

THE IMPACT OF MENTORING ON START-UPS

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ABSTRACT

THE IMPACT OF MENTORING ON START-UPS

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The purpose of this study is revealing the strengths and weaknesses of an entrepreneurial mentoring program and having information about the impact of this program. To do this, formal mentoring program which is provided to entrepreneurs that have been established their companies with public support in Turkey between 2012 and 2015 were investigated. First, literature review was done to reveal the expected outcomes and the evaluation methods of mentoring programs. Thus, mentoring functions and performance indicators have been determined. Afterwards, data were obtained from a total of 224 entrepreneurs through online survey and telephone interviews. 122 of this data gathered from mentored and the other 102 is gathered from non-mentored entrepreneurs. The performance of these two groups has been compared firstly. Then, the perception and the satisfaction levels on mentoring functions of the mentored entrepreneurs were analyzed. As a result; there was no difference found between the mentored and non-mentored groups according to the increased number of employee, investment and sales criteria. On the other hand, the numbers of patents in the mentored group are significantly higher than the other group. In addition, while it is found that the entrepreneurs are not satisfied on network, reflection and role model functions of their mentors, they are satisfied on information, advice and motivation functions. Recommendations have been made according to these findings for more effective implementation of the mentoring programs in this study.

Keywords: Mentor, Entrepreneur, Evaluation, Impact, Start-up

ÖZ

GİRİŞİM FİRMALARI ÜZERİNDEKİ MENTORLUK ETKİSİ

AYDOĞDU, Esra

Yüksek Lisans, Bilim ve Teknoloji Politikası Çalışmaları Bölümü

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Bu çalışmada, girişim firmaları için yürütülen bir mentorluk programının, güçlü ve zayıf yönlerini ortaya koymak ve programın etkisine ilişkin bilgi elde etmek amaçlanmıştır. Bunun için, Türkiye’de 2012-2015 yılları arasında kamu desteği ile kurulmuş girişim firmalarına sağlanan bir resmi mentorluk programı ele alınmıştır. Öncelikle, mentorluk ile elde edilmesi beklenen çıktılar ve bu programların değerlendirilmesine dair literatür taraması yapılarak mentorluk işlevleri ve performans göstergeleri belirlenmiştir. Daha sonra, çevrimiçi anket ve telefon mülakatları aracılığıyla, 224 girişimciden veri elde edilmiştir. Bu verilerin, 122’si mentorluk alan, 102’si ise mentorluk almayan gruba aittir. İlk aşamada, mentorluk desteği alanlar ile almayanların performanslarının karşılaştırılması yapılmıştır. Daha sonra, mentorluk alan grup içinde, mentorluk fonksiyonlarına dair girişimcilerin algı düzeyleri ve tatmin düzeyleri analiz edilmiştir. Sonuç olarak; mentorluk alan ve almayan grup arasında, personel sayısı artışı, yatırım ve satış ölçütlerine göre bir farklılık bulunmamıştır. Diğer yandan, mentorluk alan firmaların sahip olduğu patent sayısı, mentorluk almayan gruba göre önemli düzeyde yüksek çıkmıştır. Beraberinde, mentorluk alan girişimcilerin, programdaki mentorun ağ sağlama, ayna tutma ve rol model işlevlerinden tatmin olmadıkları sonucu elde edilirken; bilgi sağlama, tavsiye verme ve motive etme işlevlerinden tatmin oldukları ortaya çıkmıştır. Çalışmada ayrıca, elde edilen bulgular sonucunda, mentorluk programlarının daha etkin bir şekilde yürütülmesi için öneriler sunulmuştur.

Anahtar Kelimeler: Mentör, Mentor, Girişimci, Değerlendirme, Mentorluk Etkisi

To my beloved son,

Can Bora Aydođdu

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LIST OF ABBREVIATIONS

| | |
|---------|---|
| GEM | Global Entrepreneurship Monitor |
| IPA | Importance Performance Analysis |
| KOSGEB | Small and Medium Industry Development Organization |
| MIT | Massachusetts Institute of Technology |
| MRI | Mentor Role Instrument |
| TRY | Turkish Lira |
| TTO | Technology Transfer Office |
| TÜBİTAK | Scientific and Technological Research Council of Turkey |
| US | United States |
| VC | Venture Capital |

CHAPTER 1

INTRODUCTION

In today's technology age, science and technology can be shown as the main factors for competition and social welfare. Various science and technology policies have been implemented by countries in order to conserve their place on the list or to take part in this competition.

Innovation, which is in a very close relationship with science and technology, often referred as a key driver for economic growth (OECD, 2010). The word is originally "innovatus" in Latin that means doing something new and different (Drucker, 1998). Borrás and Edquist (2013) defined innovation as "new creations of economic and societal significance, primarily carried out by firms". It is not the target itself, but rather, an instrument of political goals that can be achieved in a wider context, such as economic development, employment, social welfare and so on.

Schumpeter (1883-1950), the most known economist emphasized the role of innovation in the economy. He defined the innovation as a "process of industrial mutation, that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one" (Schumpeter, 1942). In his Economic Development Model, entrepreneur is the one who enables innovation, or in other words creates the changes. That is why the term entrepreneur is frequently used with economic concerns and found interesting by the policy-makers. But apart from this, they also have a potential to develop solutions for the environmental problems (Ahmad and Seymour, 2008). Still, the popularity of the concept is based on its relationship with the economy.

Although it is hard to evaluate its economic impact (Breschi et al., 2018), the positive effect of entrepreneurship on economic development is widely accepted (e.g. Wong et al., 2005; Sanchez-Burks et al., 2017; Janáková, 2015). However, most of the start-ups cannot survive or grow despite this significant role. Nevertheless, a very small portion of these companies (those who create economic impact) can perform rapid growth, but this contains many

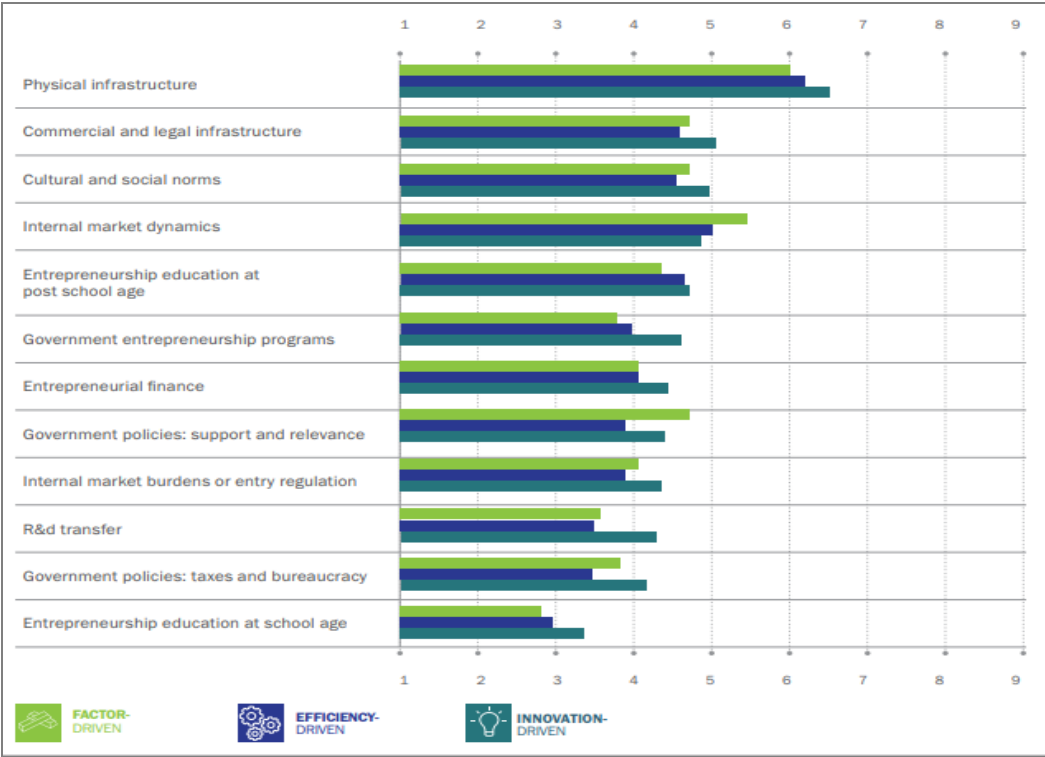
dynamics which emerges a serious problem for policy makers (Decker et al., 2014). In brief, only innovative initiatives can realize the expected impact.

Schoar (2010) expressed the reason of this problem in a more comprehensive way. She explained the difference between entrepreneur types. The first group, subsistence entrepreneurs are those who earn their own salary (maybe for the family members additionally) but the second one, transformational entrepreneurs are those who want to create 'change' and pursue for the real impact in the society. These are the owners of high-growth companies and can be defined as 'true engine' for economic development. She suggested that, countries should focus on to select and support these entrepreneurs. This is a crucial suggestion for countries who allocate huge budgets to support entrepreneurship.

Some policy makers who considered this suggestion are interested in high-growth start-up companies due to their role in creating jobs (not only for themselves also for others), and they intend to develop approaches to increase the numbers of these firms (OECD, 2010). Growth is defined as a change in amount or the process that causes this change (Davidsson et al., 2005) and generally point out the job creation or profitability. But growth needs much desire and skill, also the effect of some facilitators or barriers in the environment should not be ignored (Davidsson et al., 2005). In the conceptual framework of GEM (2017), some environmental features are defined as a measurement (or prerequisite with better description) of intention about entrepreneurial activities. These features and the perception of the importance level on each one are shown in figure below. We can interpret this figure as a necessity of an ecosystem to perform entrepreneurship activities; additionally, how challenging to be an entrepreneur. According to Figure 1, many dynamics such as cultural norms, internal market dynamics, entry regulations are in relation with entrepreneurship activities and it is obvious that, the support they need is not only financial, but also something more.

Mentoring is often referred as an alternative way to give support to entrepreneurs and start-up owners. Many studies suggest that mentoring is an effective way for start-ups to overcome the difficulties in their first years (e.g. Baron 1998; Rigg and O'Dwyer, 2012; St-Jean, 2011; Cope and Watts, 2000). Although mentoring is typically defined as a relationship between a young adult and an experienced older person in order to develop the younger one (Kram, 1983), the definition of concept is quite different in the context of entrepreneurship.

Traditional mentoring roles and functions should be redefined when the subject is start-up mentoring (Waters et al., 2002). Shortly, it is a support mechanism provided by an ex-entrepreneur to prevent the new entrepreneur making deadly faults (St-Jean, 2011). The point here is, the mentor is a former entrepreneur. It means, they have walked on the same path and faced with similar difficulties. Although there are some other conditions, the valuable part of the relationship based on this.



Source: Monitor, G. E. (2017)

Figure 1: Importance level of entrepreneurship dynamics

Sullivan (2000), while investigating how an effective mentoring mechanism should be in line with the needs of entrepreneurs, defined the mentoring as a ‘learning tool’. He emphasized the importance of learning for entrepreneurs and asserted that it is a critical factor for small firm survival and growth. Many other studies (e.g. Deakins et al., 1998; Cope and Watts, 2000, Sanchez-Burks et al., 2017) also highlighted the learning concept and the role of the mentor on entrepreneurial mentoring. They defined mentoring similarly as an essential support for entrepreneurs.

However, implementing effective mentoring mechanisms are quite problematic. This is probably due to the lack of definition of the mentor functions and outputs on this context. It is difficult to develop effective mentoring mechanisms for some reasons such as programs are not well-designed or program administrators are not aware of success criteria, so there is still a barrier for entrepreneurs to benefit from mentoring relationships (Sanchez-Burks et al., 2017). But it is essential to know for program administrators what should be expected at the end of these mentoring programs. Further, what happened (or did not happen) to these entrepreneurs or start-ups after completing the mentoring program. These concerns are all point out the evaluation processes.

To implement evaluation mechanisms, for sure, the ideal way to define the success criteria is during the program design. At that time, outcomes of the programs should be clarified considering the program purpose (Grossman, 2005). We should highlight something at this point which is very crucial for evaluation. One must know that success criteria of the program should be measurable.

Naudé (2014) mentioned the difficulties of supporting innovative entrepreneurship based on the lack of evaluation mechanisms that measure what does and what doesn't work. Many evaluation studies do not clearly reveal the impact of the interventions, besides most of them are based on qualitative data. Therefore, he suggested that, quantitative studies that will emerge evidence are needed for impact analysis.

Furthermore, many public and private resources are allocated for mentoring support. In addition, participants spend a lot of time and effort for this relationship. More importantly, the entrepreneurs or start-up owners can take risks (which may not be reasonable in some cases) as a result of mentor advices. That is why mentoring programs deserve attention for evaluation processes (McMullan et al., 2001).

In this thesis study, to reveal the impact of mentoring programs on the start-up companies which are initiated with the public support in Turkey is targeted. After the introduction in Chapter 1, the study begins with a comprehensive explanation of mentoring concept and then focuses on entrepreneurial mentoring in Chapter 2. The most important contribution here is, to emerge the functions and outputs (which refers to success criteria actually) of entrepreneurial mentoring relationship. Subsequently, in Chapter 3 the methodology of the

study is explained with the related information about selected methods. The data (both qualitative and quantitative) is collected through an online survey which is developed based on the revealed outputs of mentoring. The analysis is done with selected methods. Results are discussed with the help of the tables and figures. Finally, in Chapter 4, the findings are summarized and the study is concluded with recommendations for policy makers and future researches. The content map of the study is given in Figure 2 below to guide the reader.

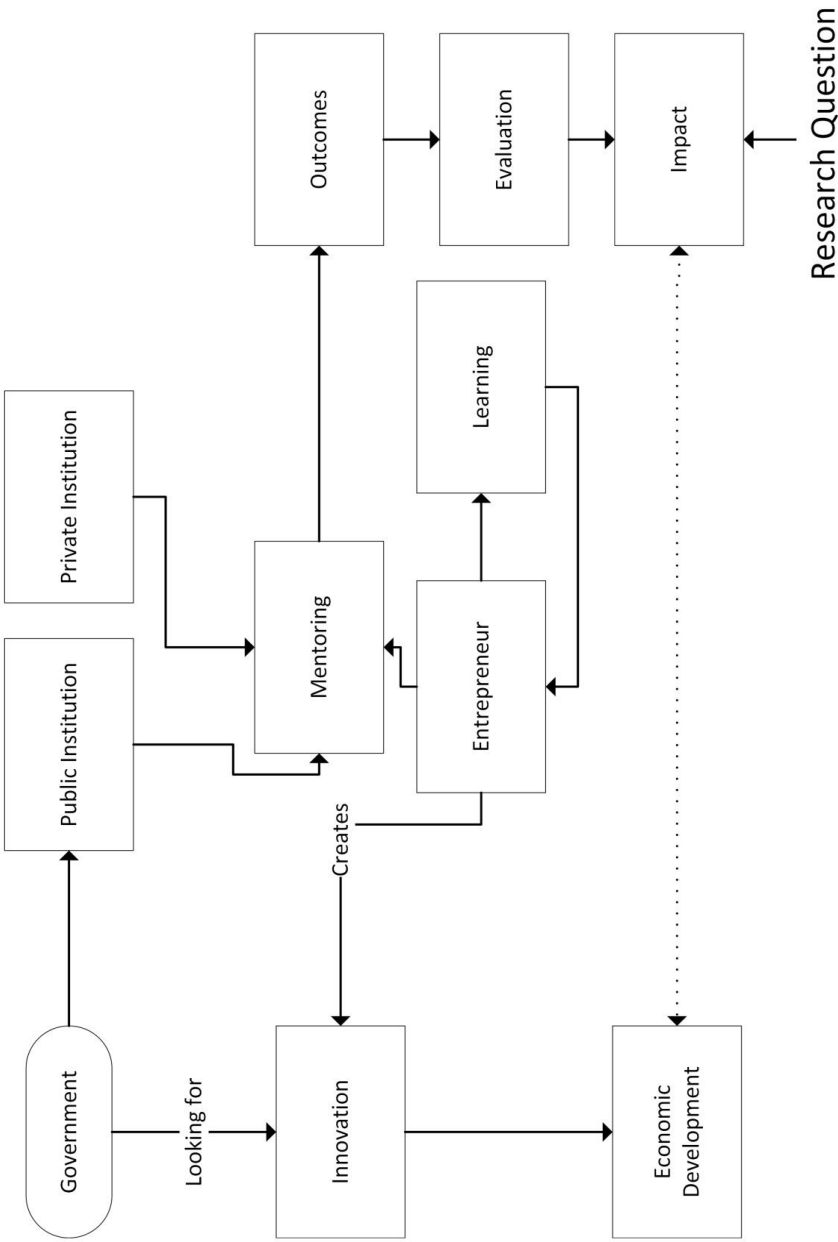


Figure 2: The content map of the study

CHAPTER 2

LITERATURE REVIEW

In this chapter, basic definitions, explanations and interpretations of the mentoring concept will be given as a result of the literature review. We will start with widely accepted mentoring definitions and functions, and then these definitions will also be considered in an entrepreneurial context. Then, in order to answer the main question of the study, the available methods for measurement of mentoring impact will be discussed. For sure, methods and definitions used in the study will be formed in the light of this literature review.

2.1. Mentoring

The term mentoring, which is used in different areas such as academic, business, education, law or health, is originated from the trustworthy friend of Odysseus called ‘Mentor’ in Homer’s *Odyssey* (Donovan, 1990). According to the story, Mentor represents a wise and strong person who educated the son of Odysseus.

Although the first use of the word depends on very ancient times, common definitions in the literature belong to Kathy Kram who revealed the basic principles of mentoring. She defined the mentoring as a relationship between an experienced and a less experienced individuals for the purpose of helping the career and business activities of the less experienced one (Kram, 1983). In her definition, the relationship takes place entirely in the corporate environment. While young individual is the one who has just met with the working life and searching for a support for the possible difficulties in the organization, the older one is probably in the midlife/mid-career period. She pointed out the satisfaction of the older individual through mentoring and suggested that both sides benefited from this relationship.

Hunt and Michael (1983) similarly described the mentoring as career training and a developmental tool, at the same time they highlighted the supportive and advisory role of the term and stated that in many occupations and organizations, mentoring can be used to train and develop talented new employees. Additionally, mentioning the mentor as a successful person, they studied to expand the mentoring frame and point out some important attributes

about this complicated relationship. Mentors are defined in the study as self-sufficient professionals who are volunteer to share their knowledge with helping others instinct and do not feel jealous about protégé's development.

Mentor can be referred to a high-positioned and powerful person in the business environment who assigned to provide support for the newly-recruited employee (Ragins and McFarlin, 1990). Natively, mentoring is a tool for contributing both personal and professional growth for young adults (Kram and Isabella, 1985) and can be summarized as a developmental relationship between junior and senior employees (Allen and Poteet, 1999). With a different approach, mentoring can be defined as an identity discovery for the younger individual through mentor's knowledge and personality (Cox, 2005).

