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THE COMPARATIVE ANALYSIS BETWEEN PERSONAL INITIATIVE, COMMUNICATION AND COOPERATION COMPETENCIES IN ESTONIAN UNIVERSITY STUDENTS PARTICIPATING IN AN ENTREPRENEURSHIP COURSE

Master's thesis
INTERNATIONAL BUSINESS ADMINISTRATION, Entrepreneurship

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ABSTRACT

Entrepreneurial competencies are the characteristics and skills required to be successful in business management. Particularly important competencies are interpersonal skills like personal initiative, communication, and cooperation skills. While several studies have been done on other competencies, little has been done on these three competencies. Also, there has not been any research that has observed the relationships between the three constructs and the effect of participating in an entrepreneurial course on them. The objective of this master's thesis is to do a comparative analysis between the personal initiative, communication, and communication competencies of Estonian students participating in an entrepreneurial course. The author used Spearman Rho Correlations and Wilcoxon Signed-Rank Test to analyze data gathered.

Results from the study revealed a significant relationship between personal initiative, communication, and cooperation competencies. The study also showed a significant difference between the competencies after participation in an entrepreneurship course. The conclusion was that the three competencies are positively correlated. Also, participation in entrepreneurship courses positively influences these competencies in students.

Keywords: Personal Initiative, Cooperation Competence, Communication Competence, Interpersonal Skills, Entrepreneurship Course, University Students.

INTRODUCTION

The degree to which an entrepreneur is able to gain mastery over some job-enhancement skills can be termed competence. According to Bird (1995), the competencies of an entrepreneur are those underlying factors that result in venture startups, survival, or growth. An entrepreneur is said to show personal initiative when he/she is able to recognize opportunity when he sees it, use resources within his means to maximize the opportunity. In order to positively exhibit this competence and achieve set goals, it is inevitable that the entrepreneur makes associations, and learns to communicate and cooperate with others.

Across all OECD countries, more than half of the youth surveyed in the period 2012 to 2016 lack entrepreneurship knowledge and skills (OECD/European Union 2017a). Particularly lacking skills are communication, cooperation skills, and personal skills, among others. This is to be expected since these skillsets have remained largely unexamined in the entrepreneurship domain (Meager, Martin & Carta, 2011) and are not treated as germane compared to other skills (Mwasalwiba, 2010). In recent studies, Bikse, Riemere, & Rivza (2014) encourage that education that encourages entrepreneurial competence must be made available to all students, and integrated into all subjects, at all levels of education according to the principle of consecutiveness.

Morris et. al, (2013) and Timmons in their models highlighted initiative, "building and using networks" and communication as some of the entrepreneurial competencies that are critical to the success of entrepreneurs. In this study, we would be examining a communication, cooperation competencies, and personal initiative in students. These are soft skills, which are crucial to the success of entrepreneurs and would-be entrepreneurs, yet are not usually the focus of teaching, learning, and research, more especially as a group of interpersonal competencies (Mwasalwiba, 2010).

The problem statement for the research: For most of the previous work done on entrepreneurial competence, improvement of students' competencies are centered around the seemingly critically important skills Raduan, Naresh & Lim, 2006), and also around workers, who are able to display these skills at a job role. However, contrary to this popular mentality, special attention should be dedicated to the development of soft or transversal skills, such as communication, or cooperation competencies) of learners (Ruskovaara, 2014). Presently, little is known about the personal initiative of students in relation to their cooperation and communication competencies.

Research Objective: This study aims to carry out a comparative analysis between personal initiative, cooperation, and communication competencies of Estonian students. Apart from comparing the components, one with the other, the alpha values and coefficient of correlation of the three constructs are used to determine whether participation in an entrepreneurship course has any significant effect on students' personal initiative, communication or cooperation competencies.

This research answers the question of whether there is any significant difference between the three constructs being examined before the commencement of the entrepreneurial course. Hence, three hypotheses have been developed for the research as follows:

> H_1: There is no significant relationship between personal initiative and communication competence pre-course
>
> H_2: There is no significant relationship between personal initiative and cooperation competence pre-course
>
> H_3: There is no significant relationship between communication and cooperation competence pre-course.

Also, this research answers the question of whether there is any significant difference between personal initiative, communication, and cooperation competencies. Hence, the following hypotheses:

> H_4: There is no significant relationship between personal initiative and communication competence post-course
>
> H_5: There is no significant relationship between personal initiative and cooperation competence post-course
>
> H_6: There is no significant relationship between communication and cooperation competence post-course.

Finally, this research provides answers to the research question on whether participation in the entrepreneurial course has any significant effect on the three constructs being examined. Hypotheses 7, 8, and 9 will, therefore, be tested.

> H_7: There is no significant difference between personal initiative pre-course and post-course
>
> H_8: There is no significant difference between communication competence pre-course and post-course
>
> H_9: There is no significant difference between cooperation competence pre-course and post-course.

The related literature used for this research were extracted from Taltech library, ResearchGate databases, Google Scholar, GEM publications.

This is the sequence that the thesis follows: The first chapter discusses definitions of entrepreneurial competence, narrowing it down to related literature on existing knowledge on the three constructs being discussed by selected authors, models on entrepreneurship competence, and knowledge on entrepreneurial education. The second chapter discusses the research methodology which includes the research designs mapping procedure and size, data collection instrument, reliability validation, method of data analysis, and limitations of the study. The third chapter includes the data analysis and comparison of the three constructs. The fourth chapter discusses the summary of findings, conclusions, and recommendations.

1. THEORETICAL BACKGROUND

1.1. Entrepreneurial Competence

Entrepreneurial competencies can be rightfully defined as a particular group of competencies that is significant to the practice of successful entrepreneurship (Mitchelmore & Rowley, 2010). The 21st century came with a surge in the number of start-ups all over the world. However, many entrepreneurs lack the competencies which are essential for the sustenance of their start-ups; hence, the hike in the number of failing start-ups (Aldrich, 1999).

It has been established that in order to manage work and career successfully (as well as reduce drastically start-up failures), it is essential to possess the proper resources and competencies (Ulrich et al., 2009). Therefore, interest in more knowledge has been shown in the study of entrepreneurial competencies. EU policy-makers and developers of entrepreneurship education have recommended the support of the personal development of learners, such as creativity, problem-solving and planning skills, and the development of other competencies supporting entrepreneurship (European Commission, 2006; Karimi et al., 2014).

Entrepreneurial competence has been grouped into different categories by re-known authors- cognitive competence, behavioral or social competence, and functional or know-how competence. While cognitive competencies are essentially related to 'knowing that' and 'knowing why' knowledge (Rauch & Frese, 2000), behavioral competence, on the other hand, are those skills that enable a person to know how to behave in certain entrepreneurial situations (Jong and Wenneker, 2008). Cognitive competencies are conceptual or theoretical knowledge, and the ability to show understanding of a subject (Le Deist & Winterton, 2005). It can be inferred then that cognitive competencies are mostly learned in both formal and informal settings. Gagne in his studies about learning domains recognizes so-called verbal information and intellectual skills which are both tightly related to cognitive competences (Le Deist & Winterton, 2005). Volery, Mueller & Von Siemens (2015) also submitted that competencies can be changed, learned and attained through experience, learning, and coaching.

Studies on entrepreneurial competencies have attempted to organize entrepreneurial competencies into various sub-constructs. For example, Man et al (2002) identified six competency areas:

opportunity, organizing, strategic, relationship, commitment, and conceptual competencies. On the other hand, Kyndt & Baert (2015) assessed behavioral indicators in actual and aspiring entrepreneurs as proximal outcomes of entrepreneurial competencies and identified twelve competencies. Also, Lee et al. (2016) identified five dimensions of entrepreneurial competencies, which are as follows: opportunity competencies, administrative competencies, relationship competencies, personal competencies, commitment competencies.

