emerging from all of our questioned experts were educational, communicational and technological. The significance of these emerged attributes and the frequency levels that they have appeared made us reassess our conceptional model in terms of dividing the original perceived value into these three new perceived attributes in order to achieve the greater validity of our concept (Figure 6).

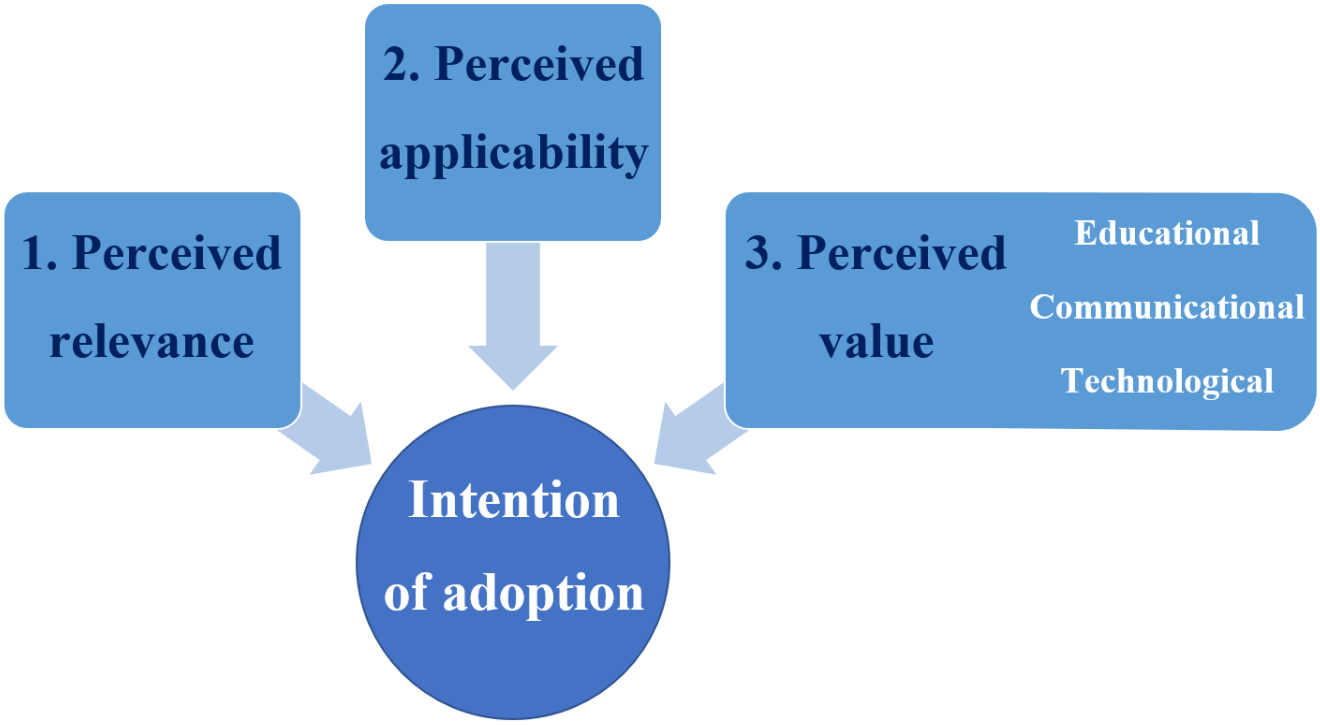


Figure 6. Modified conceptual model of perceived innovation attributes. Based on Innovation attributes (Rogers 2003). Adapted by the author.

In this section, we have reevaluated and remodeled the concept of perceived innovation attributes (Figure 6) due to this new information. We considered even more adjustments in terms of dividing the perceived relevance according to three different types of players but ultimately came to conclusion that together they bring the balanced final perception and therefore in our interpretation it doesn't influence the effect on adoption intention. All of these findings suggest that there are number of factors that influence this innovation adoption decision and that the original conceptual model has more capacity and complexity than originally anticipated. In the last part, we will conclude our research and discuss what objectives we were able to achieve.