After 20 years of their first study on the subject, Ragins and Kram (2007) who have significantly contributed to the mentoring literature, compiled their studies and added a philosophical approach to the definition of mentoring. By referring to the importance of human relations, they stated that people can achieve the things through mentoring which they think they cannot do, or even change the direction of their lives. Based on this, they redefined mentoring as a relationship that provides 'learning' for both sides. This learning issue will be discussed in the following sections.

For sure, the definition and the use of mentoring are not limited with organizational context. When the subject moves to a broaden area, the younger individual in this relationship is generally mentioned as a 'mentee'. However, the young employee assigned to a mentor is usually called 'protégé' in an organizational context (El Hallam and St-Jean, 2016).

Clutterbuck (2004) defined the mentoring process as a transfer of knowledge, from one side to the other on a particular subject. He also described mentoring in a comprehensive way in his study of a book called "Everyone Needs a Mentor". According to him, there are two main approaches of mentoring. First one is US-based that emphasize on supporting and protecting role of mentoring that is why the younger individual is called 'protégé' (it means someone who is protected). The second approach originated from Europe and emphasize on helping the mentee (not protégé) for learning, self-awareness and making better decisions. Entrepreneurial mentoring which will be discussed in this thesis, belongs to the second approach.

In his another study (Clutterbuck, 2014), many good samples are given about mentoring programs in numerous areas which are aimed to help the students, entrepreneurs, teenagers, refugees, criminals or minorities. To represent one, in some schools mentoring support up to 2 years is provided for newcomers, to help for the adaptation. Or another mentoring program is available for young people who have difficulty in having a job. The main benefit of this relationship is to ‘learn from others’ experiences’ (Clutterbuck, 2014). Considering the developmental nature of the mentoring, learning should be one of the expected outputs of this relationship.

2.1.1. Mentoring vs Coaching

The terms mentoring and coaching are often confused or used interchangeably (Sanchez-Burks et al., 2017). Related with this debate, it is necessary to detail and clarify the difference. Coach is mentioned as a kind of ‘carriage’ in the Oxford dictionary and the origin of the word goes back to the early 18th century. The concept has evolved and generally defined as a process to carry people from one point to another.

The difference between two concepts is explained in similar ways by the researchers. Chakravarthy (2011) separated these terms and stated that; while coach focuses on the mission and aiming to teach necessary knowledge and skills to realize it; mentor focuses on the mentee herself/himself rather than the task. Changes in behavior and attitudes are the main concern in mentoring relationship. Likewise, Parsloe (1992) differentiated the terms before, and in addition emphasized that, coaching is a short-term relationship, on the other hand mentoring generally refers as a long-term relation. Although Clutterbuck (2008) who had some doubts about this issue, explained the difference (if any) with describing the coaching as a ‘performance-oriented’ relationship while the mentoring does not focus only on career advance but also focuses on mentee’s character for personal development.

Garvey (2004) expressed that one-to-one support activities such as mentoring, coaching or guiding are critical for learning and development. He suggested that, a director may be a coach who focuses on improving the skills and performances of his/her team members; but mentoring is a more complicated interaction between pairs. A mentor may be a friend, role model or even a coach who has a holistic approach. He concluded that, mentoring should be perceived as an umbrella of support like coaching, consulting and so on.

2.1.2. Formal and Informal Mentoring

Mentoring relationships can be implemented in two ways; as formal or informal. Formal mentoring, as its name suggests, is a process that is managed by program administrators. In this type, liabilities and details such as frequency and duration of the meetings are defined by the management team. On the other hand, informal mentoring relationships develop spontaneously. It is based on admiration and respect between pairs. Usually, the relationship lasts longer when comparing with the formal one.

Ragins and Cotton (1999) defined formal mentoring programs as an imitation of informal ones. They stated that formal relationships have been developed after the benefits of informal programs observed. They defined the weakest point of the formal programs as the matching process that will be implemented by program managers. Probably, this makes it difficult for the mentee to trust his/her mentor. Their findings also confirmed that, the mentees who participated in an informal mentoring relationship have benefited and was satisfied more than the mentees who were connected with the formal programs.

Smith et al. (2005), agreed with the idea that the formal relationships are not beneficial for the mentee, mentor and the management team. Mentees are aware that the mentor is assigned and this necessity most likely generates discomfort. Similarly, mentors are affected by the program requirements which may create confusion and insincere behaviors. Moreover, formal programs are opposite with the nature of mentoring relationship (Cox, 2005).

Clutterbuck (1998) proposed informal type of mentoring in any developmental relationship. He remarked that, mentors are searching for mentees who remind them their youth. On the other hand, mentees are searching for mentors who are admirable and strong. With these expectations, when they come together incidentally, the relationship is more possible to become valuable and beneficial for both sides. But it should be noted that, women mentees have difficulty to contact with the informal mentoring programs. Ragins and Cotton (1999) explained this by referring the drawback of women mentees to socialize with mentors of opposite gender. So, formal programs are more available for women mentees.

Bisk (2002), also takes a stand on formal mentoring with an explanation of referring the reluctance of individuals to ask for help. He summarized with a comparison of mentoring

types and stages in detail given in Table 1 below. Due to the difficulties of collecting data on informal mentoring relations, we will focus on formal mentoring in this thesis study.

Table 1: Stage or functions in formal and informal mentoring

| Stage/Function | Informal | Formal |
|----------------|------------------------------|-------------------------------|
| Awareness | Felt need for advice | Felt need for advice |
| Initiation | Approach network | Approach third party |
| Contact | Network referral | Third party selected |
| Engagement | Informal | Formal meetings |
| Frequency | Random, as needed | Fixed and random |
| Term | Indefinite (2-10 yrs) | Definite (third party funded) |
| Comfort Level | Immediate | Evolving |
| Expectations | Stress relief, encouragement | Suspect, grant aid, loan(s) |
| Termination | Outgrow mentor | End of engagement |

Source: Bisk, L. (2002)

2.1.3. Mentoring Functions and Roles

Mentoring functions differ from other type of relationships and gathered in two main topics: career-related and psychosocial (Kram, 1983). Career-related refers to behaviors that aim to protégé’s career advancement such as assigning difficult tasks, sponsoring or making visible. On the other hand, the psychological functions of mentoring focus on mostly self-development of the protégé by encouraging, listening or giving advice. Although Kram (1985) defined the ‘role model’ as one of the psychological functions, some further research (e.g. Noe, 1988; Scandura, 1992) separated this item as another function of mentoring. The role modeling function expresses the admirable characteristic of the mentor for the protégé. Mentoring functions defined by Kram is given in Table 2 below.

Table 2: Traditional mentoring functions

| Career Functions* | Psychosocial Functions** |
|--|--|
| Sponsorship Exposure and visibility Coaching Protection Challenging assignments | Role modeling Acceptance and confirmation Counseling Friendship |
| *Career functions are those aspects of the relationship that primarily enhance career advancement ** Psychosocial Functions are those aspects of the relationship that primarily enhance sense of competence, clarity of identity and effectiveness in the managerial role. | |

Source: Kram, K. E. (1983)

Many of researches adopted these 9 functions later on. But Ragins and Cotton (1999) emphasized that a mentoring relationship doesn't have to provide all these 9 functions together. Mentoring relationships are formed with the mentee's needs and mentor's abilities, so the same mentor may present different functions on different levels depending on the mentee (Ragins and Kram, 2007). Moreover, Smith et al. (2005) found that, mentor functions depend on industry context. And they suggested to use the industry as an indicator to define mentor functions.

Ragins and McFarlin (1990) also adopted the mentoring roles suggested by Kram; but they defined two additional roles: parent and social; and developed a questionnaire called Mentor Role Instrument (MRI) to assess the perception of protégés according to these mentor roles. The questionnaire that represented in Table 3 is frequently used in the literature.

Fowler and O'Gorman (2005) tried to find out the mentoring functions separately rather than grouping them. They used 2 additional roles which were defined by Ragins and McFarlin (1990) with Kram's 9 functions. With a huge focus group and multiple-staged evaluations, they revealed 8 functions that were perceived both by mentors and mentees as a mentor function. These are as follows in Table 4 below.

Almost all of these functions refer to Kram's functions (named differently, e.g. 'personal/emotional guidance' is similar with 'acceptance and confirmation', or 'advocacy' is same with 'sponsorship') but surprisingly, the 'protection' function of Kram does not exist in the Fowler & O'Gorman (2005)'s findings. The researchers remarked on this that, protection is not an advantage, further it may be a disadvantage for the mentee in an organizational context.

Clutterbuck (2004) defined mentoring roles (actually he named as a 'learning style') in four different ways; these are: Coaching, counseling, networking and guiding. We have already mentioned about coaching previously to emphasize the difference between mentoring. To make addition, this is a directive type of support, and goals are generally set by the coach. Counseling is non-directive and usually acts as a listener or sounding board in the relationship. Networking role is reflecting to reach or meet some useful contacts for mentee via mentor. And finally, guiding role is another directive type that represents role model function and usually gives specific/direct answers or advices.

Table 3: Mentor role instrument

| | |
|-------------------|---|
| SPONSOR | <ul style="list-style-type: none"> • helps me attain desirable positions. • uses his/her influence to support my advancement in the organization. • uses his/her influence in the organization for my benefit. |
| COACH | <ul style="list-style-type: none"> • helps me learn about other parts of the organization. • gives me advice on how to attain recognition in the organization. • suggests specific strategies for achieving career aspirations. |
| PROTECT | <ul style="list-style-type: none"> • protects me from those who may be out to get me. • "runs interference" for me in the organization. • shields me from damaging contact with important people in the organization. |
| CHALLENGE | <ul style="list-style-type: none"> • gives me tasks that require me to learn new skills. • provides me with challenging assignments. • assigns me tasks that push me into developing new skills. |
| EXPOSURE | <ul style="list-style-type: none"> • helps me be more visible in the organization. • creates opportunities for me to impress important people in the organization. • brings my accomplishments to the attention of important people in the organization. |
| FRIENDSHIP | <ul style="list-style-type: none"> • is someone I can confide in. • provides support and encouragement. • is someone I can trust. |
| SOCIAL | <ul style="list-style-type: none"> • and I frequently get together informally after work by ourselves. • and I frequently socialize one-on-one outside the work setting. • and I frequently have one-on-one, informal social interactions. |
| PARENT | <ul style="list-style-type: none"> • is like a father/mother to me. • reminds me of one of my parents. • treats me like a son/daughter. |
| ROLE MODEL | <ul style="list-style-type: none"> • serves as a role-model for me. • is someone I identify with. • represents who I want to be. |
| COUNSELING | <ul style="list-style-type: none"> • serves as a sounding board for me to develop and understand myself. • guides my professional development. • guides my personal development. |
| ACCEPTANCE | <ul style="list-style-type: none"> • accepts me as a competent professional. • sees me as being competent. • thinks highly of me. |

Source: Ragins, B. R., & McFarlin, D. B. (1990)

Table 4: Common perceived mentoring functions for mentees and mentors

| Mentoring Functions (perceived common for mentees and mentors) |
|---|
| <ul style="list-style-type: none"> • Personal and emotional guidance • Coaching • Advocacy • Career development facilitation • Role Modeling • Strategies and systems advice • Learning facilitation • Friendship |

Source: Table is prepared by using Fowler & O’Gorman (2005)

2.1.4. Mentoring Dynamics

Although many of the studies proved that mentoring is an effective support mechanism (e.g. Deakins et al., 1998; Waters et al., 2002; Bisk, 2002; Rigg and O’Dwyer, 2012; St-Jean and Mathieu, 2015), there are some critical dynamics in this fragile relationship.

For sure, matching process is the most important part of these mechanisms. Hunt and Micheal (1983) stated that, unsuccessful matching can cause disruptive results like frustration or decreased self-esteem. Related to this subject, there are many researches enlighten us about how effective matching should be done (e.g. Cox, 2005; Ragins and Cotton, 1999). Age, gender, likes, dislikes, marital status or having a child are the most common criteria for matching process in formal mentoring programs. But, even if the matching criteria applied as suggested in the literature, this auto-matching (by third parties) generally causes discomfort. But as we have mentioned previously, matching is the most possible advantage of informal programs in order to have a chance for selection. Although it is not very common, the self-selection is possible in some formal programs. By enabling the selection, both mentors and mentees may be satisfied from the relationship more. Barrett (2006) confirmed our statements and mentioned matching as a critical issue for the success of the program. Disappointment is most likely in case of mismatching. Many researchers (e.g. Hunt and Micheal, 1983; Ragins and Cotton, 1999; Cox, 2005) supported this approach regarding the importance of matching process. Turban and Lee (2007) also drawn attention on the same topic and stated that, both sides should have similar perception about the relationship to ensure the effective mentoring.

However, some other arguments suggested that personal similarity between pairs may prevent the development of the mentee. Turner (1993) on the other side, claimed that

character compatibility does not relate with the relation itself and there is no need to focus on this issue. Cox (2005) is also supported this approach and suggested that, maximum learning can occur when the similarity is minimum between pairs.

Deakins et al. (1998), stated that although young entrepreneurs are eager for mentoring relationships, there may be dissatisfaction in some cases due to lack of mentoring experience and specialization of the mentor. Chrisman and McMullan (2004) similarly emphasized on mentor qualities and suggested that, mentees do not benefit from the mentoring relationship in case of the mentors (mentioned as a kind of outsider assistance in the study) are not competent, well-educated and experienced people. Additionally, even if they meet these conditions but are lack of transferring knowledge in-line with the needs of the mentee, the relationship again would not be effective. On the other side, mentee should be willing to get benefit and make an effort for the relationship.

Intervention style is another essential factor in mentoring relationships. St-Jean and Audet (2013) described an intervention style called meiotic approach for mentors that indicates the non-directive support which deserves attention. It originally comes from Greek mythology and refers to midwife Maia who gave birth to spirits. This approach on mentoring perspective, points out the method of enabling entrepreneurs to become aware of the inside knowledge by asking questions to them. They suggested that mentoring relationship would be more effective with adopting meiotic approach. Sanchez-Burks et al. (2017) also agreed on this and proved that mentees are more satisfied when they get non-directive support instead of direct advices. Additionally, they mentioned an uncommon point: It is critical to ask the mentee candidate if he/she prefers a mentor. On the other hand, they stated that mentors should empathize and care about their mentees rather than their own benefits. Although there may be some benefits (reward, respect or financial) for mentor through this relationship, the main purpose should be the enthusiasm for helping someone else.

Another significant dynamic, the duration, which is emphasized by Cope and Watts (2000) is also critical in mentoring relations. They remarked that long-term programs (formal or informal) most likely to emerge positive outcomes.

Ting et al. (2017) also focused on mentoring relationship dynamics and divided mentoring factors into three categories: “the quality of the mentor” (e.g. personality, knowledge),

“mentoring ability” (e.g. communication) and “mentoring intention” (enthusiasm for mentoring). Besides, mentee factors are defined as “mentee’s trait” (e.g. character, attitude), “learning intention” (e.g. motivation, willingness of learning) and “absorption capability” (ability to learn). Ultimately, the determinants of the mentoring relationship are listed as “matching”, “communication efficiency” (intervention style) and “intimate relations” (e.g. trust, friendship). They developed a model based on these metrics but we will mention it later on. The defined determinants are shown in the table below.

Table 5: The determinants of the mentoring

| Quality of the Mentor | Mentee’s Trait | Mentoring Relationship |
|--|---|---|
| <ul style="list-style-type: none"> • Mentor quality • Mentoring ability • Mentoring intention | <ul style="list-style-type: none"> • Mentee’s trait • Learning intention • Absorption capability | <ul style="list-style-type: none"> • Matching degree • Communication efficiency • Intimate relations |

Source: Table is prepared by using Ting et al. (2017)

After having discussed the main principles of mentoring, now we will move on to describe the term in an entrepreneurial context.

2.1.5. Entrepreneurial Mentoring

Before bringing up the subject to the entrepreneurial mentoring, it would be more appropriate to mention about entrepreneurship itself, its components and its effects briefly.

2.1.5.1. Defining the Context of Entrepreneurship and Entrepreneur

The term ‘entrepreneurship’ or ‘entrepreneur’ are common words and used in many disciplines today. It is mostly defined as starting a new or own business but of course not that simple. Due to its popularity, there are different approaches or complexities about its definition. Gartner (1990), right from this point, has made a study for what should be understood when the entrepreneurship is mentioned. But the concept has been introduced to the society long before Gartner's research.

The word is originally coming from “entre” in French which means “to undertake” (Ahmad and Seymour, 2008). Richard Cantillon (1680 - 1734) was an Irish-French economist who defined entrepreneurship first in the field of economics. According to Cantillon (cited from Hébert and Link, 1989), entrepreneur is the one who buys the material (mostly agricultural) with a certain price and sells it later on with an uncertain price. A profit or a loss can occur

due to the difference between prices of the material and the entrepreneur is motivated by the possibility of the profit. With this approach, Cantillon has focused on “uncertainty” and “risk taking” factors of the entrepreneurship. His definition is based on the “function”, rather than the entrepreneur’s personality in this context.

Jean-Baptiste Say (1767 - 1832), another French economist and was interested in entrepreneurship as well. While supporting the opportunist role of the entrepreneur, Say differently, linked the term with “innovation” and “change”; further he defined the concept that was adopted by many other researchers and led him mentioned as a “father of the entrepreneurship” later on (Filion, 1998).

Joseph Schumpeter (1883 - 1950), described the entrepreneurship shortly as doing something new or doing something which is already done but in a new way (Schumpeter, 1947). Although Say referred the relationship between innovation, it was Schumpeter that clearly defined the connection between these terms (Filion, 1998). In Schumpeter’s approach, the entrepreneur term is always related with the innovation which is a ground for economic development. But innovation (despite the term is derived from ‘invent’ and ‘commercialization’) does not point out the ‘invention’ (not necessary) instead it refers to ‘change’. Schumpeter (1947) differed these terms by defining the inventor as an “idea producer”, and the entrepreneur as “get things done”. The Schumpeterian entrepreneur destroys the advantages of some existing firms in the market through creating new products, that is why the entrepreneur is also defined as a “creative destructor” (Sciascia and De Vita, 2004). The entrepreneurial functions defined by Schumpeter (1934) are given in Table 6.

Table 6: Most commonly accepted entrepreneurial functions (Schumpeter)

| Entrepreneurial Functions Defined by Schumpeter |
|---|
| <ul style="list-style-type: none"> • The introduction of a new product or a new species of already known product; • The opening of a new market • The introduction of a new methods of production • The conquest of new sources of supply of raw material or half-manufactured goods; • The carrying out of the new organization of any industry |

Source: Table is prepared by using Sciascia and De Vita (2004)

Identifying opportunities are also mentioned as Schumpeter’s approach about entrepreneur but emphasized by Kirzner (1979). He defined entrepreneur as a person who uses the opportunities and finds ways to make an advantage of them.