1.2. Interpersonal Skills and Entrepreneurial Competence

Interpersonal skills comprise of a combination of some skillset which is indispensable to any successful leader (Pina Tarricone & Joe, 2002). Entrepreneurial competencies are also not entirely separate from the entrepreneur's characteristics, traits, and motivations (Lee et al, 2016). Luca (2002) highlighted the skillset needed by entrepreneurs and leaders as the commitment to team success and shared goals, interdependence, interpersonal skills, open communication, positive feedback, appropriate team composition, role definitions, and finally, commitment to team processes.

Although researchers have devoted considerable time and effort to identify the characteristics, traits, values, affective states, and cognitive styles associated with entrepreneurial success, the unique and peculiar competencies that support venture creation and are vital in navigating the entrepreneurial contexts remain elusive (Morris et al., 2013).

In constructing the conceptual framework of entrepreneurial competencies for University students, this study examines the link between three constructs and entrepreneurial competencies, referring to the research by Baron & Ensley (2006), Bartlett & Ghoshal (1997), Man et al., (2002), Yeh & Chang (2018).

We would examine from past literature, three constructs that are critical to the theoretical framework used in this study. Collectively referred to as interpersonal skills, they are personal initiative, communication skills, and cooperation skills.

1.3. Personal Initiative

Kuratko & Hodetts (2004) defined entrepreneurship as "the application of energy for passion creation and implementation of new ideas and creative solutions", laying emphasis on the resourcefulness of an entrepreneur to take the lead to invent and execute ideas, which before then, were non-existent. It has been established that entrepreneurs with high personal initiative will further enhance their management, improve business operation skills, and embark on a continuous learning and development attitude (Raduan et. al, 2006).

An entrepreneur's personal initiative determines the pace and course for the business. According to Gartner (1988), an enterprise's success is not related to the person who owns or starts the business, but rather to the action and initiative that is taken by an entrepreneur. Personal initiative deals majorly with the self-starting nature of entrepreneurs, their proactive attitude, ability to seek and grasp the opportunity, and find solutions to overcome barriers that are, or might be impediments to their success (Frese, Kring, Soose, & Zempel, 1996; Frese, Fay, Hilburger, Leng, & Tag, 1997).

Timmons' framework also placed special importance on innovation and unique ideas and refers to them as the core of the model. This is called personal initiative. The concept of personal initiative (PI) was first introduced by Frese et al. (1996) while studying the performance of a group of East German employees after the unification of Germany. Frese explained personal initiative as a work behavior of an individual (Frese et al., 1996; Frese et al., 1997). Moises (2012) likewise concluded that opportunities well utilized are more crucial than the talent of the team because the right opportunity exploited ensures the long-term success of the business. According to the model, ideas and innovations can be extracted from personal thoughts and market analysis (Timmons, 1989). This reinforces the significant role which personal initiative plays in the making of a successful entrepreneur.

Results from the analyses of U.S newspaper reports from 1999 to 2001 carried out by Cardon et al. (2011) revealed that a majority of entrepreneurial failures were traced back to mistakes caused by entrepreneurs. These mistakes are a result of the deficiency of skills in planning, finance, strategic thinking, opportunity recognition, and leadership skills are the main reasons for entrepreneurial failure. The converse is also true as a large number of entrepreneurs affirmed personal initiative as one of the major keys to success (Raduan, Naresh, and Lim, 2006).

Planning, strategic thinking, and opportunity recognition have been described as a personal initiative. According to the Facets Model of Personal Initiative (PI), personal initiative is in three parts. Namely, self-starting, pro-active, and overcoming barriers (Frese & Fay, 2001; Glaub et al., 2014; Solomon et al., 2013). Self-starting helps entrepreneurs to take advantage of small resources and opportunities available to them and be innovative (Fiet, 2002). Timmons' model advocates this self-starting stage strongly, emphasizing that entrepreneurship is nothing, but opportunity-driven. Pro-active is all about anticipating future problems and opportunities and converting them into short or long -term goals. The last stage, i.e. overcoming barriers is the entrepreneur's initiative to continue working on goals despite frustrations or discouragements (Baker & Nelson, 2005).

It is safe therefore to say, based on these researchers' findings, that high personal initiative entrepreneurs are typical "go-getters" and persist in all their work until results are achieved (Raduan et. al, 2006). Such an individual firstly considers the challenges ahead and develops strategies to combat them, identifies emerging opportunities, and takes actions as issues arise. It is right, therefore to infer that entrepreneurship is about identifying and exploiting opportunities (Shane & Venkataraman, 2000), creativity (Daylan et. al., 2013), and maximization of resources. These are, summarily, the roles that personal initiative plays in an entrepreneur's career journey.

1.3.1. Initiative for Creativity and Innovation

Creativity is the ability to see opportunities from a different perspective. Often, creativity has to do with seeing what is not there, seeing problems as opportunities, and looking at problems from a strategic, holistic, and detached perspective. It involves a lot of thinking, pattern making, and dot-connecting. Dayan et al. (2013) defined entrepreneurial creativity as the capabilities of entrepreneurs to incubate fresh combinations of hitherto independent elements so that improved and/or new products, services, processes, or practices are formed. The newly created variant to what is normally obtainable in the market gives added value and advantage to make some profit in spite of the fierce competition in the marketplace.

Unlike the past when creativity and entrepreneurship were considered separate concepts, they have become increasingly linked in more recent studies (Lee, Florida & Acs, 2004). Creativity and

innovation are a critical and central part of an enterprise. Both factors pave a way for clear-sighted entrepreneurship (Okpara, 2007). Creativity cannot be separated from education as it is often achieved by people with high levels of education and positive attitudes towards Science. A productive change in a system is brought about by creative people (McMullan & Kenworthy, 2015).

1.3.1.1. Creativity Versus Innovation

Creativity and innovation, though often interchangeably used, are slightly different concepts, as one gives birth to the other. Creativity constitutes the basic source of innovation and can lead to the creation of new firms and the improvement of existing products so that companies become more efficient and competitive (Ko & Butler, 2007). Successful incorporation of creativity and technology in entrepreneurial activity can lead to the commercialization of the idea, the product, or the service, thereby strengthening entrepreneurship (Fillies & Rentschler, 2010). Moreover, creative thinking is a particularly significant tool that allows the leader of a firm to form a business strategy and motivate the employees (Darling, Gabrielson & Seristo, 2007). Creativity usually starts with discovery, invention, and ends in creation (Burus, 2013).

1.3.2. Initiative for Opportunity Recognition

Opportunities concern the discovery of new and/or improved means of supply (e.g., new products, services, or ways of doing business) to better serve the needs of consumers in one or more markets (Wood & McKinley, 2010). Recognition of opportunity and creativity often go hand in hand.

Dimov (2011) noted that experienced entrepreneurs are more likely to demonstrate higher tolerance for decision uncertainty, which is a major determining factor of the ability to recognize opportunities and possibly take action.

1.3.3. Initiative for Maximization Of Resources

(Poerwowidagdo, 2010) reported that one of the misconceptions among inexperienced entrepreneurs based on Timmon's model is that one must first have all the resources in place, especially money, in order to succeed in a business venture. This is however far from reality and making decisions based on the availability of funds alone is a big mistake that paralyzes entrepreneurial moves. Some other line of thought of investors and successful entrepreneurs is that one of the worst things that can happen to an entrepreneur is to have too much money too early in the business. Timmons' model discounts the popular notion that extensive resources reduce the risk of starting a venture and encourages starting with the barest minimum requirements as a way to attain success in a highly competitive market.