4. CONCLUSIONS AND RECOMMENDATIONS

The larger purpose of this study was to identify whether the innovation such as mobile application would improve the football academy "Žalgirietis" players' in communicational, educational, technological and cultural context. In order to implement such idea, the main aim to research the perceived innovation attributes which affect the intention of adopting a mobile application was set. This is important in order to understand the principal perspectives and possible needs for such innovation. The research strategy containing qualitative case analysis methods was established in order to fulfill some of those research objectives and we will conclude them in numerical order:

1. To reveal what characteristics define creative technologies and their selectivity in educational environment, we have analyzed the literature in order to create the theoretical preconditions of creative industry product development.

We were able to highlight different aspects of advanced education and tools of communication and these were fundamental factors in order to understand the potential value of our innovation. We found out that digital and mobile media contexts can improve the quality of young people's experience, which was envisaged before the theoretical analysis but not confirmed. Most of this analysis revealed that young generation is able of handling the new situations that materialize with digital and mobile media and this is also very important in terms of futuristic perspective.

In addition, we came to the conclusion, that academic and political discourse is increasingly focusing not on a serial production, but on high quality goods and services and this is closely related to our unique mobile application. Analysis revealed that creative sector is vibrant and growing, and more than that – it is fundamental source of employment and wealth generation, which opens up all different kinds of opportunities for the app creators, developers and maintainers.

Technology plays a key role in the creative economy and the role of digital technology is rapidly shifting to becoming an enabler of fundamental innovation and disruption. There are a number of challenges that need to be understood: the pace of changing user expectations, cultural transformation, outdated regulation, and identifying and accessing the right skills – all these are associated to the digital and mobile technologies and has to be evaluated in various stages of the development process. When technology and appropriate teaching methods are integrated, we found out, positive impact may be observed in both the cognitive and perceptual domains.

2. In order to predict the football academy "Žalgirietis" intensions of adopting a mobile application, we presented and explored innovation attributes as well as created the conceptual model of perceived innovation attributes.

The innovation-decision process and innovation attributes, originally proposed by Rogers (2003), were analyzed and the conceptional model of perceived innovation attributes which served as the basis for data collection and analysis was designed. As we found out, decision about adopting an innovation is not an instantaneous act and it is the process of five stages: knowledge, persuasion, decision, implementation, and confirmation. The scope of this research is surrounding first three stages, thus the confirmation and implementation stages are outside of the focus area for our research, although these could be potentially crucial in terms of adoption process.

We have studied that for an innovation to successfully diffuse into the social system, it must possess these five attributes: relative advantage, compatibility, complexity, trialability and observability. We then came into conclusion that these five characteristics are understood in different ways and consequently we have indicated a substantial difference between an innovation attribute and a perceived innovation attribute. As a result, the author proposed a modified innovation attributes model by replacing irrelevant attributes with three specific attributes that have been constructed to perform valid tests – perceived relevance, perceived applicability and perceived value.

3. To carry out estimation of the innovation adoption intensions we have performed the qualitative content analysis of currently used "Žalgirietis" digital communication platforms as well as expert interviews according to the conceptual model of perceived innovation attributes.

During the qualitative content analysis, we were searching for the relationships between the innovation attributes of perceived relevance, perceived applicability and perceived value. The meaning of combining all of these three perceived attributes as well as complementing each other was investigated. We can state that the overall potency of our conceptual model is indicated by strong evidence of all of these perceived attributes.

The dominant attribute in the analyzed content was perceived applicability. Three new perceptions have emerged during *perceived value* evaluation: educational, communicational and technological. According to this, we reassessed and remodeled the conceptional model in terms of dividing the original perceived value into these three new perceived attributes in order to achieve the greater validity of our concept.

Even more conceptual model adjustments due to three different types of players were considered, but finally it was decided that they bring the balanced final *relevance perception* and therefore it doesn't require changing. All of these findings suggest that there are number of factors that influence this innovation adoption decision and that the original conceptual model has more capacity and complexity than originally anticipated.

4. In order to evaluate the validity of both conceptual models of perceived innovation attributes we discuss the overall discoveries in terms of intensions to adopt a mobile application and provide recommendations for future research.

The modified conceptual model of perceived attributes shows what are the focus areas in terms of developing a mobile application for the football academy "Žalgirietis" players. This concept, together with content analysis findings, indicate central points of attention, which mostly were provided by academy experts, and these points will affect the intentions of adoption. The attributes of perceived relevance and perceived applicability were confirmed by the qualitative analysis. And the third attribute of perceived value raised different and more complete idea of dividing it into these three main perceptions: educational, communicational and technological.