The definitions of the term entrepreneurship have become more complicated in time, for this reason Gartner (1990) has studied to explore the meaning of entrepreneurship. He stated that entrepreneurship can be defined as being a high-growth innovative company for one or just starting a new initiative for another. By developing a framework that covers all the characteristics of the term, he purposed to create a common understanding when the subject is entrepreneurship. Academic researchers, business leaders and politicians were included in the study. As a result, he defined 8 themes that represents the main issues and attributes about the concept. He suggested that, entrepreneurship involves all of these themes which are represented in Table 7 below with their explanations.

Table 7: Entrepreneurial themes and definitions

| Theme | Idea |
|-----------------------|---|
| The Entrepreneur | Individuals with unique personality characteristics and abilities |
| Innovation | Doing something new (idea, product, service) |
| Organization Creation | Behaviors involved in creating organization |
| Creating Value | Creating wealth or destroying the status quo |
| Profit or Nonprofit | Whether entrepreneurship involves profit-making businesses |
| Growth | Importance of growth as a characteristic of entrepreneurship |
| Uniqueness | Entrepreneurship must involve uniqueness |
| The Owner-Manager | Individuals who are owners and managers |

Source: Table is prepared by using Gartner (1990)

Entrepreneurs are different in terms of their goals and their roles in the economy and can be divided into two as transformational and subsistence which is crucial to understand the difference between these two types. Subsistence entrepreneurs are those who want to be self-employed and to earn money for living, no more than that. But the transformational entrepreneurs are those who seek to do more, to benefit society and to make a difference (Schoar, 2010). Indeed, entrepreneurship is defined as a professional selection model between self-employer and a salaried employee in economic theory (Naudé, 2014). For sure, transformational entrepreneurs are those who have a potential to create economic impact.

Although some researchers (e.g. Shane, 2009; Schoar, 2010; Janakova, 2015) agree on entrepreneurs should have some personal characteristics, Drucker (2014) claimed that the term is not personal, instead behavioral and anyone can learn these behaviors. Scott et al. (2016) stated that, although innovative ideas are the main factor of economic development, long-term results are mostly unclear. This uncertainty is at the core of the entrepreneurship which makes the field more challenging.

2.1.5.2. Redefining the Mentoring in an Entrepreneurial Context

Despite its potential for economic impact, interest on entrepreneurship is increasing in all countries. But still, most of the start-ups fail in the first few years (Scott et al., 2016; Bates, 2005; Shane, 2009). This may be as a result of entrepreneurs may not know what they are doing (Drucker, 1985) or may believe that they know everything (Cope and Watts, 2000). For sure, there are many other reasons such as policies, market or available eco-system. For this reason, many programs have been implementing by public and private institutions to ensure the success of start-ups (Davidsson et al. 2005, Román et al. 2013, Aulet 2013). Probably, as a result of concerns about start-up survival and success, interest on mentoring programs has increased in academic and professional circles.

Challenges and competition in the business environment make it difficult to enter and survive in this world. Mentoring helps entrepreneurs to reduce failure rates and survive in cruel business environment (Jain and Chadhuary, 2016). In some countries such as USA, Sweden and France, various programs are being implemented to help entrepreneurs in their first years (St-Jean and Mathieu, 2015).

Mentor in an entrepreneurial context, is the person who helps in discovering and overcoming the unknown barriers on the entrepreneurial journey (Sanchez-Burks et al., 2017) or more shortly, the assistance for the people who started their own business (Waters et al., 2002). Entrepreneurial mentoring is such different from the mentoring mechanisms with hierarchical structure in enterprise organizations; instead, it is a support given by 'elder entrepreneurs' to prevent new entrepreneurs from making unrecoverable mistakes (St-Jean, 2011). The mentor is likely to be a 'role model' due to an experienced entrepreneur. Indeed, modern mentoring defined as a role modeling; the mentor may have a positive effect on the mentee (Bisk, 2002).

The personal development of the entrepreneur through his/her mentor who is an 'experienced entrepreneur' is emphasized in many studies, because this development occurs with 'learning from experience' (St-Jean and Audet, 2009). Kram (1985) mentioned this point much earlier and suggested to focus on individuals who have enthusiasm for learning. Deakins et al. (1998) similarly described the learning process as the most important developmental key in new initiatives.

Learning is defined comprehensively as “the human process by which skills, knowledge, habit and attitudes are acquired and altered in such a way that behavior is modified” (Beach 1980, cited from Sullivan 2000).

In many cases, learning occurs spontaneously by experience. Constant learning in entrepreneurship is a critical factor for the success, growth and survival of start-ups and further, mentoring is a great learning tool for entrepreneurs (Sullivan, 2000).

Knowledge that emerges as a result of learning is also essential for the success. In most cases, there is a gap between knowledge which the entrepreneur has and knowledge that he/she needs, the point here is that the entrepreneur should be ‘aware’ about this mentioned gap for learning to occur (Chrisman and McMullan, 2004). This awareness refers to ‘willing to learn’ or in other words ‘absorptive capability’ which is defined as a precondition for successful learning (Ting et al., 2017).

In the light of this information given so far, we can easily define the entrepreneurial mentoring as a ‘learning-based relationship’.

2.1.5.3. Redefining Mentoring Roles and Functions in an Entrepreneurial Context

Entrepreneurial mentoring roles are grouped under three as it is organizational mentoring; career, psychosocial and role model. But the underlying explanation or referring functions are quite different in an entrepreneurial context. Indeed, to help the mentee be visible in the organization cannot be shown as an entrepreneurial mentoring function. Instead, advice on legal, technical or financial issues can express career-related function; on the other hand, friendship, emotional support and personal development indicate psychosocial functions of entrepreneurial mentoring (Waters et al., 2002). The experience (about business and technical) of the mentor is the main item for career functions.

While Bisk (2002) describing the career functions of entrepreneurial mentoring as giving advice on management, finance, marketing and so on, he emphasized the role model function which we mentioned previously. In an entrepreneurial context, along with highlighting the mentor is a former entrepreneur, Deakins et al. (1998) additionally point out the importance of the network function. According to him, supporting to gain access to links that will benefit the entrepreneur has a significant impact on the survival of the new ventures.

Ozgen and Baron (2007) found out that mentoring has a direct and positive effect on “opportunity recognition” which defined as a key element for entrepreneurs. They stated that mentor can help entrepreneur on many fields but the biggest help is to provide “valuable information” based on mentor’s own experiences. Similarly, St-Jean and Mathieu (2015) agreed on the same topics. They remarked that recognizing opportunities, reaching beneficiaries or increasing self-confidence can be shown as mentor functions but undoubtedly, the most basic benefit for the entrepreneur has been defined as the ‘learning’ that comes up through interaction with an experienced person.

St-Jean and Audet (2013) mentioned the similar definitions with other researchers but stated that if there is an intention to evaluate the mentoring relationship, then these functions should be deeply reviewed and defined clearly (so we should keep this suggestion in mind for this thesis).

Sullivan (2000) emphasized on ‘learning’ process and significance for the entrepreneurs in his study. Mentoring functions divided into two in his study; career functions that improve the ability of learning, on the other side psychosocial functions that increase the self-confidence and identity awareness. He indicated an impressive definition of mentor’s role with pointing out the ‘reflection’ function. The role of mentor is defined as an “enabler, to reflect the actions and more important, to change the attitudes of the future actions”.

Cope and Watts (2000) who showed that mentoring is a crucial support for entrepreneurs, explained the mentoring roles as similar with Sullivan. The first role, mentioned as “be there”. It is represented like a lifeguard, ready to help (through listening or giving advice) whenever the mentee needs. The second one, which is more developmental, focuses on reflective learning, aiming to help the mentee in a way to make him understand and analyze the problem, why it occurs and what should be the solution. Moreover, enabling learning for the mentee, from the past experiences in order to avoid similar problems in the future.

Sanchez-Burks et al. (2017), with referring the relation between entrepreneurship and economic development, emphasized on the learning role of the mentor as well. With this approach, they defined mentoring roles as more characteristic. These capabilities are shown in Table 8 below.

Table 8: Characteristics of a mentor

| Mentor's Characteristics |
|---|
| <ul style="list-style-type: none"> • Inspire curiosity • Challenges assumptions and expectations (gives feedback) • Guides through asking deep questions • Honest and direct about what he/she doesn't know • Eager to learn with mentee |

Source: Table is prepared by using Sanchez-Burks et al. (2017)

Separate from mentoring, Deakins and Freel (1998) examined the entrepreneurial learning. Even though the study is not about mentoring, we thought that findings should be shared in this section. The researchers focused on learning that occurs through experience and have conducted a case study to find out what the entrepreneurs (small business owners) learned over time. They defined learning action as a “reaction of critical situation” in which the entrepreneur learns to use information and make strategic decisions. At the end of study, they defined entrepreneurial abilities as shown in Table 9 below. We believe that, these features should be considered to define entrepreneurial mentoring functions.

Table 9: Determinants of the entrepreneurial learning

| Experienced Entrepreneurial Learning |
|--|
| <ul style="list-style-type: none"> • Ability to network • Ability to reflect on past strategy and mistakes • Ability to assimilate experience and opportunity • Ability to access resources • Abilities of the “entrepreneurial team” |

Source: Table is prepared by using Deakins & Freel (1998)

Another study of St-Jean (2011) described the mentor functions for novice entrepreneurs in a comprehensive way. Within two years period, the mentoring functions were obtained from several discussions that were done with groups of mentors and mentees; then these functions were revised after being commented on by academic experts. As a result, 4 psychological and 4 career-related and the role model functions were emerged. The role model function is often ignored in entrepreneurial studies, whereas the mentor here is mostly a former entrepreneur, then this function should be an important determinant. Related with this, St-Jean (2011) added that, the role model function produces significantly different results when the mentor is a former entrepreneur or not. Detailed explanations for these functions are given in Table 10, and these definitions are strongly guided us in the study.

Table 10: Mentor functions for novice entrepreneurs

| | |
|--|---|
| <p>Psychological Functions</p> | <p>Reflector: Gives a feedback about the mentee and the project like a mirror does. It is like a report on strengths and weaknesses.</p> <p>Reassurance: Reassures the mentee during difficult times. Acts as a pressure valve to evacuate stress.</p> <p>Motivation: The mentor motivates and encourages the mentee. The mentor helps the mentee build self confidence and gives him incentives to persevere.</p> <p>Confidant: With time, the mentee may confide in the mentor just as he would in a friend. The mentoring relationship may also transform into friendship.</p> |
| <p>Career Related Functions</p> | <p>Integration: Facilitates the integration of the mentee in the business community by presenting him to business contacts who may be of need in the future.</p> <p>Information support: The mentor gives information, transfers various types of personal knowledge such as business management, laws to be aware of and so on.</p> <p>Confrontation: The mentor confronts the mentee's ideas to help his reflection. This confrontation appears in a problem-solving context where the mentee's beliefs, attitudes, or habits prevent him from reaching his goals and makes him part of the problem rather than the solution.</p> <p>Guide: Helps the mentee to improve problem comprehension, widen problem vision and context. When necessary, the mentor also makes suggestions and gives advice towards a solution.</p> |
| <p>Role Model Function</p> | <p>Focuses on the mentor as a person. The mentor may also be a source of inspiration, or at least, of comparison.</p> |

Source: Table is prepared by using St-Jean (2011)

2.1.6. Evaluation Mechanisms of Mentoring Programs

It is quite complicated to evaluate mentoring programs as it is a bilateral relation between individuals. Besides, programs may be not well-designed and most likely outputs are undefined. Odell (1992) suggested to consider the purpose of the evaluation first and the question of ‘how to evaluate’ should be the next step. If so, we should clarify the purpose of this study first and then, start to think about the evaluation methods of the entrepreneurial mentoring programs.

As we already mentioned in Chapter 1, significant amount of resources (not only financial) are allocated for mentoring programs. Then, it has to be a responsibility for evaluating these programs’ effectiveness (Sullivan, 2000). Besides, taking into consideration that mentoring relationships may be destructive for the entrepreneurs in some cases; some improvements may be necessary for the programs. Then, it is essential to know ‘what causes the program’, ‘what is happening or not happening after the program’ or in other words ‘what is the impact of the entrepreneurial mentoring programs’. All these questions need to be answered for the program administrators and policy makers.

Before moving on to the second step, we need another answer for the question of “what is the purpose of the mentoring program?” There may be some common answers like “help for overcoming the difficulties”, “help for reaching some beneficial linkages” or “help for improving the self-confidence of the mentee”. But these are not the main purpose actually, or at least not for the formal programs. If we go back to the our starting point, the concern was the entrepreneurs who have a potential to create innovation, job creation, commercialization etc. In short, the study focused on entrepreneurs who have a potential to create positive effect on economic development. But there are many challenges for these kind of entrepreneurs which are the main reasons of mentoring programs implementation. So, the purpose of this study is “looking for the positive signs in start-ups which owners have participated in a mentoring program”. At this point, mentoring outcomes have guided us to define evaluation metrics. These outcomes can be interpreted as success criterias for the start-ups. But we should note that, any positive sign on the start-up side, cannot associate directly with the mentoring program. This approach has leaded us while deciding the methodology of the study in the following section. The map of the literature review in regard of entrepreneurial mentoring impact is given in Figure 3 to guide the reader.

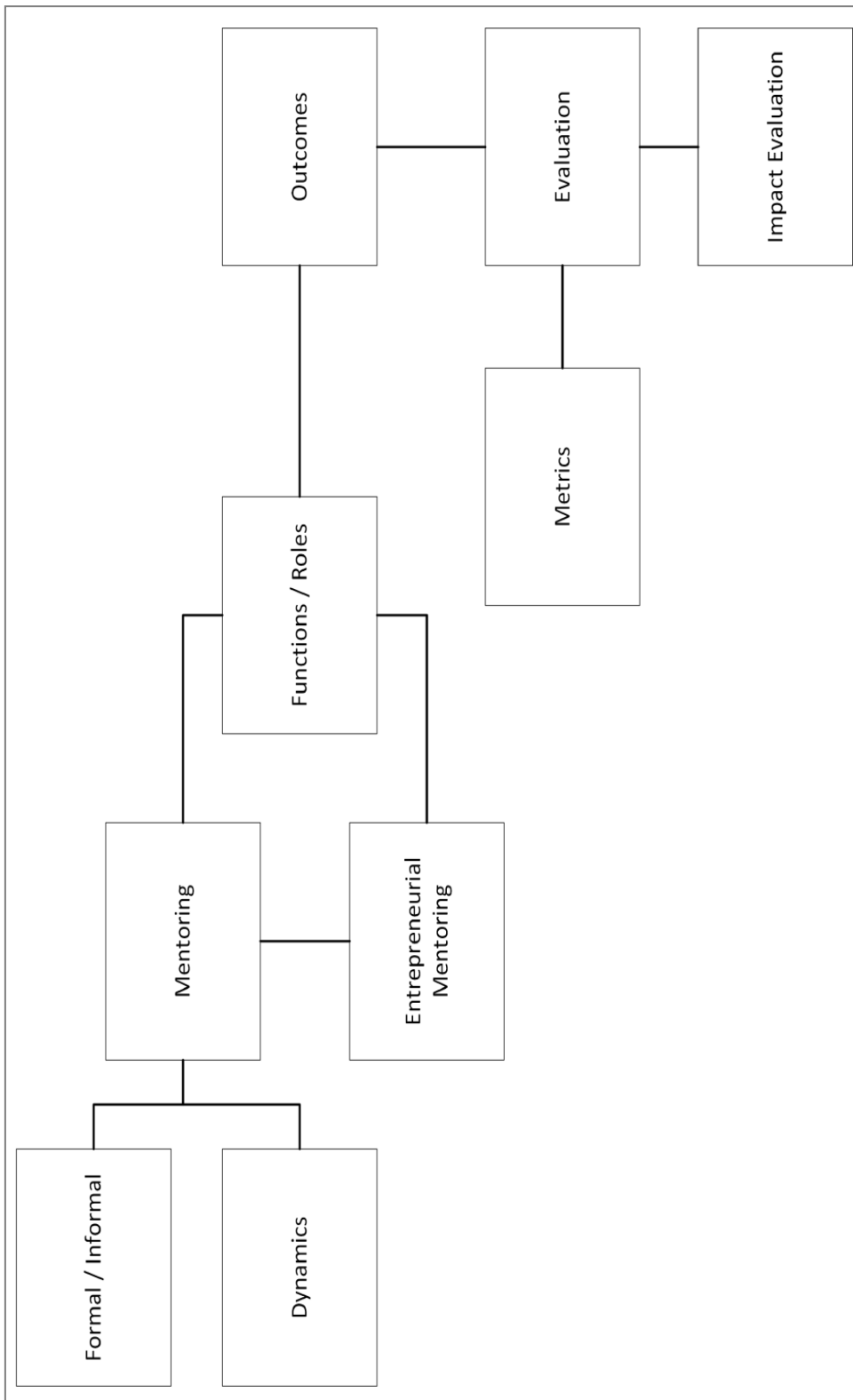


Figure 3: The map of the literature review

2.1.6.1. Evaluation Metrics and Methods

In this part, expected mentoring outcomes were examined and evaluation methods of mentoring programs were researched.

Kram (1985) suggested that, mentoring programs are a useless effort if the program goal and strategy are not defined. Therefore, to clarify the targeted outputs (or outcomes) is essential. Output is the value of any metric which is measured after the program, such as test scores. But ‘impact is defined as a difference between the outcome emerged and what it would be without the intervention’ (Rossi et al. 1999, cited from Grossman 2005).

To start with mentoring outcomes in a general sense, Ragins and Cotton (1999) presented many findings about mentoring. They defined career outcomes of mentoring with measures such as increase in annual salary, premium, promotion or increase in responsibility and so on. Muschallik and Pull (2016) used ‘publication’ as an output in academic mentoring. Although these researchers agreed on these kinds of tangible outcomes, the term mentoring by nature should emerge intangible outcomes. Indeed, Odell (1992) examined the evaluation of the mentoring support given to beginning teachers and expressed that the evaluation mechanisms based on the development of students such as ‘test scores’ would be invalid to understand the essence of the mentoring programs. In another study, Wanberg et al. (2006) used “career goal clarity” metric as an output on the protégés’ side. Set of questions were asked to the protégé (e.g. “I have a clear picture of my short- and long-term career goals”) to reveal the career-related effects. This kind of approach (protégé perception) should be a good way when the interest is on psychological outputs.

It should be remembered that mentoring is declared as a developmental relationship for both sides. So, there are some expected outcomes like ‘reward’ for the mentor but this is not our study’s focus. Our concern is entrepreneurs, in short mentees. Another point; the outputs of the mentoring program can be changed according to the phase of the entrepreneurial journey (e.g. if the entrepreneurs are those who wants to start a business, then success metrics would probably differ). But in this thesis, the entrepreneurs represent the start-up owners whose firms are older than three years, hence the studies have investigated with this viewpoint.