1.4. Cooperation Skills

Cooperation skills are the critical ingredients that hold teams together. In literature, both terms are often used interchangeably (Scarnati, 2001). Teams are very important for a successful business. Teams and teamwork help to promote deep learning that occurs through interaction, problem-solving, dialogue, cooperation, and collaboration (Johnson & Johnson, 1995). Scarnati (2001) defined teamwork as a cooperative process that allows ordinary people to achieve extraordinary results.

It takes a highly effective lead entrepreneur to be able to put the best talents together after identifying the opportunity and gathering the required resources. The size and nature of opportunity determine the size and nature of the team that should be put together. A good team can lead to great success and a badly formed team can waste a great idea which is a disaster to any form of business. Among all resources, only a good team can unlock a higher potential with any opportunity. Timmons' model also submits that a good team can manage the pressure related to growth.

1.4.1. Cooperation In Leadership

Leadership, described as "a process of social influence in which a person can enlist the aid and support of others in the accomplishment of a common task" (Kushnir, Mirmulstein & Ramalho, 2010), is a trait which is common to both entrepreneurs and managers.

New ventures cannot be successfully created without having effective leadership behavior (Bryant, 2004). Hence, leadership is seen as an essential contributor to the entrepreneurial success of entrepreneurs (Arham et al., 2013).

Leadership and entrepreneurship have been conceived as a distinctive set of underpinning traits, behaviors, and competencies (Engelen et al, 2015). The style of leadership has a significant effect on the success of a small business as suggested by Valdiserri & Wilson (2010). It is also claimed that leadership affects the method of achieving entrepreneurship (Harrison et al, 2016; Leitch& Harrison, 2018; Leitch & Volery, 2017). Hence, the type of leadership an entrepreneur exhibits majorly determines whether the effect is positive or negative (Dunne et al, 2016).

The two main types of leadership at opposite extremes are autonomous leadership and democratic or participatory leadership. Stephan and Pathak (2016) describe autonomous or directive leadership as leaders who play an active role in problem-solving and decision making and expect their followers to be guided by their decisions. Whereas, participatory leadership is a team leadership style which involves sharing the decision process with others. Unlike autonomous leadership, it requires the development of strong cooperation skills. These include the ability to keep people working amicably, the ability to settle disputes and maintain a healthy environment at the workplace, the ability to motivate, encourage, reward and punish, among other skills. In management and entrepreneurial research, the latter appears to be commonly accepted as a viable way to encourage entrepreneurs and employees in organizations to work together more productively (De Jong &Van Witteloostuijn, 2004).

1.5. Communication Competence

Communication is so important to living that Paul Watzlawick gave a popular statement in 1967, “No matter how hard one tries, one cannot not communicate”. While ideas and plans are good, they would be of very little use without a business plan. The business plan provides the language and code for communication between the three driving forces of Timmons’ model, linking resources, opportunities, and team to the entrepreneur. In order to efficiently write and execute a good business

plan, strong communication skills are vital. Consequently, it is imperative that an entrepreneur learn various methods and skills of effective communication which goes beyond language and its use.

Joshi & Paresh (2014) identified three main areas in which communication determines entrepreneurial success. To be able to convince the investors that they are making the right investment, an entrepreneur needs to communicate the company's vision to his team and in some cases, to his customers. Secondly, he would need to be able to organize and convey his vision to his team (Drucker, 1995). Communication also plays a pivotal role in entrepreneurship and venture seeking. Finally, for entrepreneurial success, an entrepreneur needs to learn to communicate with the market. He must employ innovative strategies to ensure a consistent influx of new clients/buyers (Joshi, Paresh, 2014).

In order to exploit the benefits of strong communication skills, it is good to know the forms they exist in, the form that is most beneficial for an entrepreneur, as well as how the skills can be acquired or improved.

Communication goes beyond the limited verbal use of language and extends to non-verbal domains. Consequently, communication involves language, speech, gestures, codes, writing, and so on. The ability of an entrepreneur to master communication as a whole and use their mastery to the advantage of their business. An entrepreneur who has good communication skills can correct potential clients' misconceived vision of his company. Negotiation, agreement, and validation of proposals and ideas are also made possible.

1.5.1. Verbal and Non-Verbal Communication

Communication can be verbal and non-verbal. Non-verbal communication is often associated with emotions (Schutz & Pekrun, 2007). It is communication that delivers the message without words, such as gestures, facial expressions, eye contact, by objects such as clothing, haircuts, symbols, and speech (Tracy, Randles, & Steckler, 2015). Non-verbal communication also involves posture, voice intonation, laughter, the distance between the communicating parties, touch, and physiological responses such as sweating palms, forehead, paleness, acute facial and neck redness, etc (Peleckis et al, 2016).

Verbal communication, on the other hand, involves the use of words for expression. Research shows that only a small percentage of our overall message comes from the words we use when we communicate. According to Mehrabian, (2007), 55% of messages conveyed comes from body language (especially from movements of the small muscles around the eye), 38% comes from voice tone, and only 7% is conveyed by the words we use.

Body language signals are important in business negotiations because they reveal the respondent‘s physical and emotional state as well as its change; they reinforce, weaken, or complement the spoken words; they enable communication with people (who for reasons of disability, lack of education or knowledge of a language, cannot read or speak a particular language): and finally, they help to determine more accurately, whether what was said is true or not (Peleckis et al, 2016).

Therefore, it is often not what we say, but how we say it that matters most, especially when we communicate feelings and attitudes. The voice tone or eye movements alone can convey anger, frustration, disappointment, sarcasm, confidence, affection, or indifference (Mehrabian, 2007).

1.5.2. Communication and Cooperation Competencies

These two constructs are often related. Park (1985) suggests that communicators that are those people who understand that their ability to pursue their own goals is a function of other people’s ability to pursue their own goals. ‘Communication is what transforms an idea into a vision, defines how it’s different, explains why it will work, and engages people in helping to make it a reality’ (Heller, 2011).

According to Keyton (2011), a huge responsibility lies on the sender of information to make communication effective. However, for effective communication, listening skills should also be developed. Kneen (2011) summarized ten rules which a good communicator must master. Most of these rules are cooperation-centered. “Stop talking, put the speaker at ease, remove distractions, ask questions, and empathize” are a few of the rules.

1.6. Entrepreneurial Competency Models.

Despite increased interests in entrepreneurial capacity building, there is still no consensus on what the distinctive elements of entrepreneurship as competence are. Previous researches have made efforts to identify, define, and categorize these competencies. These have resulted in proposals of multidimensional models in the research literature, drawing upon strategic management, organizational behavior theories, and various entrepreneurship models. Having a multidimensional overview has its advantages as individual, organizational, and environmental dimensions altogether make a more precise prediction of venture development and growth, in comparison to just one dimension in isolation (Baum, Locke & Smith, 2001).

Three entrepreneurial competence models would be discussed. The thirteen Entrepreneurial Competencies Models by Morris and colleagues (2013), Timmons' Model of Entrepreeurial Competence (1994), and Europe integrated theoretical framework (EntreComp; Bacigalupo et al., 2016). However, for the purpose of this research, Timmons' Model will be used.