These modifications were necessary in order to extend the overall context and also to avoid possible conflicts between any of these attributes. According to the analyzed data, we can state that overall reliability of our conceptual model is high because it was performed under a single case analysis circumstances as well as included three different experts who all confirmed these findings and moreover it was then matched with structured observations content which appeared on those digital communication channels. During the data collection and analysis, all of these attributes were tested frequently and in different means, and they proved to be valid and therefore we confirm that they have a direct impact on the members of "Žalgirietis" in terms of adopting the innovation.

Upon examining the qualitative content, we also found out that, above all, communicational problems within "Žalgirietis" do exist. Our results indicate that if the academy was to implement a mobile application, it could potentially solve some of those communicational interactions. It is unknown however, if these results – given the academy's sample – are true for the general public. It certainly warrants further social scientific research in this area and particularly within "Žalgirietis".

However, this thesis does not attempt an ultimate analysis. For that, a different scale of resources and much more rigorous approach to modeling, data and statistical analysis would be required. What the

author aimed at was to provide the right direction of models in order to research the perceived innovation attributes which affect the intention of adopting a mobile application. This seems to the author a necessary first step in assessing those intentions. A further research within this context needs to be contemplated and in author's opinion, a further quantitative and qualitative research would most likely help to indicate more areas of attention and possible ways of improving this leading and always trying to stay ahead football academy.

5. REFERENCES

1. Towse R and Handke C 2013, Handbook on the Digital Creative Economy, Edward Elgar, Cheltenham.
2. Florida R 2002, The Rise of Creative Class, Basic Books, New York.
3. Hartley J 2005, Creative Industries, Wiley-Blackwell, New Jersey.
4. Leadbeater C 1997, The Rise of the Social Entrepreneur, Demos, London.
5. Wajcman J 2004, Technofeminism, Polity Press, Cambridge.
6. Robinson et al. 2016, Facilitating Learning, Association for Educational Communications and Technology. Retrieved October 28, 2016, from http://www.aect.org/publications/EducationalTechnology/ER5861X_C002.pdf
7. Staying Ahead: The Economic Performance of the UK's Creative Industries 2007, The Work Foundation, London.
8. Kuada J 2012, Research Methodology. A Project Guide for University Students, Samfundslitteratur, Frederiksberg.
9. Hagger, M and Chatzisarantis N 2011, Never the twain shall meet? Quantitative psychological researchers' perspectives on qualitative research. Retrieved October 22, 2016, from http://dx.doi.org/10.1080/2159676X.2011.607185
10. Keser H and Ozcan D 2011, Current trends in educational technologies studies presented in World Conferences on Educational Sciences, Elsevier Ltd., Toronto.
11. Cultural times 2015, EYGM, France. Retrieved December 4, 2016, from http://www.ey.com/Publication/vwLUAssets/ey-cultural-times-2015/$FILE/ey-cultural-times-2015.pdf
12. Roblyer D 2006, Integrating Educational Technology into Teaching, Pearson Prentice Hall, New Jersey.
13. Colette H 2007, Entrepreneurship in the Creative Industries: An International Perspective, Edward Elgar, Cheltenham.
14. Bennett T and Frow J 2008, Handbook of Cultural Analysis, Oxford and Malden, Blackwell.
15. Protecting Our Heritage and Fostering Creativity 2016, UNESCO. Retrieved November 29, 2016, from http://en.unesco.org/themes/protecting-our-heritage-and-fostering-creativity
16. Howkins J 2007, The Creative Economy: How People Make Money from Ideas, Penguin Books, London.