Now we can move on to our main subject, entrepreneurial mentoring outcomes and impacts. St-Jean (2011) who described the entrepreneurial mentoring functions comprehensively,

remarked that mentee outcomes can be used to reveal the mentoring impact. These outcomes can be both tangible and intangible and actually refers to mentoring functions. Outcomes that expected to emerge with psychological functions (role model is included) of mentoring are naturally subjective, so outputs of these functions mostly depend on parties' characters and mentees' satisfaction. But career related outputs can be both qualitative and quantitative.

Deakins et al. (1998) analyzed the mentoring support for start-up entrepreneurs. They used a sample group both with mentors and mentees, then semi-structured face-to-face interviews have been done. Although both qualitative and quantitative data said to be collected, the main focus of the study is to observe the impact of the mentoring support. More clearly, how important are mentors' advices and intervention was asked to the mentees. The measurements of the advice are all related with career functions such as strategic advice or marketing. On the other hand, measurements that belong to "significance of intervention" are related with both career and psychological functions like "ability to cope with problems" or "employment". The purpose is, whether mentor's intervention made a difference on these metrics. These measurements are shown in Table 11 below.

Table 11: Perceived impact of mentoring support

| Advice Received | Significance of Intervention |
|---|--|
| Advice | Difference to |
| <ul style="list-style-type: none"> • Basic start-up including producing a business plan • General advice on running a small business • Strategic advice • Marketing strategy • Planning for growth • Other categories | <ul style="list-style-type: none"> • Achieving objectives • Ability to cope with problems • Ability to learn • Ability to manage • Ability to cope with change • Turnover • Profitability • Employment |

Source: Table is prepared by using Deakins et al. (1998)

McMullan et al. (2001) investigated the measures of the effect to evaluate entrepreneurial mentoring programs. With objection to use only subjective measures (which based on satisfaction and subjective assessments of the mentee) they stated that it might cause incorrect results of the mentoring impact. Instead, they suggested using objective measures with subjective ones. To detail this study, they examined the alternative methods of evaluation to find out the impact of entrepreneurial assistance programs. They grouped the impact evaluation methods into three. First one, subjective metrics in regard to mentees'

satisfaction; second, assessment of subsequent performance and third one, objective measures such as sales, profits, employment etc. They used these three ways together to evaluate a mentoring program (they compared two different mentoring programs). The related measures are shown in Table 12 below.

Table 12: Impact evaluation measures of entrepreneurial mentoring

| Subjective Measures (Perceived satisfaction) | Objective Measures (Real performance) | Attribution Measures (Estimate the amount) |
|--|---|---|
| <ul style="list-style-type: none"> • Contribution • Recommend (willing to recommend the program) • Impact (with 10 multi-question e.g. customer, adding new product, increase confidence) | <ul style="list-style-type: none"> • Sales • Employment | <ul style="list-style-type: none"> • Attributed sales • Attributed employment • Attributed financing |

Source: Table is prepared by using McMullan et al. (2001)

At the end of the evaluation process, it is seen that, subjective measures are not correlated with the objective ones. The explanation about this result is, these are the measures of different structures. They claimed that subjective measures are generally related with the enjoyment level during the program (for sure this information can also be needed in some cases). Eventually, they suggested to use objective measures to emerge ‘impact’ while subjective measures for participant satisfaction.

Waters et al. (2002) also examined the role of formal mentoring program on start-ups. The relationship between mentoring and business success was investigated and the sample group were comprised of entrepreneurs who had been funded by government. To define ‘success’ in regard to start-ups, they benefited from mentor functions and then decided to use ‘profit’ as an objective assessment with ‘perceived success’ as a subjective assessment (this subjective metric is used to compare the perception of mentor and mentee). They focused on business-related and interpersonal outcomes. The measures are shown in Table 13 below.

Table 13: Some measures of formal mentoring program

| Career-related Measures | Interpersonal Measures |
|---|---|
| <ul style="list-style-type: none"> • Profit • Perceived success <ul style="list-style-type: none"> ○ Q: ‘How successful do you consider your business to be?’ | <ul style="list-style-type: none"> • Self-esteem (Rosenberg, 1965) |

Source: Table is prepared by using Waters et al. (2002)

In another study focusing on mentee satisfaction and perception, Bisk (2002) searched the effect of formal entrepreneurial mentoring. While he agreed on using some measures like “increase in revenue and/or salary” based on other researches, he stated that success cannot be assessed with these measures alone and he focused on mentee assessment. He used the mentees themselves to measure the success. A questionnaire with an open-ended question that asked for a direct benefit of the mentor is requested from mentees.

The research (Barrett, 2006) which evaluated the formal mentoring effect in small businesses used subjective approach with perceived impact of business owners. They asked about the mentoring impact on some success measures such as investment, expanded market share, increased profit, increased number of employees, started exporting and reduces costs. Additionally, impact on “self-confidence” and “knowledge about a business” were also requested. We might paraphrase by noting that these small businesses are not mentioned as entrepreneurs, or start-up owners. The measures are shown in Table 14.

Table 14: Impact measures of formal mentoring in small businesses

| Impact Perception on Business Measures | Impact Perception on Personal Measures |
|--|---|
| <ul style="list-style-type: none"> • Increased sales • Expanded product or service range • Investment in new technology • Expanded market share • Increased profit • Increased number of employees • Increased or started exporting • Reduced business costs | <ul style="list-style-type: none"> • Self-confidence • Knowledge about running a business |

Source: Table is prepared by using Barrett (2006)

By the way, we should add some additional information related to the second measure in this table. “Expanded product or service range” is probably refers to “opportunity recognition” function of the mentor. Baron (2006) defined “opportunity recognition” (the term was used by Kirzner in 1979) as connecting dots between situations that seems unrelated but possible advantage in it. He highlighted the interpretation of knowledge as a necessity to see these advantages and besides, this capability helps entrepreneur to dream about something new. As we have already mentioned previously, Ozgen and Baron (2007) emphasized the opportunity recognition for entrepreneurs that they found it is directly affected by mentoring support. If so, is this function can be measurable? For sure, the answer is yes for subjective measurement. Some questions can be asked to the mentee (e.g. ‘mentor helped me to

recognize the opportunities I wasn't aware of") for subjective assessment. What about the objective measures? Baron (2006) mentioned about new products and services according to this attribute. Then, data about new products or services in the business may be used as a measurement (e.g. Barrett,2006) to assess the opportunity recognition function of mentoring.

Yusuf (2010) investigated the effectiveness of start-up assistance programs and similarly used the participant perception. With the help of entrepreneurs, she defined the supports that they need. Additionally, actual support received by the program was also defined. Then, requested to assess these functions to find out "is this support what you needed" and "is this support provided by the program" for each one. Finally, results were compared to emerge which of them were matched. The measures are (sorted by results) shown in Table 15.

Table 15: Some measures to evaluate start-up assistance programs

| Mentee Expectation Measures | Actual Support Measures |
|---|---|
| 1. Learn how to start or manage a business | 1. Networking or referral assistance |
| 2. Learn more about product, production or market | 2. Learn how to start or manage a business |
| 3. Networking or referral assistance | 3. General training or information |
| 4. General training or information | 4. Learn more about product, production or market |
| 5. Legal, political or administrative issues | 5. Emotional support or self-confidence |
| 6. Fulfil goals or satisfaction | 6. Legal, political or administrative issues |
| 7. Other | 7. Other |

Source: Table is prepared by using Yusuf (2010)

Chrisman et al. (2012) investigated the impact of assistance programs and entrepreneurship education on start-ups. Similar with other researchers they used employment and sales as performance measure. They also added 'part-time employees' metric to full-time employees. On the other hand, St-Jean and Mathieu (2015) suggested using qualitative approach to evaluate mentoring programs. As entrepreneurs are the people who manage their own firms, some measures such as 'satisfaction with their career' or 'self-confident' were suggested rather than tangible outputs.

Scott et al. (2016) have conducted a long-term research with MIT entrepreneurs to examine the prediction of commercialization potential on start-up ideas. They observed the businesses for 8 years. During this period, they used some measures to evaluate the start-up performance. They stated that if there was a concern about emerging economic impact, survival of the business could not be an effective measure. Instead, they suggested to use

number of full-time employees, getting an investment (from angel investors or venture capitalists) or intellectual capital (especially intensive R&D sectors like hardware, energy, life sciences). Additionally, related with their research question they emphasized on commercialization by referring the reaching first sale and of course repeated sales. The evaluation measures are shown in Table 16.

Table 16: Start-up performance measures

| Start-up Performance Measures |
|---|
| <ul style="list-style-type: none"> • Full-time employees • Investment (angel investor or venture capitalist) • Intellectual capital • Commercialization |

Source: Table is prepared by using Scott et al. (2016)

Another research belongs to Sanchez-Burks et al. (2017) which is a comprehensive report of mentoring programs across United States. The study also contains some evaluation results that depend on mentee satisfaction. Similar with Yusuf (2010), they asked mentees the success factors of mentoring relationship. Then, they asked about their own experiences. The revealed measures are shown in Table 17. Although they did not use in their research, they suggested some evaluation measures such as employment and financial data for future research. Additionally, they found that, first prototype or first sale was perceived by the mentor as a measurement of the success of the relationship.

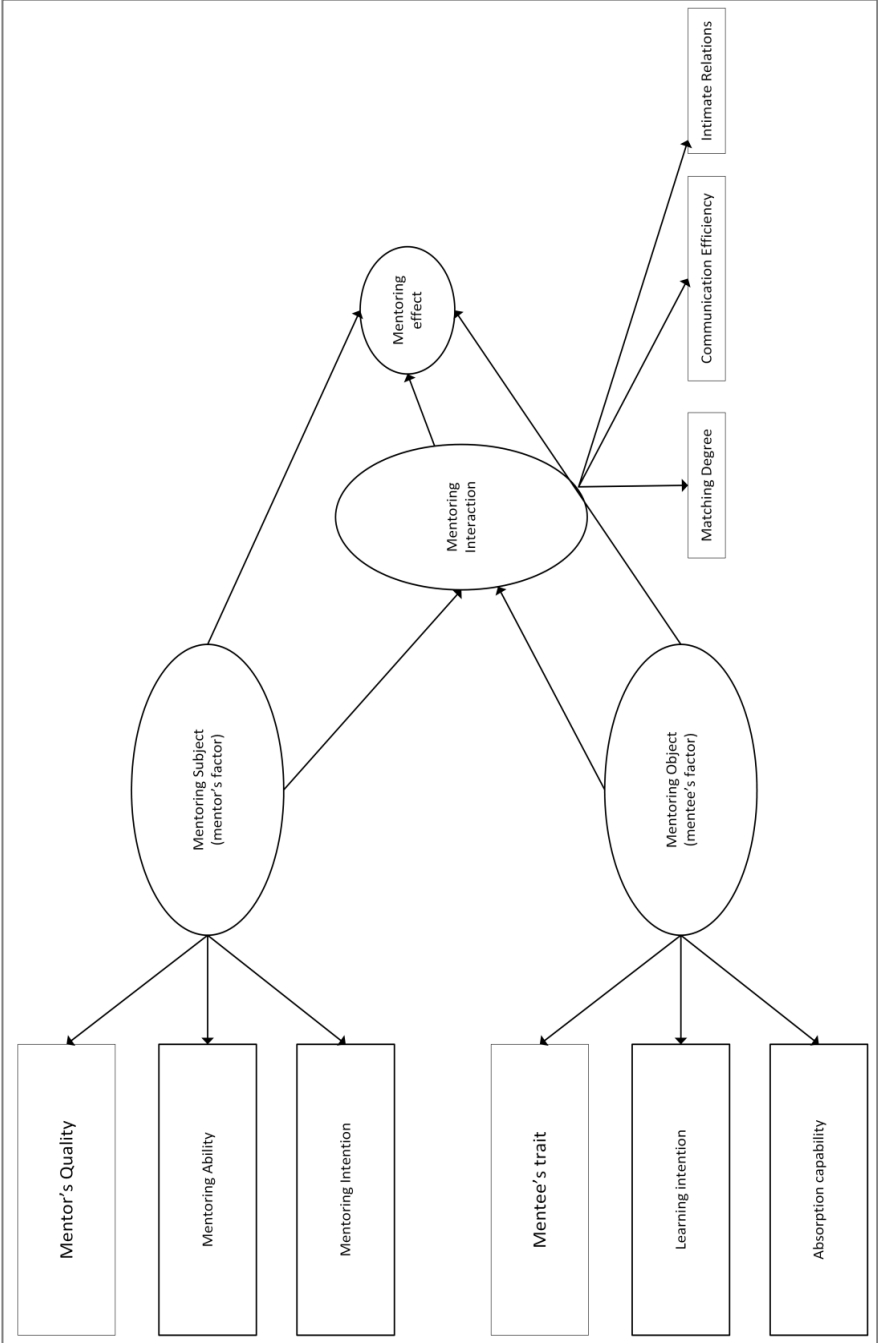
Table 17: Mentoring evaluation metrics according to mentee perception

| Mentee Expectation Measures | Actual Support Measures | Suggested Measures |
|------------------------------------|--------------------------------|---------------------------|
| Guidance | Guidance | Employment |
| Network | Network | Financial indicators |
| Feedback | Feedback | |
| Resources | Emotional support | |
| Personal insight/experiences | Experience | |
| Social and emotional support | Other | |
| Other | | |

Source: Table is prepared by using Sanchez-Burks et al (2017)

Ting et al. (2017) also explored the mentoring effect, with its indicators in the Chinese context (we have mentioned previously). They claimed that it is difficult to measure mentoring effect quantitatively and even though start-up performance or mentors' perceptions are the common evaluation methods, mentee perception is essential to measure the effect of these mechanisms. They defined 3 main determinants (mentor's factors,

mentee’s factors and mentoring interaction) to evaluate mentoring effect. A conceptual model of mentoring effect is shown in Figure 4 below. They developed a questionnaire with 43 items based on these determinants (e.g. ‘mentors are good at listening’, ‘the communication content is useful’ etc.) and all data were gathered from mentees.



Source: Ting et al. (2017)

Figure 4: The effect of entrepreneurial mentoring and its determinants

In addition to all these, Deakins et al. (1998) stated that formal mentoring programs are aiming to support the entrepreneurs in order to decrease the failure rates of the new businesses. This approach points out the ‘survival’ metric which is largely referred in the literature (e.g. McMullan et al., 2001; Chrisman and McMullan, 2004; Jain and Chaudhary, 2016; St-Jean and Mathieu 2015). But survival metric mostly does not reflect a positive output. Especially when the concern (or expectation) is transformational entrepreneurs. Moreover, in some cases survival means agony that causes financial and emotional damage for the business owner. As a matter of fact, to help the start-up for living as a ghost may not be a valid measure.

To summarize, it is obvious that there is a debate on evaluation or outcomes of the mentoring relationships and its determinants. Both qualitative and quantitative approaches exist in the literature. Defining the purpose of the mentoring and the evaluation (that we have already done) should be the first phase in these types of research. Our approach is shaped in the light of all these studies.

2.1.7. Summary of the literature review

The mentoring term is examined in this chapter with its definitions, related studies and evaluation methods along with focusing on entrepreneurial context. The information shared in this chapter will be the basis of our study. We will define the mentoring outcome metrics (both qualitative and quantitative) and functions in the next chapter with the help of these literature and interpretation of us.

CHAPTER 3

METHODOLOGY

3.1. Problem Identification and Research Question

As it is mentioned in Chapter 2, mentoring mechanisms need evaluation process for deployment of resources. But evaluation process is most likely undefined. However, program assessment is essential for efficiency and program improvement. Besides, the results of the evaluation are necessary to develop better policies.

Considering all these issues, we suggest that the impact of the mentoring programs should have to be revealed for program administrators, policy makers and program participants. This research, aimed to propose measures that can be used for the evaluation of mentoring mechanisms. These defined metrics are used to find out the impact of the related mentoring program subsequently. Our main research question is as below:

“What is the impact of mentoring support on start-ups?”

3.2. Research Design and Methodology

While some researchers prefer to use qualitative methods, some others use quantitative methods. For sure, the choice is most likely depending on the research question and study itself. Quantitative methods are based on numerical data and mathematical formula. On the other side, qualitative approaches are used to find out the answers of ‘how’ and ‘why’ instead of ‘what’ and ‘when’ (Steckler et al., 1992). Data is generally gathered through case studies, interviews or surveys. However, it can be possible to execute these two approaches together. Our research adopted this ‘mixed approach’ with including both qualitative and quantitative methods. The map of the methodology can be seen in Figure 5.

3.3. Method for Quantitative Analysis

Grossman (2005) defined impact as a change in the outcome that emerges with the implemented program. Furthermore, Gertler et al. (2016) suggested that, to decide the method of impact evaluation depends on the features of the program and of course, the

available resources for the evaluation. They claimed that, impact evaluation provides reliable evidence, moreover reveals the information about whether the program's goals are achieved. Impact evaluations can be implemented in two ways: prospective and retrospective. The first one refers to ideal way, which is developed simultaneously with the program design and most likely reveals more trusted results. The second one is an effort for searching the outcomes after the program is performed. The handicap of second way is probably the uncertainty of the metrics, because the outcomes can only be defined clearly and measurably before the program is being planned. Another subject that was emphasized in the same study is the monitoring, which was defined as a process to observe the program while it is continuing and referred as a critical resource for evaluation.

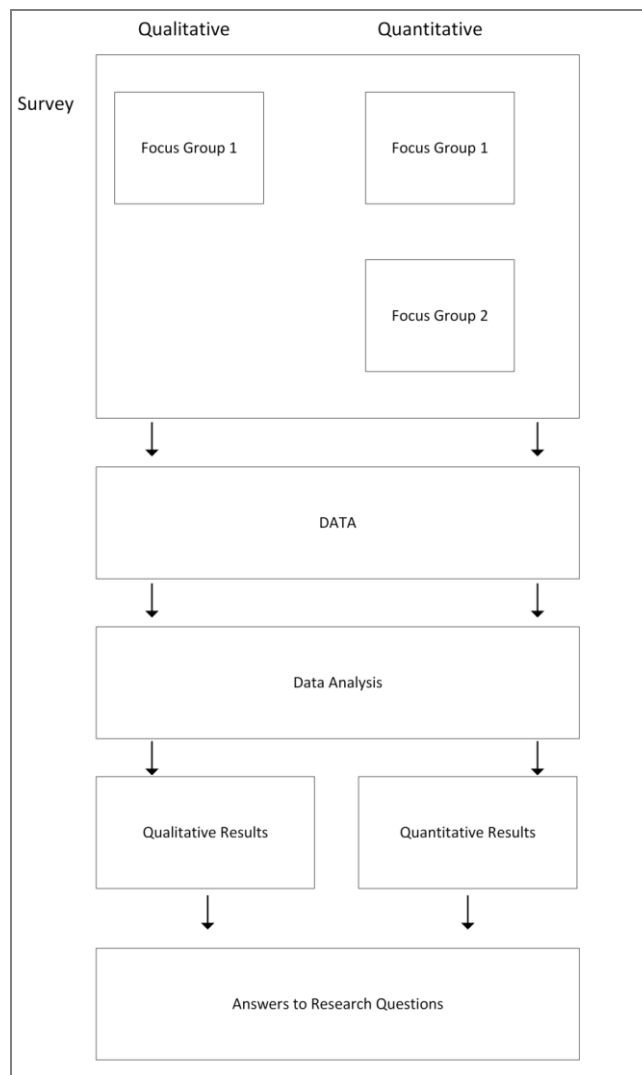


Figure 5: Map of the methodology in the study

Also, it was mentioned that, mixed method approaches that include both quantitative and qualitative data are an effective way of impact evaluations.