1.6.1. The 13 Entrepreneurial Competencies Model

Morris et al. (2013) distinguished a core set of 13 entrepreneurial competencies, by employing a Delphi methodology and pre- and post-measures in a sample of students, building on structuration theory, and approaching competencies as the results of interactions between the individual and environment. The Structuration theory used provides a framework to understand the development of competencies by capturing the recursive process and explaining how scripts develop into competencies and the factors that can aid or hinder this development. In accordance with Giddens (1984), Scripts are further broken down into three broad categories: signification, legitimation, and domination. Signification scripts influence how individuals search for environmental change, legitimation scripts influence how individuals interpret and evaluate this change, and domination scripts influence how individuals respond to this change.

The 13 Entrepreneurial Competencies Model aimed at creating general awareness of what entrepreneurship entails, as well as guiding the development of entrepreneurship educational curricula. Competencies necessary for entrepreneurial action are also investigated.

Furthermore, results from their study highlighted the complexity of entrepreneurial action and showed that particular competencies remained stable while others can be enhanced based on exposure to an entrepreneurship program and intense experiential learning. Creating successful entrepreneurs requires a shift from studying intentions and business formation alone to actually studying successful business development and growth as desired outcomes of an educational effort (Morris et al., 2013).

Table 1.1. Entrepreneurial Competencies Identified From Delphi Study

1. Opportunity Recognition: the capacity to perceive changed conditions or overlooked possibilities in the environment that represent potential sources of profit or return to a venture
2. Opportunity Assessment: ability to evaluate the content structure of opportunities to accurately determine their relative attractiveness
3. Risk Management/Mitigation: the taking of actions that reduce the probability of a risk occurring or reduce the potential impact if the risk were to occur
4. Conveying a Compelling Vision: the ability to conceive an image of a future organizational state and to articulate that image in a manner that empowers followers to enact it
5. Tenacity/Perseverance: ability to sustain goal-directed action and energy when confronting difficulties and obstacles that impede goal achievement
6. Creative Problem Solving/Imaginativeness: the ability to relate previously unrelated objects or variables to produce novel and appropriate or useful outcomes
7. Resource Leveraging: skills at accessing resources one does not necessarily own or control to accomplish personal ends
8. Guerrilla Skills: the capacity to take advantage of one's surroundings, employ unconventional, low-cost tactics not recognized by others, and do more with less
9. Value Creation: capabilities of developing new products, services, and/or business models that generate revenues exceeding their costs and produce sufficient user benefits to bring about a fair return

Entrepreneurial Competencies Identified From Delphi Study continued

10. Maintain Focus yet Adapt: the ability to balance and emphasis on goal achievement and the strategic direction of the organization while addressing the need to identify and pursue actions to improve the fit between an organization and developments in the external environment

11. Resilience: the ability to cope with stresses and disturbances such that one remains well, recovers, or even thrives in the face of adversity

12. Self-efficacy: ability to maintain a sense of self-confidence regarding one's ability to accomplish a particular task or attain a level of performance

13. Building and Using Networks: social interaction skills that enable an individual to establish, develop. and maintain sets of relationships with others who assist them in advancing their work or career.

Source: (Morris et al., 2013, page 358)

1.6.2. The Entrecomp Framework

The EntreComp framework was developed in 2016 through a mixed-methods approach. (Bacigalupo et al., 2016) gave a definition of entrepreneurship as a competence consisting of three interrelated and interconnected competence areas: 'Ideas and opportunities', 'Resources' and 'Into action'. The researchers further divided these areas into five competencies each (as seen in figure 1.1 below), for a total of 15 competencies along with an 8-level progression model with a list of 442 learning outcomes. These resources can be personal (self-awareness and self-efficacy, motivation and perseverance), material (production means and financial resources) or non-material (specific knowledge, skills, and attitudes).

The first entrepreneurial competence area in the EntreComp model is "Ideas & Opportunity Recognition". This area consists of skills that help entrepreneurs to identify opportunities, seize and create them, and also pursue them vigorously. These skills also help them to be creative, visionary, value ideas, and good in ethical and sustainability thinking (Bagigalupo et al., 2016).

The second area of entrepreneurial competencies in the EntreComp model is “Resources”. It is basically the entrepreneurial ‘know-how’ or skills. Resources are helpful in problem-solving, decision making, motivation, financial management, and interpersonal relationships.

“Actions” is the third area of entrepreneurial competencies in the EntreComp model. It deals with the ability to motivate others, take initiatives, plan, manage, make decisions, deal with uncertainty, team-up, collaborate, and learn through experience.

Figure 1.1. EntreComp Competence Framework, 2016

Source: Publications Office of the European Union.

1.7. Research Framework: Timmons’ Model of Entrepreneurial Competence

The Timmons’ model of the entrepreneurial process highlights three critical factors: opportunity, team, resources. According to Timmons, the ability of an entrepreneur to balance these three factors determines the entrepreneur’s success rate. The model is based on the entrepreneur, who kick-starts the process of building or reviving a venture by looking for opportunities. Timmons’ model emphasizes that opportunity is the propelling force of the process and not money, strategy, networks, or the business plan. In most cases, genuine opportunities are much bigger than the team or

the resources at their disposal initially. The entrepreneur's duty is to balance out all factors involved in the process to ensure equilibrium and flow (Moises, 2012).

Shane (2003) argued that Timmons' framework misses the social and environmental perspectives on entrepreneurship. However, the conceptual framework of the study for the entrepreneurial competencies focuses on the social and environmental factors which have been concluded in the relationship competencies, strategic competencies, and commitment competencies.

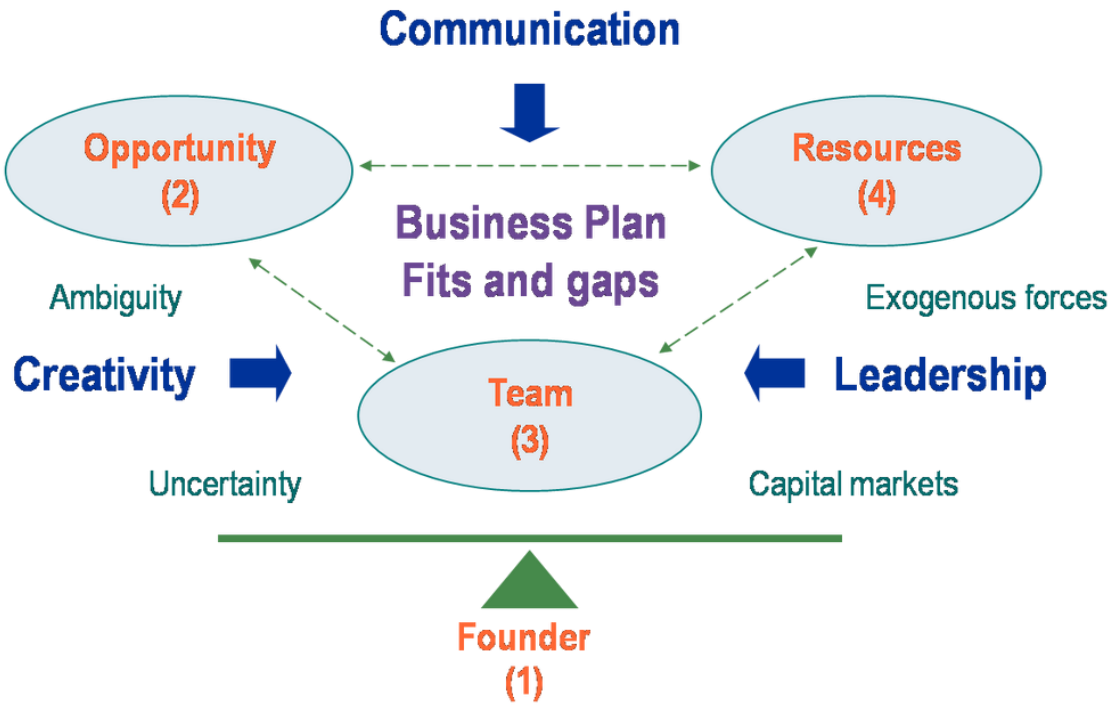

Figure 1.2. Timmons' Model of Entrepreneurial competence

1.8. The Role of Education In Entrepreneurship

In the past, there was great emphasis on competence being best tested or observed at a workplace, with managers and entrepreneurs as the subjects of study. However, more recently, entrepreneurial competencies have been identified as a higher (vs. standard) level ability that can be promoted through education and encompass the necessary skills, knowledge, and abilities to perform an innovative role

successfully (Kyndt & Baert, 2015; Man et al., 2002; Volery et al., 2015), therefore should be examined in students.