17. Hesmondhalgh D 2007, The Cultural Industries, SAGE Publications, London.
18. Ammi C 2007, Innovative Technology and Globalization, Cambridge Scholars Publishing, Cambridge.
19. Creative Economy Report, 2008, UNCTAD, New York. Retrieved November 17, 2016, from http://unctad.org/en/docs/ditc20082cer_en.pdf
20. Digital Transformation of Industries 2016, World Economic Forum White Paper. Retrieved November 15, 2016, from http://digital.weforum.org
21. Creative industries for youth: unleashing potential and growth 2013, UNIDO, Vienna.
22. Hall P 2000, Creative Cities and Economic Development, Urban Studies.
23. Scheipers G 2016, Shaping Smarter Businesses. Retrieved November 2, 2016, from http://www.delawareconsulting.com/~/media/sites/pdf/whitepaper-shaping-smarter-businesses.ashx
24. Manyika et al. 2015, Digital America: A tale of the haves and have-mores, McKinsey Global Institute. Retrieved November 28, 2016, from http://www.mckinsey.com/industries/high-tech/our-insights/digital-america-a-tale-of-the-haves-and-have-mores
25. Pazvakavambwa R 2016, Customer needs should drive digital transformation. Retrieved November 5, 2016, from http://www.itweb.co.za/index.php?id=155077
26. Digital Business Era: Stretch Your Boundaries 2015, Accenture Technology Vision. Retrieved December 1, 2016, from https://www.accenture.com/us-en/_acnmedia/Accenture/Conversion-Assets/Microsites/Documents11/Accenture-Technology-Vision-2015.pdf
27. Jiang H 2011, Young People's Adoption and Consumption of a Cultural Commodity – iPhone, LSE, London.
28. Inelmen E 2009, Introducing a "Decision Support System" to enhance "Critical Educational Governance" in a digital era, World Journal On Educational Technology. Retrieved October 14, 2016, from http://www.world-educationcenter.org/index.php/wjet/article/view/125
29. Lobo et al. 2010, Web usability guidelines for smartphones a synergic approach, International Journal of Information and Electronics Engineering.
30. Traxler J and Leach J 2006, Innovative and sustainable mobile learning in Africa, International Workshop on Wireless, Mobile and Ubiquitous Technology in Education, Los Alamitos.
31. Wang et al. 2005, Mobile learning with cellphones and pocket-PCs, Springer, New York.

32. Prensky M 2005, What can you learn from a cell phone? Almost anything!", The Innovate Gateway. Retrieved December 1, 2016, from http://www.innovateonline.info/index.php?view=article&id=83
33. Hsu Y and Ching Y 2012, Mobile microblogging: Using Twitter and mobile devices in an online course to promote learning in authentic contexts, The International Review of Research in Open and Distance Learning.
34. Johnson et al. 2010, The 2010 horizon report, The New Media Consortium, Austin.
35. Johnson et al. 2012, Mobile apps, The New Media Consortium, Austin.
36. Hsu Y and Ching Y 2013, Mobile App Design for Teaching and Learning: Educators' Experiences in an Online Graduate Course, Boise State University, Boise.
37. Crossan M and Apaydin M 2010, A Multi-Dimensional Framework of Organizational Innovation, Blackwell Publishing, New Jersey.
38. Metcalfe S 1998, Evolutionary Economics and Creative Destruction, Routledge, London.
39. Potts J and Cunningham S 2008, Four models of the creative industries. Retrieved October 12, 2016, from http://dx.doi.org/10.1080/10286630802281780
40. Hair et al. 2011, Essentials of Business Research Methods, M.E. Sharpe, New York.
41. Yin R 2003, Case study research: design and methods, Sage Publications, London.
42. Saunders et al. 2009, Research Methods for Business Students, Pearson Education, New Jersey.
43. FA "Žalgirietis" – tarp geriausių Vilniaus futbolo mokyklų 2014, Vilniaus futbolas. Retrieved November 20, 2016, from http://www.fkzalgiris.lt/naujienos/n3883_fa_zalgirietis___tarp_geriausiu_vilniaus_futbolo_mokyklu.html
44. Rogers E 2003, Diffusion of Innovations, Free Press, New York.
45. Sahin I 2006, Detailed review of Rogers' Diffusion of Innovations theory and educational technology-related studies based on Rogers' theory, Iowa State University, Ames.
46. Stuart W 2000, Influence of sources of communication, user characteristics and innovation characteristics on adoption of a communication technology, The University of Kansas, Lawrence.
47. Dooley K 1999, Towards a holistic model for the diffusion of educational technologies: An integrative review of educational innovation studies. Educational Technology & Society.
48. Worum H 2014, Innovation adoption in a hospital, UIT the Arctic University of Norway, Tromsø.