In our study, it is not possible to adopt the prospective method because no such mechanism was developed for the evaluation of mentoring programs. So, retrospective method with both qualitative and quantitative data will be used in this thesis.

Another useful research belongs to White (2010) and he stated that there are two definitions of this term and both can be used according to the situation. He differentiated the impact from effect with describing the impact as a “long-term effect”. The first definition that he mentioned belongs to Chianca (2008) who defined impact as: “The positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended.” But it is stated that some researchers who focused on impact evaluation have another definition that is based on the ‘change’ of the metric. According to this definition, impact is calculated with and without intervention outputs. For example, if the metric is Y, the value with intervention is Y_0 and the value without intervention is Y_1 , then the impact is the result of ‘ $Y_1 - Y_0$ ’.

White (2010) analyzed these approaches in a comprehensive way. He stated that, the second definition of the impact which refers to ‘before versus after’ analyses can be sufficient in some cases such as observing the values of water consumption in a house before and after the intervention. On the other hand, this approach may not be applicable in some other cases. Stability can be a positive impact if the intervention is about a decrease. Indeed, related to our study subject, it is mentioned previously that survival metric which refers to the stability can be used to measure the impact. But still, ‘before versus after’ method will be used in this study to reveal the ‘change’ regarding the numbers of employee in time.

White (2010) also stated that, if the concern is the impact of assistance/training programs of the entrepreneurs’, before versus after analysis can be used with a baseline data. But, if the question is “with the help of the program, is there any profitability for entrepreneurs”, then measures like profitability cannot be related the assistance program only. There are some other parameters like market conditions. Therefore, he suggested to use comparison group and recommended to use quantitative methods when policy-related reasons exist.

Grossman (2005) studied on evaluation methods of mentoring programs and remarked that outcome metrics must be measurable. But the point here is, some outcomes may not occur yet even the program has ended (this will be a subject to comment after revealing the findings of our study). She suggested using a comparison group that will not engage with the mentoring program and thus, it should be possible to observe what would be the outputs without mentoring program.

To determine the mentoring outcomes of mentees, Eby et al. (2008) used the comparison group method. They compared mentored individuals with non-mentored ones based on the selected outcomes. Chrisman and McMullan (2004) similarly suggested using comparison groups to evaluate the assistance programs.

Ragins and Cotton (1999) examined the mentoring functions and outcomes in regard to type (formal or informal) of relationship and gender. They used comparison group (non-mentored versus formally mentored and women versus men) as well to observe the difference on the outcomes. According to McMullan et al. (2001), without control group comparison, job creation or growth cannot be used to evaluate the impact.

After all of these studies from the literature, the group comparison method is decided to be used for the quantitative part of the thesis study. Thus, mentoring outputs that were defined from literature and program objectives are gathered from both mentored and non-mentored start-up owners. The data, which enables us to compare the groups, will be quantitative and the Pearson Chi-square test is applied on this data. The Pearson Chi-square test is chosen because it is defined as a non-parametric tool to analyze group differences and it does not require equality of sample size (McHugh, 2013).

The Chi-square test is generally used to compare two or more groups and aims to determine a difference or a relation between categorical variables (Franke et al., 2012). It can be calculated as the difference between observed and expected values across all data (Bhattacharjee, 2012) and it reveals the association or difference between the group variables (Franke et al., 2012). The Pearson Chi-square (χ^2) test can give information on the significance of observed differences, besides provides detailed information about the categories with cross table representation (McHugh, 2013). The critical chi-square value for p is equal to 0.05 (Bhattacharjee, 2012). This value should be compared with the expected

level which refers to “asympt. sig.” in the results table. The results show the evidence of ‘significantly different’ if the value is less than 0.05, or otherwise (if the value is greater than 0.05) the two groups are not independent (McHugh, 2013).

3.4. Method for Qualitative Analysis

Onwuegbuzie and Collins (2007) named the studies that contain both qualitative and quantitative approaches as mixed research. They stated that, to determine the sampling requires more attention, due to the design of the study needs to fit for both components.

With aiming the reinforcement of our findings, the mixed method approach has been adopted in this study. To have the qualitative data, the individuals who have participated the mentoring program are included in the study. Satisfaction levels of the participants' mentoring experiences and the importance level of the same components which were defined basing on the literature and the program objectives, were asked and then data was gathered qualitatively to measure the mentoring impact. 5-point likert scale was used for each component. The questions leveled between ‘not at all’ to ‘very much’. A higher score reflects a higher level of importance perception and satisfaction. Cronbach’s alpha is applied for reliability.

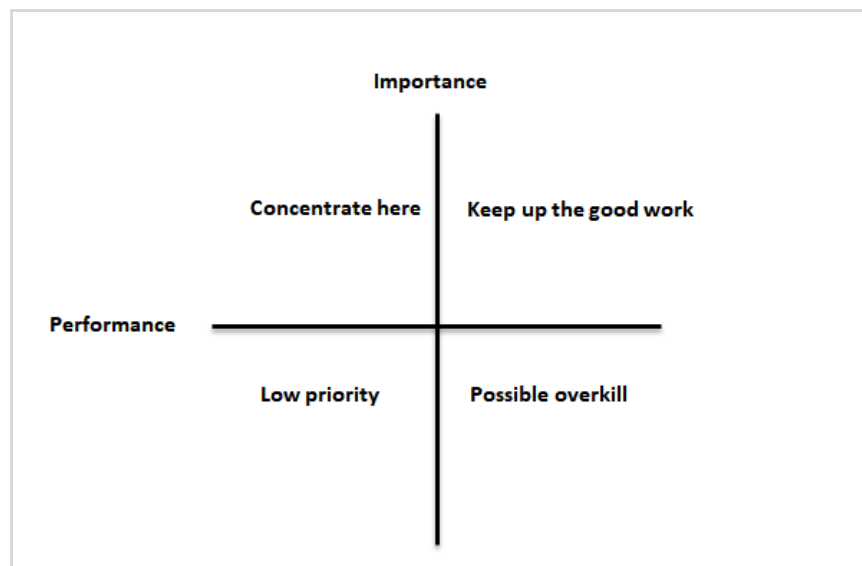
To analyze data, Importance-Performance Analysis (IPA) have been chosen which was suggested by Martilla and James (1977) in order to improve the customer satisfaction in the marketing field to identify the areas to concentrate.

IPA is a statistical technique that draws attention of academicians and other researchers who study not only on marketing but also some other fields like education, health, tourism and so on. The study of Seng Wong et al. (2011) is an example which focuses to evaluate the benefits of a Japanese e-government project. They used IPA to measure the acquisitions from the users’ aspect. The core competency of the analysis is, to present the comparison of the importance and performance of the dimensions in a matrix. The simplicity of the matrix makes it possible to understand the results for anyone even without statistical background. It also enables the effective use of limited resources. In this way, managerial actions and better strategies can be implemented by the decision makers.

Rial et al. (2008) described IPA as an easily applicable statistical analysis method which visually demonstrates the strengths and weaknesses of the elements that are needed to be developed. The reason for the widely acceptance of IPA was explained by Oh (2001). He referred the ability of the method is to display the results and strategic recommendations simultaneously.

IPA method consists of 3 phases. First, components are need to be defined with the help of the literature and the focus group discussions. These elements are important to describe what will be evaluated. The importance and the performance values of each component are obtained from participants in the second phase. And finally, the scores of each component are calculated. The results obtained are the values of x and y axis. All the values are demonstrated on a matrix.

The mean of the importance and performance properties used in the analysis is calculated separately and the intersection of the lines is determined. Four fields are show up on the matrix as a result of the intersection of these axes (shown in Figure 6). Figure 7 shows the descriptive representation of the IPA.



Source: Martilla and James (1977)

Figure 6: Classical representation of IPA

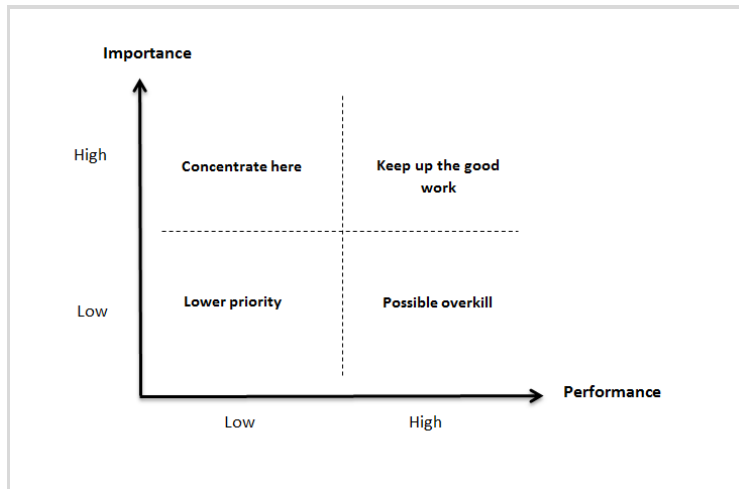


Figure 7: Descriptive representation of IPA

Martilla and James (1977) stated that the lines should be drawn from the midpoint of the scale used. Afterwards, they suggested calculating both the mean and the median. If the values obtained are close to each other, they recommended using median rather than mean values but they underlined that, which one will be used depends on the researcher. This suggestion, undoubtedly strengthen the IPA method. Based on this, both the mean and the median values were used in this study and the results were demonstrated separately. The quadrants were named by Martilla and James (1977) and interpreted in Figure 8.

| | |
|--------------------------|--|
| Concentrate here | Indicates the high degree of the importance but however the low level of satisfaction, so this is the field that requires to concentrate and action. |
| Keep up good work | Indicates the high degree of both importance and performance which means that things are going well and the success here should continue. |
| Low priority | Represent the less important field with low level of both values. It can be interpreted as, this field contains the message that, should not be wasted much effort here. |
| Possible overkill | This quadrant can be detected as a warning because of low level of importance with high level of performance. This means that over resource is allocated here and to be concern is necessary about the components of this field. |

Source: Martilla and James (1977)

Figure 8: Detail explanations of the IPA quadrants

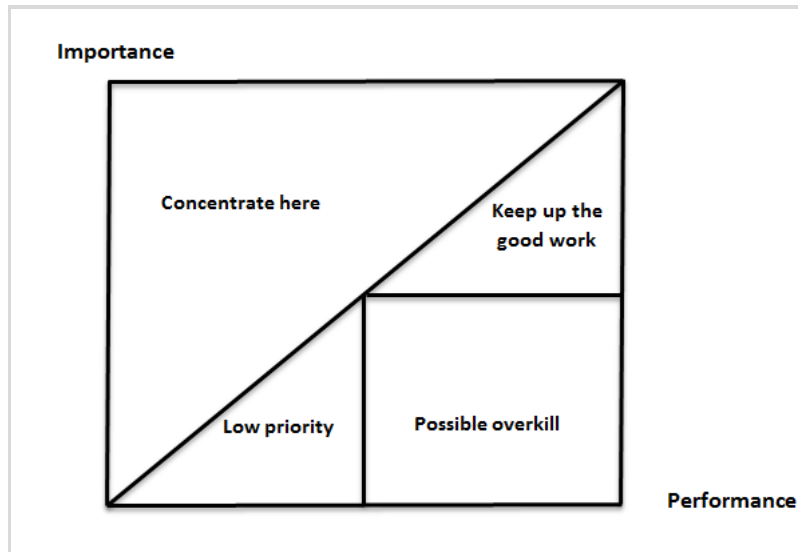
Another approach is to consider the difference between importance and performance values instead of mean or median (Abola et al., 2007, cited from Albayrak and Caber, 2011). The graph is divided into two equal parts with a horizontal diagonal drawn from the points where the values of x and y axis are equal. The components above the diagonal have the negative difference which means that the importance value is greater than the performance value. Accordingly, components with a positive difference values (performance is greater than importance) are in below. The whole area above the horizontal diagonal considered as the ‘concentrate here’ field that Martilla and James (1977) defined. The interpretation of the below area is the same as the original model. The revised representation of the method is given in Figure 9.

Caber et al. (2012) stated that focusing a component’s own performance is a weakness of the IPA by reason of ignoring the relative performance; therefore they preferred revised version of the method. Based on this approach, Abola’s IPA version was also used in our study to examine whether the results would be different.

3.5. Data

The data to be used in this study was obtained from the entrepreneurs who have started their initiatives with the public support between the years of 2012 to 2015. The program is implemented by The Scientific and Technological Research Council of Turkey (TÜBİTAK). TÜBİTAK is the leading agency for management, funding and conducting research in Turkey. It was established in 1963 with a mission to advance science and technology. TÜBİTAK supports R&D projects of both public and private institutions. For this purpose, it develops support programs in line with national science and technology policies for public and private sectors. Furthermore, it publishes scientific journals, popular science magazines and books, organizes science and society activities and supports both undergraduate and graduate students through scholarships.¹

¹ <http://tubitak.gov.tr/en/about-us/content-who-we-are>



Source: Albayrak and Caber, 2011

Figure 9: Revised IPA representation

3.6. Program Details

TÜBİTAK conducts 1512-TechnoEntrepreneurship Support Program (BiGG) since 2012 in order to support entrepreneurial activities from business idea to market. It is aimed to create start-up companies that can promote qualified entrepreneurship and to develop innovative, high-tech products or services with international competitiveness. It is the only entrepreneurship program in the country which is technology-based and publicly funded. For applying to the program, candidates must have one of the three criteria defined in each call document: (1) university students who can graduate within 1 year, (2) students enrolled in a master or doctorate program, and (3) people who have received one of the bachelor's, master's or doctorate degrees up to 10 years ago.

The first step of the program is carried out by implementing agencies which are mostly technology transfer offices of the universities. These TTOs are responsible for collecting the business ideas from candidates, filtering them with an evaluation method expected to be well-designed and determining the business plans which will apply to TÜBİTAK in the second phase. In this first period, TTOs provide mentoring, cooperation networks, and business plan preparation services to entrepreneurs. At the end of this step, the entrepreneurs whose business ideas are validated by these implementing agencies (TTOs), approve to the TÜBİTAK with a business plan for the second phase.

In the second stage, business plans are evaluated by TÜBİTAK with expert panels. The panels consist of academicians and experienced people from industry. The entrepreneurs also join the panels for short presentation. TÜBİTAK expects from experts to grade these business plans on three dimensions. These are; (1) the technology level and innovative aspect of the business plan, (2) the feasibility of the business plan and (3) the commercialization potential of the business plan. After this phase, threshold values are being determined by TÜBİTAK on the basis of technology fields. Threshold values are related to allocated budget, number of applicants or program objectives. Numbers of application and supported of the program are given in Table 18.

Table 18: Numbers of application and supported nnumbers of the program

| Numbers of Application and Supported Numbers of the Program by Years | | | |
|---|---|------------------------------|----------------------------------|
| Year | Business Idea Application (Application to TTO) | Business Plan Application | Number of Supported Companies |
| 2012 | 825 | 360 | 112 |
| 2013 | 1447 | 377 | 126 |
| 2014 | 1289 | 335 | 110 |
| 2015 | 3015 | 551 | 208 |
| TOTAL | | | 556 |

The entrepreneurs, who are announced by TÜBİTAK as eligible to take the financial incentive at the end of the second stage, are expected to establish a company to benefit from capital support. The upper limit of the incentive provided within the scope of the program is 150.000 TRY in the years between 2012 and 2017, but the limit has been increased to 200.000 TRY with the call of 2018. Besides, the duration of the proposed business plans can be up to 18 months.

After signing the agreement between the established start-up and the TÜBİTAK, the 40% of the capital support transfer to the start-up account. Other 40% is made as interim payment and the remaining payment is made after the project is completed.

The supported projects (business plans) are being monitored by TÜBİTAK in 6 months period. Every project is assigned to a staff from TÜBİTAK and an observer from academic circle. The start-up has to deliver a progress report at the end of each period. And the

academic observer has to visit the company to control and report the project. The process of the program is represented in Figure 10 to guide the reader.

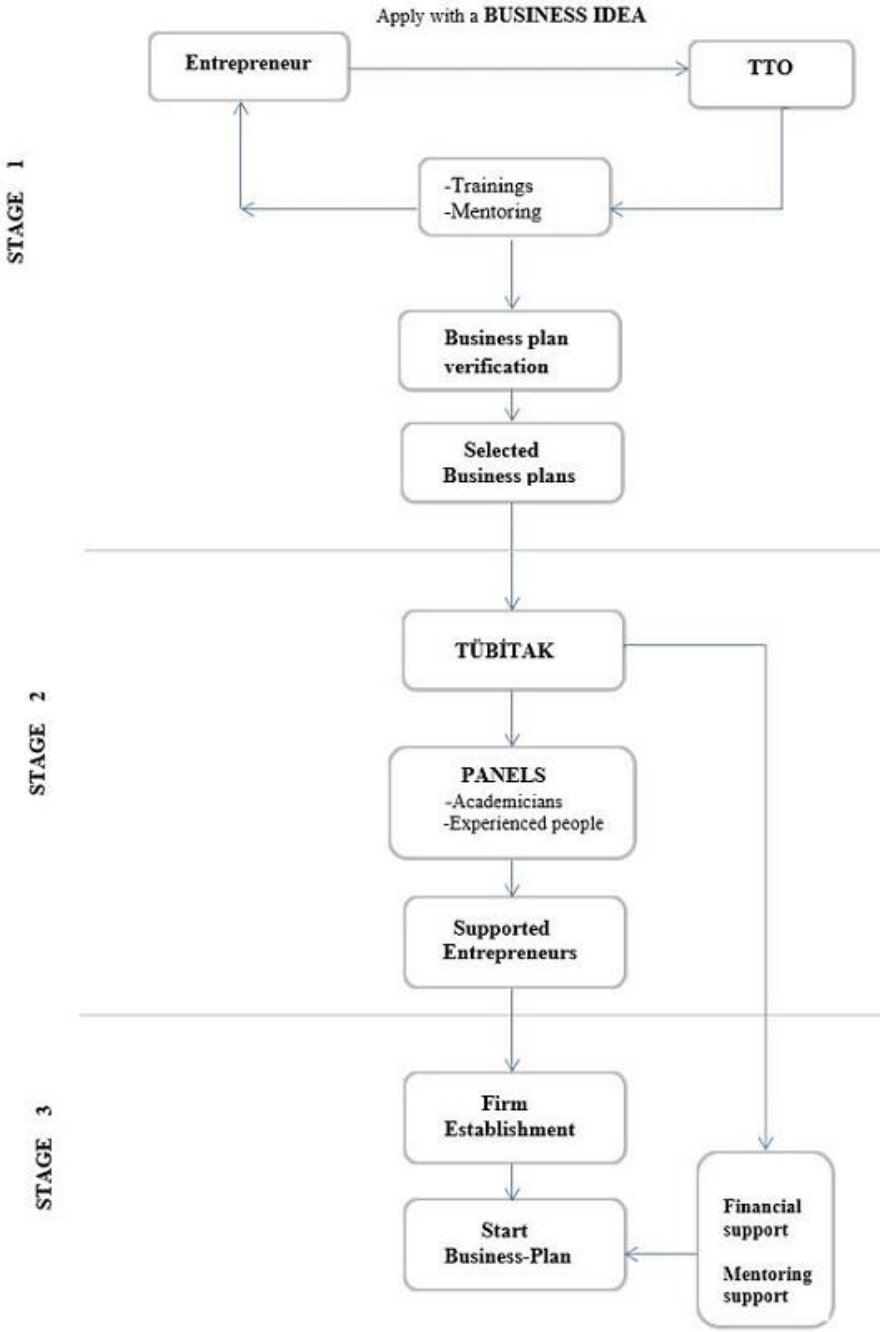


Figure 10: Map of the mentoring program

After the entrepreneurs start their business plans, the mentoring support is also provided for these start-up owners in the following months if requested. Although this service is called as mentoring by program administrators, in the principles² of the support program, the word is called as ‘guide’ and the definition of the term in the related document is as follows: The qualified experienced person who has assigned by TÜBİTAK in order to lead the entrepreneur about technical, commercial and managerial issues.