Competence generally is often manifested in good or appropriate behavior. Various methods have been adopted in the past as being effective in training for entrepreneurial competence. This training could take place at various points in life and may take different forms. For instance, all primary school pupils in Scotland receive "enterprise education," which is basically about being enterprising and entrepreneurial in a more general sense. In some universities, students choose programs that delve a bit into entrepreneurship. The aim of such a program of study is not to provide training in starting a business. Rather, the creation of new ventures is the context of academic education and not the goal. Some university students have a blend of "about" and "how-to" in entrepreneurship classes. Such students are usually enrolled in the business program. Lastly, on the other hand, an employer or a government agency may offer training to employees about to lose their jobs on how to start a business.

Entrepreneurial education became available in Estonia after independence was restored. This perhaps is one of the explanations for the decrease in the number of people who have had formal entrepreneurial education with an increase in age (GEM, 2012). Entrepreneurial learning refers to all forms of formal and informal training (Swaroop and Prasad, 2013), which have a positive association with entrepreneurship outcomes (Martin, McNally, & Kay, 2013). Hence, there is a 14% share of entrepreneurs among working-age people who have not received entrepreneurial education. This figure doubles (34.7%) among those who have taken entrepreneurship courses at a point in life (GEM, 2012). It can be inferred therefore, that receiving entrepreneurial education facilitates becoming an entrepreneur and keeping the company in business.

Conversely, entrepreneurial education could be done with or without the objective of making some profit. Some studies have found out that the effects of entrepreneurship education can be negative (Von Graevenitz, Harhoff, & Weber, 2010). Rideout and Gray (2013) reviewed a decade's worth of empirical studies on entrepreneurial education and noted that a majority of the programs were lacking some of the necessary methodologies needed to yield desired results.

GEM (2012) reports that higher-level education has had a bigger contribution (61.6%) of the formal entrepreneurship-related education in Estonia, than the level of vocational and secondary education (38.4%) has had.

Von Graevenitz, Harhoff, and Weber (2010) had two divergent perspectives on the effect of entrepreneurship education on students. First is that entrepreneurship education produces a polarizing effect on trainees' opinions, intentions, and propensity towards entrepreneurship. Invariance to this is the perspective that entrepreneurial training also has a "sorting effect", helping students to choose whether entrepreneurship is for them or not.

Lans et al. (2008) divided the roles of educational effort on entrepreneurship education into three-changes in the state of mind, enhancing entrepreneurial behavior and mastering specific business situations. The researchers agreed that education should focus on the creation of appropriate values, beliefs, and attitudes associated with successful entrepreneurship and intrapreneurship as well. They also elaborated that education should encourage the transfer of specific abilities related to entrepreneurial behavior and special attention should be dedicated to the development of soft or transversal skills of learners (Ruskovaara, 2014). Finally, education should focus on handling functional expertise – such as, how to start a business, how to explore the various options, and take advantage of opportunities around.

2. RESEARCH METHODOLOGY

This chapter focuses on the methodology used to conduct the comparative analysis between personal initiative, communication, and cooperation competencies in Estonian university students. The chapter is basically divided into various subchapters such as the research design, sampling, sample size, data collection instrument and validation, method of data analysis, and the limitation of the methodology adopted.

2.1. Research Design

In order to achieve its stated objectives, this study made use of a number of methods. The research design adopts a quantitative and descriptive approach. This can be applied to research work that can be expressed in terms of quantity (Kothari, 2004).

The research is designed to subject respondents to an entrepreneurship course during the course of a semester. This is to create an understanding of the essence of entrepreneurship and its processes, the role of entrepreneurs and the competencies of entrepreneurs. The course gives students the opportunity to choose a business idea, practically plan the business process, design business model and compile their business plans through teamwork and interdisciplinary study.

The study process follows the logic of the entrepreneurship process. It entails identification of a problem or need, business idea generation, business opportunity recognition, its development, and implementation. This process is seen on three levels: individual, team, and society. The design is built to enhance the personal initiative of the individual, support teamwork, and communicate effectively in a society.

Furthermore, the research is designed to show-case examples from the practical world to the respondents, focusing on a variety of sectors (such as IT, mechanics, engineering, etc). The expertise of entrepreneurs and specialists from different disciplines are also employed to add to the quality of teaching.

Students' learning process in seminars is organized on the basis of action research, which includes active learning, learning by doing, teamwork, mentoring, pitching business ideas. Attention has been paid particularly to the development of student's personal initiative, communication competency, cooperation competency among others.

2.2. Sampling, Procedure and Sample Size

A total number of 824 students participated in this study. About half of the group were females (50.61%) and a majority of respondents were older than 22 years (63.83%). The quantitative online survey involves master and bachelor students (Table 1) studying at the entrepreneurship courses during autumn 2018 in Estonian universities (N=824). The male and female relationship is rather equal. The sample is international, there are larger groups of Estonians (67%), Russians, Finns, and others.

Table 2.1. Characteristics of the sample.

		Frequency	Percent	Valid Percent	Cumulative Percent
Total		824	100.0	100.0	
Gender	Female	407	49.4	49.4	49.4
	Male	417	50.6	50.6	100.00
Nationality	Estonian	556	67.5	67.5	67.5
	Russian	104	12.6	12.6	80.1
	Other	164	19.9	19.9	100.00

Source: Author's Compilation

A total number of 526 respondents were above 22 years old, making up 63.83% of the sample size, while the remaining 36.17 accounted for those aged 22 or below. In terms of the program of study, most of the respondents took specialties in the business field (61.04%) while others (38.96%) took non-business related courses.

2.3. Data Collection, Instrument Reliability, and Validation

Data collection is done through the use of questionnaires. Data is collected before the commencement of classes and after the course was completed. The survey instrument was compiled based on three sub-competencies.

Besides collecting demographic data, students also rate 32 statements based on the three factors being examined. 13 statements are formulated for personal initiative, 12 are formulated for communication competence while 7 are for cooperation competence. These factors are measured on a 5-point Likert scale with 1 representing totally disagree; 2 -rather disagree; 3-agree and disagree; 4-rather agree; 5-totally agree. The respondents are assured that their responses would be kept private and confidential, used only for academic purposes. The questions posed to the students in relation to the factors being studied with scales are found in *Appendix 1,2 and 3*. The measure is a set of self-assertions that the respondent must evaluate based on their past experience and behavior. Thus, the respondent gives an assessment of their past behavior in a five-point system. Answers to the questions do not require previous experience in a particular area but require some self-analysis readiness.