49. Yin R 2014, Case Study Research: Design and Methods, Sage, Los Angeles.
50. Bogner et al. 2009, Interviewing Experts, Palgrave Macmillan, London.
51. Gaižauskaitė and Valavičienė 2016, Socialinių tyrimų metodai: kokybinis interviu, Registrų centas, Vilnius.
52. Prasad B 2008, Content Analysis: A method in Social Science Research. Retrieved November 25, 2016, from https://www.researchgate.net/publication/242724926_A_method_in_Social_Science_Research_1
53. Chadwick et al. 1984, Content analysis, Prentice Hall, New Jersey.
54. Eisenhart K and Graebner M 2007, Theory Building from Cases: Oportunities and Challenges, The Academy of Management Journal.
55. Tully M 2015, Investigating the Role of Innovation Attributes in the Adoption, Rejection, and Discontinued Use of Open Source Software for Development, The University of Iowa, Iowa City.
56. Mayring P 2000, Qualitative Content Analysis. Retrieved November 21, 2016, from http://www.qualitative-research.net/index.php/fqs/article/view/1089/2385

6. SUMMARY IN ENGLISH

The larger purpose of this thesis was to identify whether the innovation such as mobile application would improve the football academy "Žalgirietis" players' in communicational, educational, technological and cultural context. In order to implement such idea for this academy, from the capital of Lithuania – Vilnius, the main aim to research the perceived innovation attributes which affect the intention of adopting a mobile application was developed.

In the first of the four parts, the author foregrounds the most well-publicized creative technologies related to the digital and mobile media. The chapter illuminates different aspects of advanced education and tools of communication. In the second part, the innovation-decision process and innovation attributes are analyzed at the theoretical level and after this assessment, the conceptional model of perceived innovation attributes in order to collect and analyze empirical data is designed. The third part is devoted to the qualitative content analysis of the football academy "Žalgirietis" digital platforms as well as expert interviews and their relationship to the conceptional model of perceived innovation attributes. The initial version of the conceptual model then was modified after performing the qualitative analysis according to new data in order to achieve greater overall potency and validity of the model. The study is finalized with conclusions and recommendations which reveal the significance of the researched topic and suggests the further research of this important issue.

7. SANTRAUKA LIETUVIŲ KALBA

Esminis šio darbo tikslas buvo nustatyti, ar tokios inovacijos, kaip mobilioji aplikacija, įdiegimas turėtų teigiamą įtaką futbolo akademijos "Žalgirietis" žaidėjų tobulėjimui komunikacijos, edukacijos, technologijų ir kultūros kontekste. Siekiant tokią idėją įgyvendinti šioje akademijoje iš Lietuvos sostinės – Vilniaus, vienas pagrindinių uždavinių buvo ištirti suvokiamų inovacijų požymių įtaką mobiliosios aplikacijos įdiegimui.

Pirmoje, iš keturių dalių, autorius apžvelgia kitų rašytojų aprašytas kūrybines technologijas, susijusias su skaitmeninėmis ir mobiliosiomis medijomis. Skyriuje aptariamos šiuolaikinės edukacinės ir komunikacinės priemonės. Antroje dalyje, inovacijų įdiegimo procesas bei inovacijų požymiai yra analizuojami teoriniame lygmenyje, o po šio vertinimo, yra sukuriamas koncepcinis suvokiamų inovacijų požymių modelis, kuris padėtų surinkti ir išanalizuoti empirinius tyrimo duomenis. Trečioji dalis yra skirta futbolo akademijos "Žalgirietis" skaitmeninių platformų ir ekspertų interviu kokybinei turinio analizei ir jos santykiui su koncepciniu suvokiamų inovacijų požymių modeliu. Pradinė koncepcinio modelio versija, atlikus kokybinę analizę, vėliau buvo patobulinta, atsižvelgiant į naujus duomenis ir siekiant didesnio modelio potencialo bei pagrįstumo. Tyrimo pabaigoje pateiktos išvados ir rekomendacijos, pabrėžiančios šio darbo temos svarbą bei siūlančios atlikti tolimesnius šio klausimo nagrinėjimo tyrimus.