The mentor community constitutes of academicians, experienced company owners, consultants or people from business world, who are volunteer to be a mentor and approved by program administrators according to various criteria. The mentor pool is constantly being updated in time and currently, there are 1835 mentors that are registered in the TÜBİTAK database as of year 2018.

The entrepreneur’s mentoring request is needed for assignment of a mentor. In the four years period (2012 to 2015), while some entrepreneurs were able to select their mentors, others were matched with their mentors by the program administrators. Likewise, while there were some matching made by considering their mentoring needs, no such implementation was made for the others.

Agreement needs to be signed for each assignment between mentor and the TÜBİTAK. It contains a list of responsibilities of the mentor and also some directions such as meeting type, duration, reporting, ethical principles and financial issues. There isn’t any agreement on the entrepreneur’s side, just sharing the contact details of the mentor with the start-up owner. This issue will be discussed in the conclusion part of this study.

Mentors have to record the notes of each meeting via online system of TÜBİTAK and to deliver a report at the end of the 6-month period. This process (meeting records and reports)

² http://www.tubitak.gov.tr/sites/default/files/261_sayili_bk_islenmis_hali_0.pdf

is required for mentor payment. Indeed, according to the information from program administrators, the assessment here is, to confirm whether the meetings have occurred rather than measuring the contribution of the mentoring support. The charge of the mentor is being calculated with the number of the meetings. On the other hand, the feedback on the entrepreneur's side about mentoring experience is to carry out within 6 open-ended questions in the periodical report. The frequency of the meetings, the contribution of the mentor to the business plan and the opinions about the mentoring service are included. However, these sections are reported to be mostly empty or slipshod answers, as they are not mandatory fields.

Within the scope of the program, 1094 of 2745 business ideas have been supported and started their companies up to now (as of December 2018). 556 of the 1094 start-up companies' projects have been completed during this study. Mentors have been assigned to 442 of these 556 entrepreneurs. Therefore, the sample data of mentoring experience is belonging to these 442 entrepreneurs. However, it should be noted that, in some of these 442 matches, there was no contact occurred between entrepreneurs and mentors (they did not get into touch). The possible causes of this situation are mentioned in the conclusion part of the study.

We should also note that, the program is call-based and designed on a single call for a year. But, there was an exception in 2016 and the call was interrupted. So, there is no available dataset for this year. Furthermore, the entrepreneurs who have been supported in 2017 could not be included in this study due to their projects are still in progress at the time of this thesis.

3.7. Why This Program Chosen to Focus?

There are two public support programs for entrepreneurs in Turkey, one is run by the TÜBİTAK, other is run by Small and Medium Industry Development Organization (KOSGEB). In the program of the KOSGEB, anyone who wants to start a new business (regardless of the field) can be supported without considering the technology level of the projects. On the other side, TÜBİTAK's program is technology-oriented and looking for the entrepreneurs who have a potential to contribute the country's economy, through innovation. Additionally, the entrepreneurs who have been supported by TÜBİTAK also involved in mentoring relation in the first phase of the program that is implemented by TTOs. While the

mentoring to be evaluated does not include that stage, entrepreneurs can make reasonable assessments of mentoring as they are more familiar to this relationship.

3.8. Data Collection

The data in this study is collected in two ways. First, TÜBİTAK database is used to get the email addresses and phone numbers of the entrepreneurs; in addition to program details and statistics. Program administrators, a small number of TTO employees and mentors are also included to the study through interviews to confirm the study metrics. Second, a survey is developed and used to collect the main data of the study from the supported entrepreneurs. The survey is described in detail afterwards.

3.9. Survey

Many evaluations of entrepreneurial mentoring mechanisms are based on surveys which use the program participants (McMullan et al., 2001).

Survey is a research method that consists of questionnaires or interviews to gather data about the experiences or thoughts of individuals in a systematic flow (Bhattacharjee, 2012). The question set can be both structured and unstructured. Structured questions ask participants to select an answer or answers from a set of options; on the other side unstructured questions ask participants to give an answer with their own sentences (Bhattacharjee, 2012). In this study, structured questionnaires are mainly used to collect data from start-up owners. However, there is also one unstructured (open-ended) question exist in the survey to get the additional thoughts of the participants.

With the help of the literature review in the second chapter, a survey was created to obtain quantitative and qualitative data to reveal the impact of mentoring. McMullan et al. (2001) stated that “selection of these measures is the implicit assumption that these outcomes will not occur without the development of the knowledge that leads to better decisions and competitive advantages.” The metrics that have been determined by this approach are given in Table 19 with the source of literature. While determining these metrics, studies which were not only related with mentoring evaluation but also mentoring functions and roles were considered.

Table 19: Determined metrics and sources in the study

| Method | Determined Metrics | Source |
|--------------|-------------------------------|---|
| Quantitative | Number of employees | Sanchez-Burks et al. (2017), Scott et al. (2016), Chrisman et al. (2012), Barrett (2006), Davidsson et al. (2005), McMullan et al. (2001) |
| | Number of part-time employees | Chrisman et al. (2012), Shane (2009) |
| | Investment | Breschi et al. (2018), Scott et al. (2016), Barrett (2006) |
| | Cooperation agreement | Yusuf (2010), Davidsson et al. (2005), Clutterbuck (2004), Deakins et al. (1998) |
| | Patent | Breschi et al. (2018), Scott et al. (2016), Davidsson et al. (2005) |
| | Sales | Sanchez-Burks et al. (2017), Scott et al. (2016), Aulet (2013), Chrisman et al. (2012), Davidsson et al. (2005), McMullan et al. (2001) |
| | First sale | Sanchez-Burks et al. (2017), Scott et al. (2016), Davidsson et al. (2005) |
| | Another product or service | St-Jean and Mathieu (2015), Ozgen and Baron (2007), Barrett (2006) |
| Qualitative | Information support | St-Jean (2011), Yusuf (2010), Barrett (2006) |
| | Advice | Sanchez-Burks et al. (2017), St-Jean (2011), Yusuf (2010), Waters et al. (2002), Bisk (2002), Cope and Watts (2000), Deakins (1997) |
| | Network | Sanchez-Burks et al. (2017), St-Jean and Mathieu (2015), St-Jean (2011), Yusuf (2010), Davidsson et al. (2005), Clutterbuck (2004), Deakins et al. (1998) |
| | Motivation | Sanchez-Burks et al. (2017), St-Jean (2011) |
| | Reflection | Sanchez-Burks et al. (2017), St-Jean and Mathieu (2015), St-Jean (2011), Yusuf (2010), Waters et al. (2002), Sullivan (2000), Cope and Watts (2000) |
| | Friendship | St-Jean (2011), Sanchez-Burks et al. (2017), Waters et al. (2002), Cope and Watts (2000) |
| | Role model | St-Jean (2011), Bisk (2002) |

It should be also noted that, studies are not limited with the ones in Table 19, but this thesis is mainly adopted these studies while determining the metrics.

In the first section of the 3-part survey, questions were used to get the personal information like age, gender. Besides, ‘job status before starting the initiative’ is also asked to analyze the difference between the group of having full time job and the others. Main purpose in the second part was to get the data about the start-up performance via defined metrics. Finally in the third part, determined mentoring functions were used to get the assessments of mentoring experience. 5-point likert scale was used to enable the participants to define the perception level according to the related statement. The survey was created by the professional tool called LimeSurvey which is a free and open source online statistical survey web application. The translated and the original version of the survey is given in the Appendix A and B. In order to prevent incorrect data entry, selectable question types were used.

The survey was sent to 556 start-up owners by e-mail and 15 days were given to respond. TÜBİTAK database is used to get the email addresses. At first, 93 replies have been received. A week later, a reminder email was sent and the number of responses increased to 145. The last reminder was sent a day before the deadline and the warning about the last day was highlighted in the text. The total response was 191 (incomplete data were kept off). 69 respondents have reported that they had no mentoring experience. So, the remaining 122 of the respondents were the mentored ones. It was aimed to obtain more than hundred data for both sides. The non-mentored entrepreneurs who had been supported in 2015 were used and reached by phone, as most recent records belonged to this group. There were 86 records but 43 of them could not be reached, 10 of them reported that they have already responded the survey. The remaining 33 of them replied the questions by phone. Finally, 122 records have been collected from the entrepreneurs who have been matched with a mentor; on the other hand, 102 records from those who have not. The details of the respondents are given in Figure 11, 12, 13, 14 and 15 comparison with the total number of supported entrepreneurs:

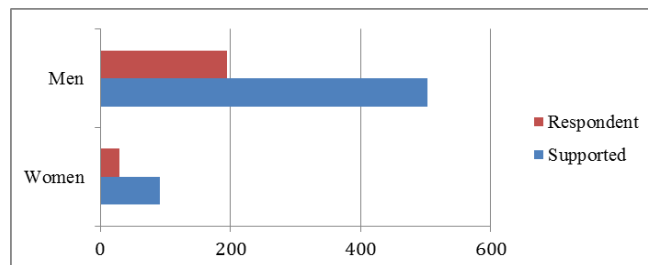


Figure 11: Gender distribution of the data

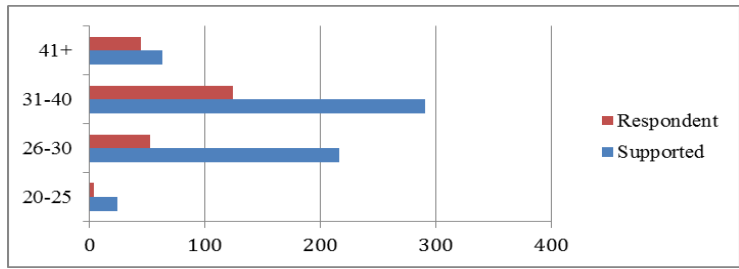


Figure 12: Age distribution of the data

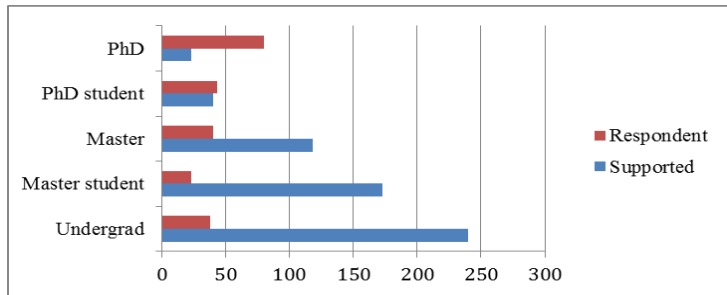


Figure 13: Education status distribution of the data

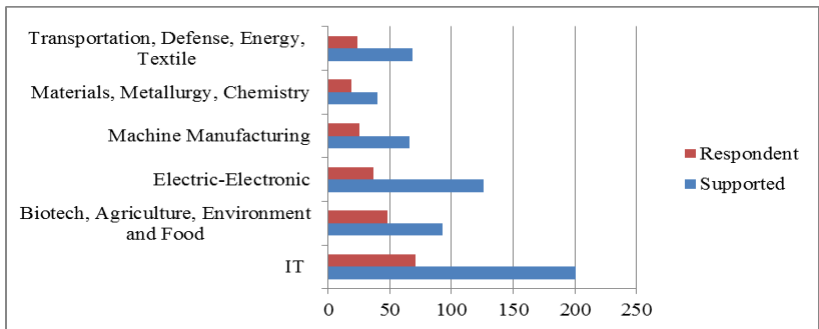


Figure 14: Technological field distribution of the data

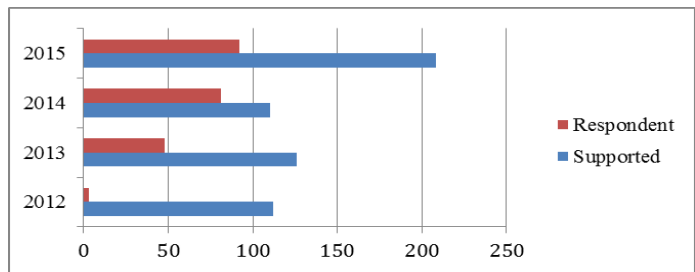


Figure 15: Supported year distribution of the data

According to these results, ratios of the data are largely similar between groups, so it can be said that the respondents are representing the total data group. The only objection can be made to the data of educational status, but when the dates of the collected data are considered (the data which belongs to supported is taken during the application, which means that between 2012 to 2015 but the respondent data is collected in 2018), it is reasonable to assume for undergraduate students that they may have enrolled the master's or doctoral programs in time.

CHAPTER 4

ANALYSIS

As we have mentioned before, Pearson Chi-square analysis was applied to quantitative data to find out whether the results between two groups are statistically significant. And then, the original and the revised version of the IPA are used to analyze the qualitative data. All the analyses have been done in SPSS Statistics 23. SPSS is statistical software that is used to solve business and research problems by using ad hoc analysis, hypothesis testing, and predictive analytics.

4.1. Data Validity and Reliability

The validity generally refers to the control of metrics to confirm that they are appropriate to measure the relevant subject (Bhattacharjee, 2012). It refers the meanings of the measures that were used in the study. There are different types of validity and one of them is ‘content validity’ which is used in this thesis. Drost (2011) stated that “the content validity is a qualitative means of ensuring that indicators tap the meaning of a concept as defined by the researcher”. She suggested to ask the opinions of experts on the field to provide content validity. Bhattacharjee (2012) similarly recommended to use experts to reveal how the indicators overlap with the conceptual definition of the issue.

Based on the information about content validity, the first version of the questionnaire was shared with 24 experts who were involved in the process such as program administrators and experienced mentors. Afterwards, the survey was updated in line with the feedback; ‘number of part-time employees’ and ‘cooperation agreement’ components were added to the survey. The ‘cooperation agreement’ can be gained through useful links and this is actually referring to the network function of the mentoring support.

Reliability is defined as a measure of consistency on the particular concept with various indicators (Bhattacharjee, 2012). The reliability can be calculated with Cronbach’s alpha. Cronbach’s alpha test which is defined by Cronbach in 1951 is used to measure reliability and internal consistency of the factors (Drost, 2011). Internal consistency is used to test

whether the items in the measuring instrument have consistency among themselves. The Cronbach's alpha value should be greater than 0.7 for better reliability but this threshold value can be drawn to 0.60 in some studies (Gürbüz and Şahin, 2015). The Cronbach's alpha value for this study is 0.922 which means that the measurement has an adequate reliability (given in the table below). Also, the correlation between the items is given in the table and these results show that there is a strong correlation between the items.

Table 20: Reliability statistics of the data

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| ,922 | ,920 | 14 |

Table 21: Item-total statistics of the data for likert scale questions

| | Squared Multiple Correlation | Cronbach's Alpha If Item Deleted |
|--------------------|------------------------------|----------------------------------|
| [Information] Imp | ,526 | ,921 |
| [Advice] Imp | ,561 | ,921 |
| [Network] Imp | ,523 | ,927 |
| [Motivation] Imp | ,612 | ,919 |
| [Reflection] Imp | ,636 | ,921 |
| [Friendship] Imp | ,594 | ,920 |
| [Role Model] Imp | ,635 | ,916 |
| [Information] Perf | ,841 | ,912 |
| [Advice] Perf | ,850 | ,913 |
| [Network] Perf | ,671 | ,914 |
| [Motivation] Perf | ,890 | ,912 |
| [Reflection] Perf | ,863 | ,911 |
| [Friendship] Perf | ,758 | ,914 |
| [Role model] Perf | ,819 | ,910 |

4.2. Results of the Quantitative Analysis

The metrics for the quantitative part of the study were determined as increased number of employees, investment, cooperation agreement, patent, first sale, ongoing sales and other product/service sales. First, the change in the number of employees in both groups was examined. Then, part-time employees were considered separately. According to chi-square test, asym. sig. value is 0.383 and it is not less than 0.05 (see Table 22). So, according to this result, there is no significant difference between two groups on the increased number of

employees. Although the number of the groups are close to each other, the interpretation should be done within the groups separately. As shown in Table 23, in the first group who have gotten a mentor, 28.7 percent of these firms have increased the number of their employee. On the other hand, this ratio in the second group is 23.5 percent.

Table 22: Chi-square results for ‘increased number of employees’

| | Value | df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | ,762 | 1 | ,383 |
| Continuity Correction | ,519 | 1 | ,471 |
| Likelihood Ratio | ,766 | 1 | ,381 |
| N of Valid Cases | 224 | | |

Table 23: Crosstab table of ‘increased number of employees’

| | | | Had a mentor | | Total |
|-------------------------------|-----|--|--------------|--------|--------|
| | | | Yes | No | |
| Increased number of employees | Yes | Count | 35 | 24 | 59 |
| | | % within Increased number of employees | 59,3% | 40,7% | 100,0% |
| | | % within Had a mentor | 28,7% | 23,5% | 26,3% |
| | No | Count | 87 | 78 | 165 |
| | | % within Increased number of employees | 52,7% | 47,3% | 100,0% |
| | | % within Had a mentor | 71,3% | 76,5% | 73,7% |
| Total | | Count | 122 | 102 | 224 |
| | | % within Increased number of employees | 54,5% | 45,5% | 100,0% |
| | | % within Had a mentor | 100,0% | 100,0% | 100,0% |

When we take ‘part-time employee’ in consideration, the results have changed. If part-time employees are added to the number of current employees, the chi-square test and crosstab tables are given in Table 24 and 25. As regards to these results, the asymp. sig. value is 0.014 and it is less than 0.05, so there is a difference between two groups. The details in the crosstab table show that, while the first group has a 32.8 percent, the other group has 49.0 percent (Table 25). Therefore, the non-mentored group has a higher rate on increased employee number when the part-time employees have been considered.