The awareness of socio-emotional processes of communication competence is assessed through two sub-scales. Seen in *Appendix 2*, statements 1, 2, 3, 4 assess social awareness of their claims the aggregate score shows how well the respondent is feeling the emotions and behavior of their communication partners. Statements 5, 6, and 7 describe the social awareness that expresses understanding their peers and accepting differences.

For the cooperation skills construct, here are seven statements in the questionnaire *(Appendix 3*) The total score of statements shows how well the respondent is able to work together and communicate in a team-based on three aspects: group engagement, group communication and teamwork.

The measurement tool for personal initiative is established by Frese et al. (1997). It consists of 11 statements and is based on Principal Component Analysis presented in three factors: purposeful acting (e.g. “Every problem is a challenge for me that I want to solve immediately”); taking initiative (e.g. “If I see something I do not like, I fix it”); and inclusion of others (e.g. “I find easily people who follow my activities and me”).

Also, a total of four communication constructs are assessed: social awareness, self-management, relationship management, and responsible decision-making. The communication questionnaire was based on Zhou and Ee (2012) Social-Emotional Competence Questionnaire. The questionnaire consists of two sub-scales: relationship management (for example, "I always apologize for being inadvertently offended) and social awareness (four statements, such as “I understand why people behave exactly as they behave”).

The cooperation questionnaire is compiled on the basis of Lower, Newman and Anderson-Butcher's (2015) teamwork questionnaire, which had seven statements (e.g., "I value the contributions of other groupmates").

Before deeper analysis, constructs under the study of this research are evaluated for reliability and validity. Cronbach's Alpha shows the internal consistency of the variables being analyzed. The acceptable range should be at least 0.70, and the higher the coefficient, the better (Coakes et al., 2009). In this research, personal initiative is analyzed as one factor as well as by three factors. The internal reliability variable Cronbach α is 0,84.

The reliability test on communication is done by exploratory factor analysis. Results show that the questionnaire has two subscales: relationship management (factor loadings 0.60-0.84) and social awareness (factor loadings 0,72 –0,91). Confirmative factor analysis model model fit scores are very good (X 2 = 231,12, df = 26, p < 0,01; CFI = 0,95, TLI = 0,93, RMSEA = 0,08).

Results of exploratory factor analysis on cooperation competence show that the questionnaire was one-factor one (factor loadings 0,72– 0,82). Confirmative factor analysis model fit indicators were good (X 2 = 159,92, df = 14, p < 0,01; CFI = 0,96, TLI = 0,94, RMSEA = 0,10).

2.4. Method of Data Analysis

Well-structured administered questionnaires are delivered to the students online. Both descriptive and inferential statistical techniques are used to analyze the data obtained and test the hypotheses formulated through the help of a software program such as Statistical Package for Social Scientists (SPSS Version 20).

A coefficient of correlation analysis is carried out to measure the association between the three constructs. Because the data is ordinal in nature, the Spearman rank-order correlation is used. In addition, it does not assume any linear relationship between variables but simply a monotonic one. The use of both descriptive and inferential analysis tools are adopted to the research for effective analysis. Hypotheses are tested at 0.05 (95% level of confidence) alpha level.

The 9 hypotheses tested here are:

H_1: There is no significant relationship between personal initiative and communication competence pre-course

H_2: There is no significant relationship between personal initiative and cooperation competence pre-course

H_3: There is no significant relationship between communication and cooperation competence pre-course.

H_4: There is no significant relationship between personal initiative and communication competence post-course

H_5: There is no significant relationship between personal initiative and cooperation competence post-course

H_6: There is no significant relationship between communication and cooperation competence post-course

H_7: There is no significant difference between personal initiative pre-course and post-course

H_8: There is no significant difference between communication competence pre-course and post-course

H_9: There is no significant difference between cooperation competence pre-course and post-course.

2.5. Limitation of Methodology

The research methodology is limited to the use of one course to develop the competencies assessed in the students. Future research could introduce more courses to make it a more robust study. The methodology used for this research does not use a control group to further validate the results of the study.

3. DATA PRESENTATION AND ANALYSIS

This chapter focused on the presentation of data gathered from the questionnaire conducted. Data gathered are from 824 respondents studying various courses in Estonian Universities. Data size is large to provide more precise estimates of the process parameters.

3.1. Frequency Distribution of Data

Table 3.1. shows how the data were distributed and how they deviate from one another. The results of the descriptive analysis for the demographic data are found in Table 3.1. below:

	N	Minimum	Maximum	Mean		Std. Deviation
				Statistic	Std. Error	
Age	824	17.00	57.00	26.0910	0.23655	6.79040
Gender	824	1.00	2.00	1.5061	0.01743	0.50027
Level of education	824	1.00	3.00	2.6080	0.01929	0.55378
Speciality	824	1.00	2.00	1.3908	0.01701	0.48822
Job next to studies	824	1.00	2.00	1.3726	0.01685	0.48378
Male parent self-employed	824	1.00	2.00	1.7961	0.01404	0.40313
Female parent self-employed	824	1.00	2.00	1.5971	0.01710	0.49078
Family members self-employed	824	1.00	2.00	1.6274	0.01685	0.48378
Close friends self-employed	824	1.00	2.00	1.3192	0.01625	0.46644
Entrepreneurship education courses	824	1.00	2.00	1.2488	0.01507	0.43257

Table 3.1 Mean and Standard deviation of demographics of the data sample.
Source: Author's Compilation

The highest mean score of the distribution is within 26.09 (age) and 2.61 (level of education). The highest standard deviation indicates that the ages of respondents are greatly spread in the data. (S=6.7904), with the youngest respondent as 17 years of age, and the oldest, 57. Students of ages 23 and 19 were the highest represented ages across the data sample with frequencies of 10.3% and 10.1%. *(Appendix 4*)

There is a more even spread of the data for all other parameters measured. Respondents are in different institutions undergoing programs that spread across various disciplines (labeled as Speciality). However, the frequency distribution of students registered for non-business specialty program is about one-third of the sample size. The larger 60.9% are studying business-related programs *(Appendix 5).*

3.2. Inferential Analysis

IBM SPSS (Statistical Package for Social Sciences) version 20 spearman rank-order correlation was used to analyze and compare the significance of the three constructs, i.e, personal initiative (PI), communication competence (COM), and cooperation competence (COP).

3.2.1. Analysis of Spearsons's Coefficient of Correlation for PI, COM, COP Pre-Course

In a bid to test hypotheses 1, 2, and 3, Spearman's rho correlation is used. This analysis depicts the relationship between personal initiative, communication, and cooperation competencies.

Table 3.2: Spearman Rho Correlations on PI, COM and COP pre-course

			PIprecourse	COMprecourse	COPprecourse
Spearman's rho	PIprecourse	Correlation Coefficient	1.000	.391**	.395**
		Sig. (2-tailed)		0.000	0.000
		N	824	824	824

	COMprecourse	Correlation Coefficient	.391**	1.000	.611**
		Sig. (2-tailed)	0.000		0.000
		N	824	824	824
	COPprecourse	Correlation Coefficient	.395**	.611**	1.000
		Sig. (2-tailed)	0.000	0.000	
		N	824	824	824

**. Correlation is significant at the 0.05 level (2-tailed).
Source: author's compilation

According to table 3.2, there is a weak but positive correlation between personal initiative and communication competence as well as personal initiative and cooperation skills (0.39 & 0.395 respectively). On the other hand, communication and cooperation competencies show a strong and positive correlation at 0.611 (61.1%).

The analysis was done at a confidence level of 95% at a two-tailed test, with the P-values computed at 0.000 respectively for all the constructs.