8. ANNEXES

Annex 1 - "Žalgirietis" experts interviewing questionnaire

1. Let's start this interview from your presentation. What is your role in the football academy? What are your responsibilities?
2. Please tell me how do you see the progress of the football academy since its establishment?
3. What is your opinion about educational tools, methods and technologies used in the football academy? What should be changed or improved?
   3.1. Generally speaking, what are your short term and long term targets?
4. What communication channels are you using to communicate with players after the training sessions and what kind of information are you distributing?
5. If you had a look to the past, when you was a student of the game, what is your opinion about teaching methods and tools that were used back then?
6. What do you think a football academy mobile application for the players should look like? What kind of content (app structure) do you think would be most relevant to the players?
   6.1. In your opinion, would this mobile application be adopted differently by these three types of players?
   6.2. What do you think about an app structure which would implement training schedules, news and reminders?
7. What sources do you use when preparing educational material?
8. What kind of tools you could implement in your academy' development that you maybe saw in other academies here in Lithuania as well as abroad?
9. How would you compare the training methods you use in local and global terms?
10. Do you remember any negative situations because of the lack of communication to the players?
11. To summarize please think of something you want to mention?

Annex 2 - "Žalgirietis" experts informed consent

MYKOLAS ROMERIS UNIVERSITY
Ateities g. 20, LT-08303 Vilnius
Ph. (8 5) 271 4625, fax. (8 5) 267 6000, e-mail roffice@mruni.eu, www.mruni.eu, VAT payer's number: LT119517219

The purpose of this study is to learn about communication technologies used in football academies from the experts in Vilnius, Lithuania. This research is conducted by Mykolas Romeris University Master Degree student Robertas Mickus. There are no risks involved in participating in this study.

Consent for Participation in Interview Research

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time.
2. I have the right to decline to answer any question or to end the interview.
3. The interview will last approximately 30-45 minutes. Notes will be written during the interview. This interview will be audio taped, unless otherwise requested by the participant. There may be additional follow-up/clarification through email, unless otherwise requested by participant.
4. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. If participant wishes for the use of his/her full name in the study, this request will be adhered to as well.
5. I will be one of approximately 5-10 people being interviewed for this research.
6. A summary of the results will be available to participants upon request after the successful defending of the thesis. Please contact interviewer *Robertas Mickus** with any questions or concerns.
7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
8. I have been given a copy of this consent form.

_____	_____	_____
Participant's Name	Participant's Signature	Date
_____	_____	
Interviewer's Name	Interviewer's Signature	

**For further information please contact: Robertas Mickus, Ph. 868703214, e-mail* romickus1@stud.mruni.eu

Annex 3 - "Žalgirietis" research agreement

MYKOLAS ROMERIS UNIVERSITY **MYKOLAS ROMERIS UNIVERSITY** Ateities g. 20, LT-08303 Vilnius Ph. (8 5) 271 4625, fax. (8 5) 267 6000, e-mail roffice@mruni.eu, www.mruni.eu	**Football Academy "ZALGIRIETIS"** P. Zadeikos g. 12-12, LT-06320 Vilnius Ph. (8 671) 131 38, e-mail zydrunas.grudzinskas@gmail.com, www.zalgirietis.lt
Researcher: Robertas Mickus	**Director: Zydrunas Grudzinskas**
Ph. (8 687) 032 14, e-mail romickus1@stud.mruni.eu	Ph. (8 671) 131 38, e-mail zydrunas.grudzinskas@gmail.com

Research Agreement

Terms and Conditions

1. **Purpose –** Whereas Academy desires to take part in this scientific research in the area of communication technologies used in football academies, this Research Agreement is established to give the right for the Researcher ***to use the academy's name, logo and collected data*** within this research.
2. **Reports** – Researcher shall provide Academy a final research report upon completion of the Research Agreement.
3. **Publications** – Academy recognize that Researcher in this Research Agreement is free to publish results arising therefrom, unless Academy desire otherwise and so advises the Researcher in writing.
4. **Intellectual Property** – The Researcher's University shall own all intellectual property that results from research conducted hereunder, including but not limited to all data, inventions, patents and copyrights.
5. **Publicity** – Neither party will use the name of the other party in any publicity, advertising, or news release (except in publications as noted in 3, above) without the prior written approval of the authorized representative of the other party.
6. **Use of Results** – Academy shall be solely responsible for any liability arising out of academy's use of or reliance upon data generated by research performed pursuant to this Research Agreement.
7. **Termination -** Either party may terminate this Research Agreement upon seven (7) days prior written notice to the other.
8. **Entire Agreement** – This Research Agreement contains the entire and only agreement between the parties respecting the research hereof.

Academy Representative's Name and Title	Signature	Date
Researcher's Name	Signature	Date