Table 24: Chi-square results for ‘increased number of employees, part-time included’

| | Value | df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | 6,090 | 1 | ,014 |
| Continuity Correction | 5,434 | 1 | ,020 |
| Likelihood Ratio | 6,099 | 1 | ,014 |
| N of Valid Cases | 224 | | |

Table 25: Crosstab table of ‘increased number of employees, part-time included’

| | | | Had a mentor | |
|---|--|--|--------------|-------|
| | | | Yes | No |
| Increased employee (part-time included) | Yes | Count | 40 | 50 |
| | | % within Increased employee (part-time included) | 44,4% | 55,6% |
| | | % within Had a mentor | 32,8% | 49,0% |
| | No | Count | 82 | 52 |
| | | % within Increased employee (part-time included) | 61,2% | 38,8% |
| | | % within Had a mentor | 67,2% | 51,0% |
| Total | Count | 122 | 102 | |
| | % within Increased employee (part-time included) | 54,5% | 45,5% | |
| | % within Had a mentor | 100,0% | 100,0% | |

The next metric is ‘investment’ and the chi-square test shows that there is not any significant difference between two groups (see Table 26). While the 17.2 percent of the first group has received an investment, the other group has a 14.7 percent. The mentored group has a 58.3 percent in the invested companies, on the other side non-mentored entrepreneurs has a 41.7 percent in the whole invested group (see Table 27).

Table 26: Chi-square results for ‘investment’

| | Value | df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | ,259 | 1 | ,611 |
| Continuity Correction | ,106 | 1 | ,744 |
| Likelihood Ratio | ,260 | 1 | ,610 |
| N of Valid Cases | 224 | | |

Table 27: Crosstab table of ‘investment’

| | | | Had a mentor | |
|------------|-----|-----------------------|--------------|--------|
| | | | Yes | No |
| Investment | Yes | Count | 21 | 15 |
| | | % within Investment | 58,3% | 41,7% |
| | | % within Had a mentor | 17,2% | 14,7% |
| | No | Count | 101 | 87 |
| | | % within Investment | 53,7% | 46,3% |
| | | % within Had a mentor | 82,8% | 85,3% |
| Total | | Count | 122 | 102 |
| | | % within Investment | 54,5% | 45,5% |
| | | % within Had a mentor | 100,0% | 100,0% |

During the content validity, the ‘cooperation agreement’ metric has emerged as a subtitle of investment. In some cases, an agreement (that is committed to a cash flow when certain conditions are provided) could be made instead of direct investment and this could be perceived as a kind of investment. Therefore, this data was asked separately and included into investment but analyzed externally. But still, there isn’t any significant difference between two groups. The chi-square test and crosstab results are given in Table 28 and 29.

Table 28: Chi-square results for ‘Investment or cooperation agreement’

| | Value | Df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | ,659 | 1 | ,417 |
| Continuity Correction | ,436 | 1 | ,509 |
| Likelihood Ratio | ,657 | 1 | ,418 |
| N of Valid Cases | 224 | | |

Table 29: Crosstab table of ‘investment or cooperation agreement’

| | | | Had a mentor | |
|-------------------------------------|-----|--------------------------------------|--------------|--------|
| | | | Yes | No |
| Investment or cooperation agreement | Yes | Count | 30 | 30 |
| | | % within investm. or coop. agreement | 50,0% | 50,0% |
| | | % within Had a mentor | 24,6% | 29,4% |
| | No | Count | 92 | 72 |
| | | % within investm. or coop. agreement | 56,1% | 43,9% |
| | | % within Had a mentor | 75,4% | 70,6% |
| Total | | Count | 122 | 102 |
| | | % within investm. or coop. agreement | 54,5% | 45,5% |
| | | % within Had a mentor | 100,0% | 100,0% |

Next metric is ‘patent’ and asym. sig. value is 0.004 which is less than 0.05 (see in Table 30). There is a significant difference between two groups. To clarify more, the crosstab table shows the patented ratios within groups. It is equal to 20.5 percent in the first group, whose owners have received a mentoring support. On the other side, the rate of the group who have not received mentoring, is just 6.9 percent (see in Table 31).

Table 30: Chi-square results for ‘patented product or method’

| | Value | Df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | 8,427 | 1 | ,004 |
| Continuity Correction | 7,351 | 1 | ,007 |
| Likelihood Ratio | 8,974 | 1 | ,003 |
| N of Valid Cases | 224 | | |

Table 31: Crosstab table of ‘patented product or method’

| | | | Had a mentor | |
|----------------------------|-----|-------------------------------------|--------------|--------|
| | | | Yes | No |
| Patented product or method | Yes | Count | 25 | 7 |
| | | % within Patented product or method | 78,1% | 21,9% |
| | | % within Had a mentor | 20,5% | 6,9% |
| | No | Count | 97 | 95 |
| | | % within Patented product or method | 50,5% | 49,5% |
| | | % within Had a mentor | 79,5% | 93,1% |
| Total | | Count | 122 | 102 |
| | | % within Patented product or method | 54,5% | 45,5% |
| | | % within Had a mentor | 100,0% | 100,0% |

When we move on to start-up activities about sales, the metrics are divided into three. These are; first sale, ongoing sales and another product or service sales. The chi-square test results for “first sale” are given in Table 32. Due to the asym. sig. value (0.405) is not less than 0.05, there isn’t a significant difference between comparison groups on this metric. The detail of the related data is given through crosstab table in Table 33:

Table 32: Chi-square results for ‘first sale’

| | Value | df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | ,693 | 1 | ,405 |
| Continuity Correction | ,473 | 1 | ,492 |
| Likelihood Ratio | ,695 | 1 | ,404 |
| N of Valid Cases | 224 | | |

Table 33: Crosstab table of ‘first sale’

| | | | Had a mentor | |
|------------|-----|-----------------------|--------------|--------|
| | | | Yes | No |
| First Sale | Yes | Count | 41 | 29 |
| | | % within First Sale | 58,6% | 41,4% |
| | | % within Had a mentor | 33,6% | 28,4% |
| | No | Count | 81 | 73 |
| | | % within First Sale | 52,6% | 47,4% |
| | | % within Had a mentor | 66,4% | 71,6% |
| Total | | Count | 122 | 122 |
| | | % within First Sale | 54,5% | 54,5% |
| | | % within Had a mentor | 100,0% | 100,0% |

The next metric is ‘ongoing sales’ and the results are given in Table 34 and Table 35. The asymp. sig. value, again is not less than 0.05 and it means that there isn’t any difference between the groups on this metric.

Table 34: Chi-square results for ‘ongoing sales’

| | Value | Df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----------|-----------------------|
| Pearson Chi-Square | ,679 | 1 | ,410 |
| Continuity Correction | ,428 | 1 | ,513 |
| Likelihood Ratio | ,677 | 1 | ,411 |
| N of Valid Cases | 224 | | |

Table 35: Crosstab table of ‘ongoing sales’

| | | | Had a mentor | |
|---------------|-----|-------------------------|--------------|--------|
| | | | Yes | No |
| Ongoing Sales | Yes | Count | 21 | 22 |
| | | % within Ongoing Sales | 48,8% | 51,2% |
| | | % within Had a mentor | 17,2% | 21,6% |
| | No | Count | 101 | 80 |
| | | % within Ongoing Sales. | 55,8% | 44,2% |
| | | % within Had a mentor | 82,8% | 78,4% |
| Total | | Count | 122 | 102 |
| | | % within Ongoing Sales | 54,5% | 45,5% |
| | | % within Had a mentor | 100,0% | 100,0% |

Finally, the last metric is ‘another product or service sales’. The chi-square test and crosstab tables are given in Table 36 and 37. There is again no significant difference on this metric between two groups.

Table 36: Chi-square results for ‘another product or service sales’

| | Value | Df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | 2,782 | 1 | ,095 |
| Continuity Correction | 2,343 | 1 | ,126 |
| Likelihood Ratio | 2,797 | 1 | ,094 |
| N of Valid Cases | 224 | | |

Table 37: Crosstab table of ‘another product or service sales’

| | | | Had a mentor | |
|-----------------------------------|-----|--|--------------|--------|
| | | | Yes | No |
| Another product/ service sales | Yes | Count | 54 | 34 |
| | | % within Another product/service sales | 61,4% | 38,6% |
| | | % within Had a mentor | 44,3% | 33,3% |
| | No | Count | 68 | 68 |
| | | % within Another product/service sales | 50,0% | 50,0% |
| | | % within Had a mentor | 55,7% | 66,7% |
| Total | | Count | 122 | 102 |
| | | % within Another product/service sales | 54,5% | 45,5% |
| | | % within Had a mentor | 100,0% | 100,0% |

In addition to above results, unrelated with the mentoring impact, another analysis is also done to find out, if a difference exist between the group of ‘having a full-time job before starting the initiative’ and the others (students, unemployed, part-time employee or academicians). These analysis is based on Schoar’s (2010) study and aimed to reveal the difference of entrepreneur types. The ‘increased number of employee’ is used to observe the difference due to the suggestions of the previous researchers (e.g. Breschi et al., 2018; Schoar, 2010). According to the results, the asymp. sig. value is 0.023 and less than 0.05. So, there is a significant difference between the groups and the group whose owners had a full-time job before the initiative, seems more successful based on the selected metric. The Chi-square test results and crosstab values are given in Table 38 and 39. Comments and discussions about all these results are given in the last chapter of this study.

Table 38: Chi-square results for ‘increased employee number with had a full time job before’

| | Value | df | Asymp. Sig. (2-sided) |
|-----------------------|-------|----|-----------------------|
| Pearson Chi-Square | 5,197 | 1 | ,023 |
| Continuity Correction | 4,535 | 1 | ,033 |
| Likelihood Ratio | 5,219 | 1 | ,022 |
| N of Valid Cases | 224 | | |

Table 39: Cross table of ‘increased employee number with had a full time job before’

| | | | Had a full-time job | |
|--------------------|-----|--------------------------------------|---------------------|-------|
| | | | Yes | No |
| Increased employee | Yes | Count | 37 | 24 |
| | | % within Increased employee | 60,7% | 39,3% |
| | | % within Had a full-time job | 34,3% | 20,7% |
| | No | Count | 71 | 92 |
| | | % within Increased employee | 43,6% | 56,4% |
| | | % within Had a full-time job | 65,7% | 79,3% |
| Total | | Count | 108 | 116 |
| | | % within Increased employee employee | 48,2% | 51,8% |

4.3. Results of the Qualitative Analysis

As it was stated previously, the IPA method was used for qualitative part of the study. Martilla and James (1977) suggested to calculate both mean and median, and if the values are close to each other, they recommended to use mean. On the other hand, Bruyere et al. (2002) stated that, changing the intersection points provides the researcher flexibility to interpret the results. Therefore, three different types of the IPA method (using median, mean and revised version) were used separately to determine whether the results would differ. The defined metrics, their notations and the values (calculated with averages) on importance and performance are given in Table 40 below:

Table 40: Importance-performance metrics and values in the study

| Notations | Metrics | Importance | Performance |
|-----------|-------------|------------|-------------|
| Q1 | Information | 3,84 | 3,55 |
| Q2 | Advice | 4,20 | 3,70 |
| Q3 | Network | 3,81 | 3,08 |
| Q4 | Motivation | 4,00 | 3,58 |
| Q5 | Reflection | 3,75 | 3,33 |
| Q6 | Friendship | 3,19 | 3,29 |
| Q7 | Role Model | 3,23 | 3,01 |

According to the calculated importance-performance values, the IPA method is applied with using a ‘median’ first in SPSS, and the result graphic is given in Figure 16. Changing the intersection point is suggested by Martilla and James (1977) in case the values are close to each other. Although the values are not very close to each other in our graphic, two of our metrics are exactly on the axes which makes hard to determine their quadrants. So, for deciding the quarter of which these metrics are belong to, another graphic is also needed which was created by using ‘mean’ (see Figure 17).

With the help of the second graphic (Figure 17), we can easily decide about the Q3 (network) and Q5 (reflection) metrics. Both of them are belong to ‘concentrate here’ quadrant which is the most important part of the results. The distribution of the other components are in the same quadrants in both graphics. Therefore, the second graphic can be used to interpret the results. But, another version of the IPA method may contribute to the results. As it is already mentioned previously, this version was also used in our study to examine whether the results would be different. The revised IPA method which was suggested by Abola et al. (2007, cited from Albayrak and Caber, 2011) was used lastly to improve the findings. The output graphic is given in Figure 18.

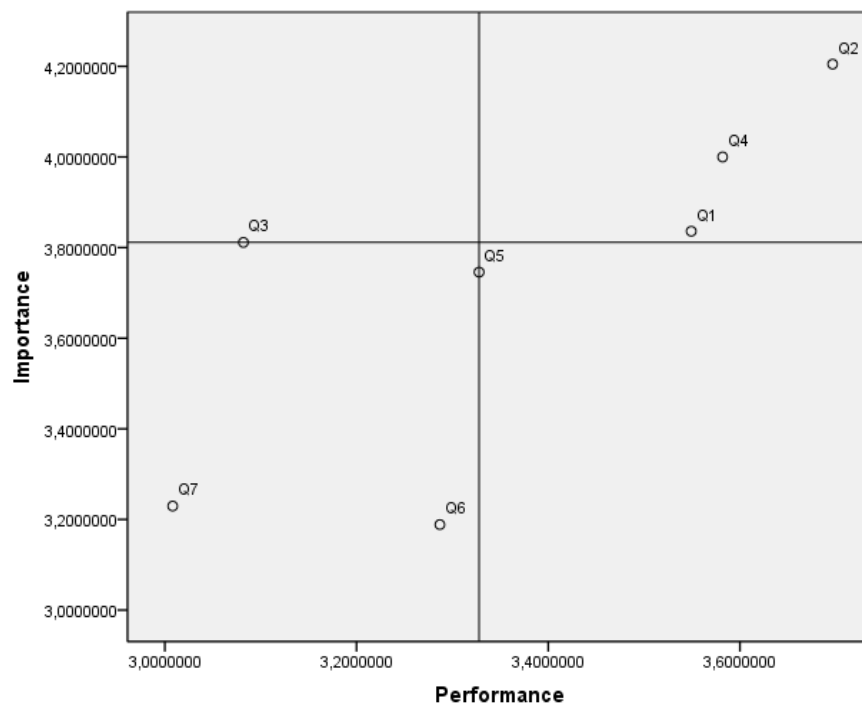


Figure 16: The results of the IPA with using ‘median’

Considering the last graphic (Figure 18), a new component was added to the ‘concentrate here’ quadrant. On the other side, there is not any difference between graphics for the other components, all of them are belong to same quadrants on each graph.

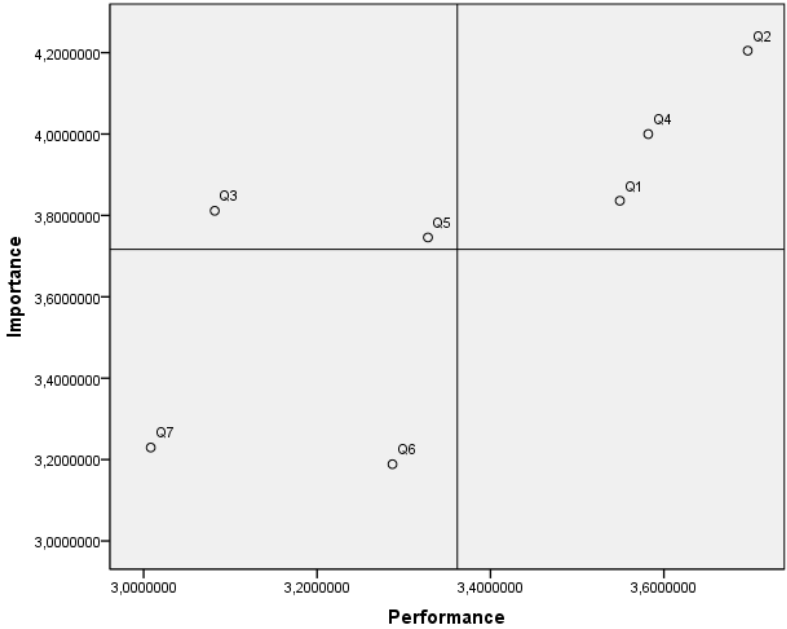


Figure 17: The results of the IPA with using ‘mean’

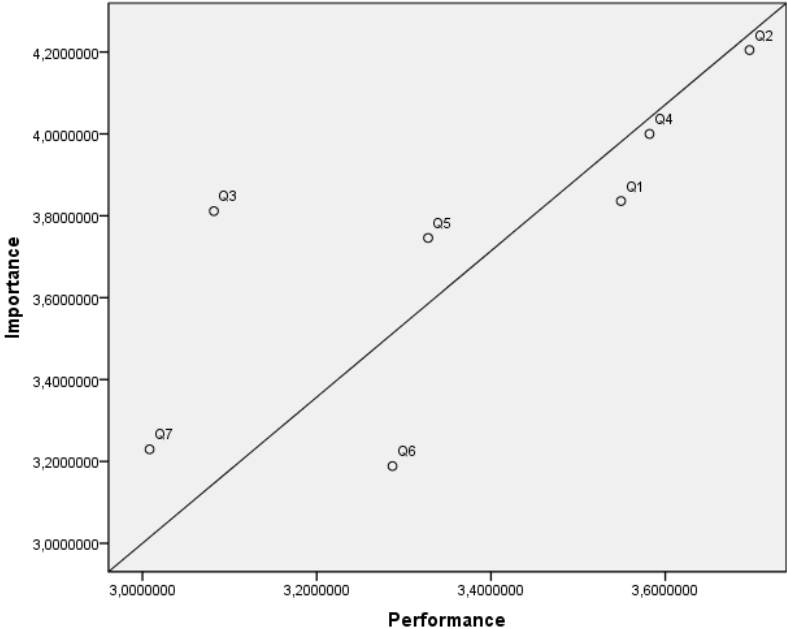


Figure 18: The results with the revised version of IPA

As we summarize all these results together, 'network' and 'reflection' metrics are definitely in the 'concentrate here' quadrant. Besides, 'role model' can also be included to this area based on the last graphic. Abola et al. (2007, cited from Albayrak and Caber, 2011) claimed that focusing on component's own performance with ignoring the relative performance is a weakness of the IPA method and suggested to use whole part of the horizontal diagonal as a 'concentrate here' quadrant. Besides, 'role model' function is strongly suggested in many studies, especially for entrepreneurial mentoring (e.g. St-Jean (2011), Bisk (2002)). Therefore, this component was interpreted as 'concentrate here' quadrant.