It is the author's opinion that with regards to the result generated from the correlation table above, it can be inferred that the personal initiative of students is mostly not affected by either communication or cooperation competencies. Whereas, correlation and communication are strongly correlated. This means that a student who is highly skilled or competent in communication has a 61% probability of being competent in cooperation skills too and vice-versa.

Decision Criteria

We accept the null hypothesis when the P-value is higher than the alpha value at 0.05. We reject the null hypothesis when P-value is lower than the Alpha value. In this case, P-value is lower (0.00) than the alpha value at 0.05 for all the three constructs. Therefore, we reject null hypothesis H_4 which states that there is no significant difference between personal initiative and communication competence pre-course. We also reject the null hypothesis H_5, which states that there is no significant difference between personal initiative and cooperation competences pre-course. Furthermore, we reject hypothesis H_6, which states that there is no significant relationship between communication and cooperation pre-course. Hence we accept the alternative hypotheses to H_4, H_5, and H_6.

We are therefore 95% confident that there is a significant relationship between personal initiative, communication skills, and cooperation competencies.

3.2.2. Analysis of Spearman's Rho Coefficient of Correlation for PI, COM, COP Post- Course

This test seeks to test null hypotheses 4, 5 and 6 using Spearman's Coefficient of Correlation. It tells whether there are relationships between personal initiative, communication, and cooperation

competencies after university students participated in an entrepreneurial course. The analysis was done at a confidence level of 95% at a two-tailed test.

Table 3.3: Spearman Rho Correlations on PI, COM and COP post-course

			PIpostcourse	COMpostcourse	COPpostcourse
Spearman's rho		Correlation Coefficient	1.000	.507**	.560**
		Sig. (2-tailed)		0.000	0.000
		N	824	824	824
	COMpostcourse	Correlation Coefficient	.507**	1.000	.602**
		Sig. (2-tailed)	0.000		0.000
		N	824	824	824
	COPpostcourse	Correlation Coefficient	.560**	.602**	1.000
		Sig. (2-tailed)	0.000	0.000	
		N	824	824	824

**. Correlation is significant at the 0.05 level (2-tailed).
Source: Author's Computation

The above table 3.3. shows a positive and moderate correlation (0.507) between personal initiative and communication competence after the students participated in the course. The same is true of the relationship between personal initiative and cooperation competence, which indicates a correlation coefficient of 0.56 (56%). The relationship between communication skills and cooperation skills is positively moderate after participation in the entrepreneurial course. Indicative of this is the coefficient score of 0.602 (60.2%).

P-values computed at 0.000 respectively for all the constructs at a 95% level of confidence.

In the opinion of the author, results generated from the correlation table above show that the personal initiative of students is moderately affected by both communication or cooperation competencies. Likewise, communication and cooperation are moderately correlated at 0.60. This means that a student who is highly skilled or competent in communication has a 60.2% probability of being competent in cooperation skills too and vice-versa.

Decision Criteria

We accept the null hypothesis when the P-value is higher than the alpha value at 0.05. and we reject the null hypothesis when P-value is lower than the Alpha value. In this case, P-value is lower (0.00) than the alpha value at 0.05 for all the three constructs. Therefore, we reject null hypotheses H_4, which states that there is no significant difference between personal initiative and communication competence post-course. We also reject the null hypothesis $H_{5,}$ which states that there is no significant difference between personal initiative and cooperation competence post-course. Finally, we reject the null hypothesis $H_{6,}$ which states that there is no significant difference between communication and cooperation competencies post-course. Hence we accept the alternative to hypotheses $H_{4,}$ $H_{5,}$ and H_6.

We are therefore 95% confident that there is a significant relationship between personal initiative, communication, and cooperation competencies after the course.

3.2.3. Analysis for the Differences Between PI, COM and COP Pre- and Post-course Using the Wilcoxon Signed-rank Test

At the end of the semester, a competence post-test is once again administered to see whether there is a change in the students‘ competence scores after taking the subject. To check for differences, the Wilcoxon signed-rank test is used. This test is a non-parametric distribution test that is designed to evaluate the difference between two repeated and dependent measures. It performs similar functions as does the paired t-test but is more appropriate for ordinal data. The test is done using the SPSS software.

Table 3.4: Wilcoxon signed-rank Test (Mean)

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
PI precourse	824	41.0907	7.04391	12.08	60.38
COM precourse	824	36.4268	6.79723	12.08	55.42
COP precourse	824	20.4014	4.65040	7.29	30.71
PI postcourse	824	44.9562	7.22607	18.08	60.38
COM postcourse	824	43.2565	6.09805	16.17	55.42
COP postcourse	824	25.0454	3.55956	10.14	30.71

IBM SPSS v.20
Source: Author's Computation

Looking at Table 3, the mean values for the three competencies are higher for the post-test than for the pre-test.

Table 3.5 below also shows that there are 517 cases out of 824 where the post-test score for Personal Initiative (PI) was higher than the pre-course score. There were 15 cases of equal scores. For communication competence (COM) post-course score ranked higher by 607 cases to a pre-course score of 202. From the table, cooperation competence (COP) post-course score was much higher in 620 respondents when compared to the lower pre-course score in 158 respondents and ties of 46.

Decision Criteria

There is a positive difference (i.e an increase) in the values of personal initiative, communication and cooperation competencies of students after participation in an entrepreneurial course.

Table 3.5: Wilcoxon signed-rank Test (Ranks)

		N	Mean Rank	Sum of Ranks
PIpostcourse – PIprecourse	Negative Ranks	292[a]	337.80	98639.00
	Positive Ranks	517[b]	442.95	229006.00
	Ties	15[c]		
	Total	824		
COMpostcourse – COMprecourse	Negative Ranks	202[d]	253.05	51116.00
	Positive Ranks	607[e]	455.57	276529.00
	Ties	15[f]		
	Total	824		
COPpostcourse – COPprecourse	Negative Ranks	158[g]	219.06	34611.50
	Positive Ranks	620[h]	432.93	268419.50
	Ties	46[i]		
	Total	824		

a. PIpostcourse < PIprecourse

b. PIpostcourse> PIprecourse

c. PIpostcourse = PIprecourse

d. COMpostcourse < COMprecourse

e. COMpostcourse > COMprecourse

f. COMpostcourse= COMprecourse

g. COPpostcourse < COPprecourse

h. COPpostcourse > COPprecourse

i. COPpostcourse= COPprecourse

IBM SPSS v.20
Source: Author's Computation

Table 3.6: Wilcoxon Signed Ranks Test (Z-Statistics)

Test Statistics[a]			
	PIprecourse – PIpostcourse	COMprecourse – COMpostcourse	COPprecourse – COPpostcourse
Z	-9.804[b]	-16.952[b]	-18.645[b]
Asymp. Sig. (2-tailed)	0.000	0.000	0.000
a. Wilcoxon Signed Ranks Test			
b. Based on negative ranks.			

SPSS v20
Source: Author's Compilation

From Table 3.6, it is shown that Z-statistics for personal initiative, communication, and cooperation competencies are -9.80, -16.95, and -18.64 respectively. Also, alpha is less than 0.05 for all three competencies (95% Confidence Interval)

Decision Criteria

Hence, we reject the null hypothesis which states that there is no significant difference between personal initiative pre-course and post-course. We, therefore, accept the alternative and conclude that the difference between the personal initiative of students is significantly different after participation in an entrepreneurial course.

Furthermore, we reject the null hypothesis that states that there is no significant difference between communication competence pre and post-course. Hence, we accept the alternative hypothesis, concluding that we are 95% confident that there is a significant difference in the communication competence of students after participation in an entrepreneurial course.

Finally, we reject null hypothesis 9 also, which states that there is no significant difference between cooperation competence pre-course and post-course, and we accept the alternative. It is concluded that

the difference between the cooperation skills of students increases significantly after participation in an entrepreneurial course.

4. SUMMARY, CONCLUSION, AND RECOMMENDATION

This chapter focuses on the research summary of the findings, conclusions as well as recommendations made on the basis of tests conducted. As stated in the introduction, the research paper aims to compare personal initiative, communication, and cooperation competencies, in order to determine if significant relationships exist between personal initiative and communication competence, personal initiative and cooperation competence, and lastly, between communication and cooperation competencies. This chapter also seeks to test whether there is any significant difference in the competencies after participation in an entrepreneurial course.

4.1. Summary of Findings

The findings revealed that personal initiative, communication, and cooperation competencies are significantly related, both before and after participation in an entrepreneurship course. With the help of Spearman's coefficient of correlation at a confidence level of 95%, all three constructs show positive moderate correlations. The findings show that possession of one of the competencies examined could trigger and encourage the development of the other two competencies. In other words, possession of strong communication skills seems to influence the development of personal initiative and cooperate with others. The same is true of the influence of personal initiative on communication and cooperation competencies. The results of the research also showed that a student who exhibits strong cooperation competencies has a good chance of being competent in communicating well, and would also possess the ability to take initiative as an entrepreneur. This implies that a lack of any one of the competencies is most likely (95%) an indication of the lack of the other two. Although the correlation of personal initiation, communication, and cooperation competencies is significant, it is rather moderate, than strong.

Furthermore, the research finds a significant difference in the personal initiative, communication, and cooperation competencies of students after participation in an entrepreneurship course. With the help of the Wilcoxon Signed Ranks Test (Z-Statistics), it was seen that all three competencies show a significant increase after participating in an entrepreneurship course. The greatest increase is seen in

cooperation competence, which shows 620 cases of higher post-course scores against 158 cases of lower post-course scores. Communication competence has 607 cases of improved scores after participation in the entrepreneurial course against 202 negative cases. The least increase is seen in personal initiative, with a total of 517 positive cases, and 292 negative cases. This result confirms the submission of Volery, Mueller & Von Siemens (2015) that entrepreneurship competencies can be taught and learned. Even though from this study, students exhibit a significant relationship among the three competencies (pre-course), results were greatly improved upon after taking part in the entrepreneurial course.

4.2. Conclusions

The conclusion of the study result is that there is a moderate positive correlation between personal initiative, communication, and cooperation competencies; both before participation in an entrepreneurial course. (Table 3.2) and after participation in a course (Table 3.3). Therefore, while personal initiative can be used, to a large extent, to predict communication and cooperation competencies; communication competence can also be used to predict personal initiative and cooperation skills. Similarly, cooperation competence can be a fairly accurate predictor of communication and personal initiative competencies.

Judging from the results of the Wilcoxon Signed Ranks Test, it is commendable how the positively influential entrepreneurship course taken in just one semester can be on the personal initiative, communication, and cooperation skills of students.

4.3. Recommendation

Personal initiative, communication, and cooperation competencies are transferrable skills, which are useful to both would-be entrepreneurs and any kind of profession. Therefore, more efforts should be put into the restructuring of university curricula to inculcate entrepreneurship courses into the curriculum for all programs and at all levels. This research has established that personal initiative, communication, and cooperation competencies are mainly developed through entrepreneurship

courses. Therefore, it is highly recommended that a comparative study be done. The study should have a control group which would not be subjected to the entrepreneurial course.

It is also recommended that more entrepreneurial courses be used used in subsequent research work to give a more robust study.

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APPENDICES

Appendix 1. Questionnaire on Personal Initiative (PI)

1. Every problem is a challenge for me that I want to solve immediately.
2. If there is a possibility to be actively involved, I use this possibility immediately.
3. I take initiative immediately even when others don't.
4. I have been usually a powerful force for constructive change.
5. Nothing is more exciting than seeing my ideas turn into reality.
6. If I see something I do not like, I fix it.
7. No matter what the odds, if I believe in something I will make it happen
8. If I believe in an idea, no obstacle will prevent me from making it happen
9. I take initiative immediately even when others don't.
10. I am particularly good at realizing ideas.
11. Including and involving others is elementary for me.
12. I find easily people who follow my activities and me.
13. I am very good at generating new ideas.

Appendix 2. Questionnaire on Communication Skills (COM)

1. I can see by looking in the person's face what kind of emotion he has.
2. It is easy for me to understand why people feel one way or another.
3. I understand why people act the way they do.
4. When my partner is upset, I quite well envision the reason.
5. I always apologize when I unintentionally insult someone´s feelings.
6. I always try to console my companions when they are sad.
7. In conflict situations, I try not to criticize my partner.
8. I am tolerant of my partners' mistakes.
9. I stand up for myself without belittling others.
10. I stay calm and get over the opposition in new or changed situations.
11. I can manage my feelings if something goes wrong.
12. When I am annoyed by someone or something, then I calm down before I start discussing the matter.

Appendix 3. Questionnaire on Cooperation Skills (COP)

1. I think that cooperation and teamwork are important.
2. I know how to give my team members feedback that will not hurt their feelings.
3. I ask others for feedback.
4. I make an effort to include other members of my group.
5. I value the contributions of my team members.
6. I treat my team members as equal members of the team.
7. I am able to cooperate with different kinds of people.

Appendix 4. Frequency Table (Age)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17.00	2	0.2	0.2	0.2
	18.00	16	1.9	1.9	2.2
	19.00	83	10.1	10.1	12.3
	20.00	61	7.4	7.4	19.7
	21.00	56	6.8	6.8	26.5
	22.00	80	9.7	9.7	36.2
	23.00	85	10.3	10.3	46.5
	24.00	55	6.7	6.7	53.2
	25.00	49	5.9	5.9	59.1
	26.00	38	4.6	4.6	63.7
	27.00	37	4.5	4.5	68.2
	28.00	40	4.9	4.9	73.1
	29.00	18	2.2	2.2	75.2
	30.00	33	4.0	4.0	79.2
	31.00	20	2.4	2.4	81.7
	32.00	19	2.3	2.3	84.0
	33.00	19	2.3	2.3	86.3
	34.00	14	1.7	1.7	88.0
	35.00	17	2.1	2.1	90.0
	36.00	11	1.3	1.3	91.4
	37.00	7	0.8	0.8	92.2
	38.00	8	1.0	1.0	93.2
	39.00	13	1.6	1.6	94.8
	40.00	4	0.5	0.5	95.3
	41.00	3	0.4	0.4	95.6
	42.00	9	1.1	1.1	96.7
	43.00	7	0.8	0.8	97.6
	44.00	1	0.1	0.1	97.7
	45.00	4	0.5	0.5	98.2
	46.00	1	0.1	0.1	98.3
	47.00	4	0.5	0.5	98.8
	48.00	1	0.1	0.1	98.9
	49.00	5	0.6	0.6	99.5
	53.00	1	0.1	0.1	99.6
	54.00	1	0.1	0.1	99.8
	56.00	1	0.1	0.1	99.9
	57.00	1	0.1	0.1	100.0
	Total	824	100.0	100.0	

Appendix 5. Frequency Table (Speciality)

Specialty					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business Course	502	60.9	60.9	60.9
	Non Business Course	322	39.1	39.1	100.0
	Total	824	100.0	100.0	

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