On the other side, 'information', 'advice' and 'motivation' metrics are the ones that should be kept up with the good work. These are assessed as 'high importance and high performance' metrics by the participants. This result shows that, they were satisfied by their mentors on these functions.

The 'friendship' metric is in the 'low priority' part and implies that no need to effort a lot for this function. And finally, there is not any component in the 'possible overkills' quadrant, which means that allocation of over resource is not related with any function of the mentoring program.

CHAPTER 5

CONCLUSION

In this part, revealed information about entrepreneurial mentoring and its evaluation mechanism will be summarized and the findings of the study will be presented. Policy recommendations are proposed based on these findings and implications for further research are to be discussed. Finally, the thesis will be completed with concluding remarks.

5.1. Summary and Main Findings

Mentoring mechanisms can be an effective way to support entrepreneurs who have a potential to positively influence the economy of the countries. Therefore, many countries such as US, Canada, Sweden, China, Ireland and Australia are running mentoring programs for helping the entrepreneurs during first years of their initiatives (St-Jean, 2011; Rigg & O'Dwyer, 2012; St-Jean and Mathieu, 2015; Ting et al, 2017). Thus, the evaluation of the mentoring programs become important at this point.

In this study, we have searched for the evaluation methods and developed a methodology which bases on the literature to find out the impact of TÜBİTAK's mentoring program. Firstly, the term 'mentoring' and its determinants have been clarified and it is revealed that, entrepreneurial mentoring should be a learning-based relationship. For this reason, the concern should not focus only on the performance of the initiative but also on the development of start-up owners (both personal and professional).

It is essential to define the difficulties that entrepreneurs frequently face, and then how these can be overcome through mentoring relationships should be considered. Especially in formal mentoring relationships, the responsibilities and the functions of the mentor, and moreover, expected outcomes of the relationship are important concerns. To analyze these, entrepreneurial mentoring functions and possible evaluation metrics of this mechanisms were comprehensively defined in the study. Because there were qualitative and quantitative analyses in the literature, we used both approach. The qualitative functions were evaluated according to participant satisfaction with perception; and the quantitative ones were

evaluated according to firm performance. Table 41 summarizes these defined mentoring functions and expected outcomes as evaluation metrics.

Table 41: Defined evaluation metrics used in the study

| Evaluation Metrics | |
|--|---|
| Mentor Functions (Qualitative) | Expected Outputs (Quantitative) |
| Information Advice Network Motivation Reflection Friendship Role model | Increased in number of employees Investment or cooperation agreement Patent Sales (First sale and ongoing sales) Another product or service sales |

Mentors should *provide beneficial information* on business development, finance or marketing. Giving suggestions or guiding entrepreneur in case of problems is also crucial. *Providing or facilitating access to useful individuals or organizations (networking); encouraging; helping for being aware of the self-potential; being a friend and a source of inspiration* are defined as important functions of mentoring in the study.

With the help of these suggested metrics (see Table 41), an evaluation has been done on the start-up mentoring program. The program was a publicly funded and the mentees were the entrepreneurs whose initiatives has started between 2012 and 2015 with the public incentive called ‘Techno-Entrepreneurship Support Program’. Although there were 556 entrepreneurs supported with the related program, 224 of them could be reached and included in this study.

The comparison method (mentored and non-mentored entrepreneurs) was used to evaluate the outputs of the program. Metrics defined as an expected output of the program have been asked to the both sides and the collected data was used to compare the group differences. Eventually, following statements were revealed as findings of quantitative part of the study:

There was no significant difference between mentored and non-mentored groups according to the ‘increase in the number of full-time employees’, ‘investment’, ‘cooperation agreement’, ‘firs sale’, ‘ongoing sales’ and ‘another product or service sales’ metrics.

On the other hand, there was a significant difference found between the two groups according to the ‘patent’ and ‘increase in the number of employees (part-time included)’

metrics. It has been observed that, the patent rates are higher in the mentored group while ‘increased number of employee (part-time included)’ is higher in the non-mentored group.

At the same time, the perception of the participants (the mentored group) were asked for each of the defined mentoring functions as an importance and a performance (satisfaction) level. The IPA method was used to analyze this qualitative data and following statements were revealed as a finding:

‘Information’, ‘advice’ and ‘motivation’ functions were assessed by the participants as a high score both on importance and performance. This means that, these metrics were perceived by the mentees as a valuable contribution and moreover, they were satisfied with these functions in the scope of the mentoring program.

‘Network’ and ‘reflection’ functions were in the first quadrant which means that, these metrics were perceived as a high level of importance but low level of performance. So, these functions were needed to be concentrated on and should be taken in consideration by program administrators.

The findings about ‘role model’ function may be interpreted in two ways. It can be included into first quadrant with revised IPA approach. According to this, it should be interpreted that this function needs to be concentrated. On the other hand, based on the classical version of IPA, it can also be included into third quadrant which means that it was perceived as a low priority metric. Some researchers highlighted the role model function because the mentor is a former entrepreneur (St-Jean, 2011; Deakins et al., 1998). Therefore, we believe that, this function also needs to be concentrated on together with network and reflection functions.

‘Friendship’ metric was assessed as a low priority which means no need to waste too much effort on this function. There isn’t any metric which can be shown as a possible overkill.

In addition to these results, apart from mentoring impact, an analysis have been done to find out, whether the high-growth potential of the start-ups are related with the fact that the entrepreneur had a full-time job before. This curiosity arose due to the employment expectancy of entrepreneurship support programs. At the same time, some researchers have emphasized that the individuals who have not a full-time job are more likely to start an

initiative and this situation defines as a ‘lower opportunity cost’ (Shane, 2009; Schoar, 2010). According to this, the following result was found:

The start-ups whose owners had a full-time job before started the initiative are more successful than the others on the basis of ‘increased number of employee’ which point out as a possibility to turn into high-growth firms.

The summary of the results in the study are represented in Table 42.

Table 42: Summary of the results

| Evaluated metrics of the program | | Results of the analyses |
|----------------------------------|--|--|
| Qualitative | Information | Keep on good work, high importance and high performance. |
| | Advice | Keep on good work, high importance and high performance. |
| | Network | Need to concentrate, high level of importance but low level of performance. |
| | Motivation | Keep on good work, high importance and high performance. |
| | Reflection | Need to concentrate, high level of importance but low level of performance. |
| | Friendship | No need to effort, low level of importance and low level of performance. |
| | Role model | Need to concentrate, even low level of importance and low level of performance. |
| Quantitative | Increased Employee | No significant difference between mentored and non-mentored groups. |
| | Increased Employee (part-time added) | There is a significant difference between two groups; non-mentored group have a significantly higher ratio both within themselves and within the whole group. |
| | Investment | No significant difference between mentored and non-mentored groups. |
| | Patent | There is a significant difference between two groups; mentored group have a significantly higher ratio both within themselves and within the whole group. |
| | First Sales | No significant difference between mentored and non-mentored groups. |
| | Ongoing Sales | No significant difference between mentored and non-mentored groups. |
| | Another product/service sales | No significant difference between mentored and non-mentored groups. |
| Other | ‘Increased Employee’ vs ‘had a full-time job before’ | There is a significant difference between groups; start-ups whose owners had a full-time job before the initiative, have a significantly higher ratio both within themselves and within the whole group. |

5.2. Discussion and Implications for Further Research

The impact of mentoring programs is generally ignored due to its complexity. However, evaluation mechanisms are the main determinants for the policy makers and program administrators. The key point about mentoring is that the evaluation need to be designed simultaneously with the program itself. The purpose and expected outcomes of the mentoring relationship should be clearly defined. For example, the selected program that was analyzed in this study, defines mentoring support as ‘leading the entrepreneur about technical, commercial and managerial issues’. But it is a highly implicit definition. Instead, a set of functions should be defined clearly (e.g. ‘help to access customers’) and thus, functions can be used as an evaluation metrics.

Matching is a critical issue in mentoring relations as it has been already mentioned in the literature very often (e.g. Hunt and Micheal, 1983; Cox, 2005; Barrett, 2006). It is a critical process to avoid the ineffectiveness of formal programs (Eby and McManus, 2004). Indeed, the satisfaction level of the entrepreneurs who have selected their mentor was found higher than those who have been matched by program administrator in our study (see Appendix C). Therefore, the programs which allow parties to select his/her mentor and mentee would be more likely to succeed. An online platform may be used to this matching process and one-time change can also be made. It is also frequently reported by the participants (with the open-ended question in the survey) that the mentors they were paired with, were unsuitable for them or not competent. So, forced pairing which is opposite to the nature of concept (Bisk, 2002) may cause weakness or termination of the relationship. This can be a reason for short-term relations in our sample group. Sanchez-Burks et al. (2017) found that there is a relation between the satisfaction level of the mentoring relationship and the frequency of the meetings. Then, the matching issue may be a reason for short-term or non-beneficial relationships.

Another point which reminds matching (but actually it’s not related) is, mentor intention. As we have already mentioned in Chapter 2, mentors should not compete with his/her mentee. According to some answers, a couple of mentees have a suspicion about their mentors due to being active in the same field. Although being active in the same field may be an advantage for the relationship, it can also cause conflict of interest. So, ‘mentor intention’ can be a selection criterion for the program managers. A number of tests can be applied to the mentors to reveal the real intentions of them.

The time interval of the mentoring program is also important. Some participants stated that (through open-ended question) they haven't benefited from mentoring due to the assignment was delayed. Indeed, many researchers emphasized that this support is critical especially in the early stages of start-ups (e.g. Sanchez-Burks et al., 2017; Waters et al., 2002). According to meeting details (see Appendix C), the reason of having few contacts in some relations may be the late assignments of mentor.

In the analysis of the mentoring program, it is observed that, the monitoring process is half-structured. There is no clearly defined process about the information that was transmitted through the periodical report by mentor, mentee and observer academician. The experts from TÜBİTAK reported that this information is used to manage mentor payments and maybe to control ethical issues, not to monitor the program's contribution. So, monitoring phase should be an issue to discuss. Additionally, using online platforms is an important and related issue which should be taken into consideration as well. Although some steps may seem to be online in the related mentoring program, most part of the processes are being performed with classical methods because of the lack of a well-structured online system and this makes it difficult to manage the monitoring which was mentioned as an essential factor by the researchers (e.g. Gertler et al., 2016).

We found that some of the defined mentoring functions are both important and effective in the program (knowledge, advice and motivation). But it should be noted that, satisfaction of the participants should not be used for impact evaluation alone. Grossman (2005) explained this with an example that, the most enjoyable lecture does not have to be the most instructive one. Hence, these functions should also deserve attention to improve the program.

During the phone interviews, it is observed that some outputs have not emerged yet even though these firms are older than 3 years. As an example, the answer of the 'have you get an investment' or 'did you make your first sale' questions were taken as 'no', although some participants added that they will reach these outputs in the near future. Therefore, required time for the defined outputs may be studied in further research; besides, evaluation can be repeated after a period of time to assess the results again.

This study is based on firm performance and mentee satisfaction to evaluate mentoring. Mentor's perception and assessment may also be included in further research to evaluate the

impact. Additionally, mentor and mentee groups can be compared to find out whether the parties have similar perceptions. For instance, some participants have reported that, the advice or information that was transmitted by mentor was not what they needed. Then, a study can be made to ensure the common understanding of the parties. Also, it can be possible to get some additional results with the assessment of mentors.

Some start-ups may be closed even they are successful (Bates, 2005) due to another job opportunity or changed targets. In some cases, even if the entrepreneur terminates the initiative, it may be a positive output of the mentoring (Scott et al., 2016). This approach can be included in further research and closed or inactive firms can be also examined to reveal the possible mentoring impact on the decision. But for sure, the purpose of the program is a critical issue and it should be considered whether such situations are among the objectives of the program.

According to our results, ‘increased employee number with part-time added’ rate is higher in the non-mentored group, we believe that having full-time employees is a critical indicator for the start-up success and performance. So, it can be investigated in further studies whether this metric is considered as a positive output or not.

Lastly, the data set in this study consists of company owners who have technology-based start-ups and started their initiatives by public support. So, start-ups other than this group (for example, those who have supported by KOSGEB can be included) may be taken into consideration as well, to expand the scope of these kinds of studies.

5.3. Policy Recommendations

Before moving to policy recommendations, it might be necessary to express shortly about innovation policies. Borrás and Edquist (2013) defines innovation policy is an intervention that is implemented by public institutions to affect the innovation processes, and policy instruments are used as a tool to do this. The main objectives of innovation policies may be economic such as growth or employment; but policy instruments cannot provide these ultimate objectives, rather they can only effect processes. Borrás and Edquist (2013) divided the policy instruments into three categories which are given with detailed examples in Figure 19.

| | |
|--------------------|--|
| Regulations | <ul style="list-style-type: none"> • Intellectual property rights • Universities and PROs statutes • Competition policy about R&D alliances • Bioethical regulations |
| Economic transfers | <ul style="list-style-type: none"> • ‘En block’ support to research organizations and universities • Competitive research funding • Tax exemptions • Support to venture and seed capital |
| Soft instruments | <ul style="list-style-type: none"> • Voluntary standardization • Codes of conduct • Public-private partnerships • Voluntary agreements |

Source: Borrás and Edquist (2013)

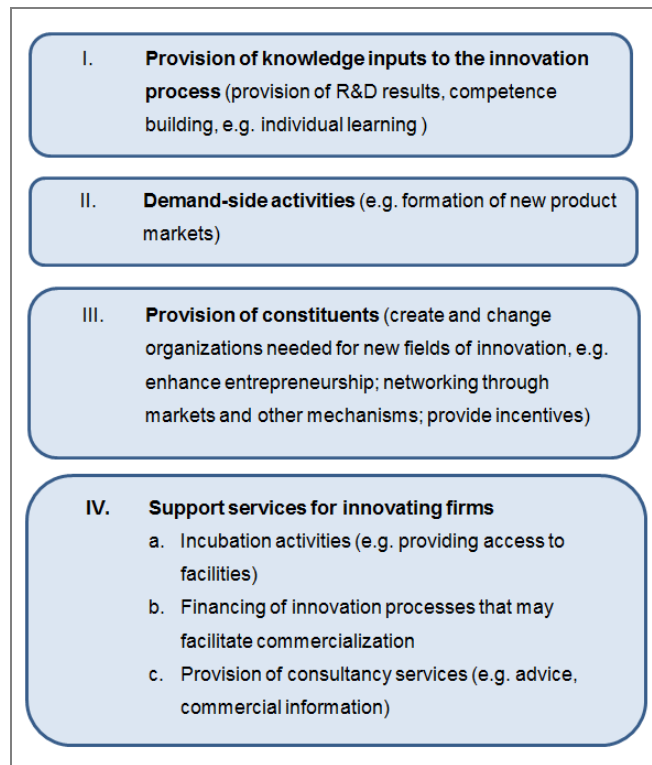
Figure 19: Categories of policy instruments and sample executions

Regulatory instruments refer the laws or rules and expect some facilitative from government for social and market interactions; economic transfers generally point out the financial support like incentives (or may be disincentives) and lastly, soft instruments are referring the indirect intervention that enable exchange knowledge between actors (Borrás and Edquist, 2013). Mentoring mechanisms may be considered as a soft instrument.

If we go back the innovation processes, there are four main groups of activities that were defined by Edquist (2005) about innovation processes and these are listed in Figure 20.

According to these defined activities, entrepreneurial mentoring, mainly belongs to the fourth item, but its impact is also related with the others such as ‘individual learning’ or ‘enhance entrepreneurship’ (which are the sample activities of the item I and III). Then, we can interpret the mentoring as an important execution for innovation activities.

In order to perform the appropriate interventions by public institutions, Borrás and Edquist (2013) also suggested that the definition of the problem is crucial but not enough. In addition to identification of a problem, the reasons that reveal this problem should also be known by decision makers. This approach was basically adopted in this study to bring out policy recommendations.



Source: Edquist, 2005

Figure 20: Main activities in innovation systems

In Turkey, which was discussed in this thesis, it is quite obvious that there has not been an established mentoring culture yet. Many entrepreneurs do not prefer mentoring support for the reason that they believe they cannot benefit from this relationship (related data obtained in the survey are given in the Appendix C) or even if they prefer, they do not make an effort to continue the relationship. Therefore, the concept of mentoring should be properly defined and placed in the ecosystem of entrepreneurship. To achieve this, entrepreneurship trainings in the incubators and accelerator mechanisms can be used firstly. Furthermore, giving more attention to this issue in the symposiums or other activities about entrepreneurship, may also help to strengthen the perception of mentoring. The mentoring should be placed into the entrepreneurial activities at all levels. Likewise, mentor-mentee relationships which can be shown as a success story might be used to arouse excitement and curiosity in entrepreneurs.

Culture is not a problem only on the entrepreneur side. It should also be taken into consideration in regard to mentors. Ting et al. (2017) suggested that, one of the reasons for

the low effect of mentoring support in China was, the lack of a voluntary service culture. If the mentoring is mainly carried out with a financial concern (Sanchez-Burks et al., 2017) or other possible profit, then these intentions are most likely to damage the relationship. Indeed, according to the program managers in our study, mentors are mostly included in the program due to financial concerns. Similarly, some participants reported that they felt this intention during the relation. So, some interventions are also necessary on the mentor side which will influence the perception of this relationship. For example, creating willingness to help someone else with the only feeling of satisfaction. Rewards are suggested in the literature (e.g. Ting et al., 2017) to motivate the mentors. Additionally, the mentors of the successful start-ups can be highlighted in order to arouse respect for them in the business environment. These kinds of social gains may increase mentoring motivation.

Mentor quality should be another concern for policy makers. Because, if you do not have sufficient number of qualified mentors, then there is no need to think about mentoring intervention. Outsider supports should be provided by well-trained and experienced persons, moreover the information should be transformed in accordance to entrepreneur's needs in an understandable way (Chrisman and McMullan, 2004). So, methods should be considered to improve mentor qualification and skills. Furthermore, it is essential for the mentor to have some pedagogical abilities for transferring the information needed by the mentee in a comprehensible manner. The first suggestion about these can be 'training' again. In addition, selection criteria should be defined carefully to choose the qualified mentors. Besides, *experienced and successful entrepreneurs can be encouraged to become mentors, this may also lead to a role model for the novice entrepreneur*. To gather potential mentors and mentees through some activities and advertise entrepreneurs to mentors can help to encourage the mentor candidates. Also, these kinds of activities may cause some informal mentoring relationships which was frequently suggested in the literature (e.g. Kram and Isabella, 1985; Clutterbuck, 1998; Ragins and Cotton, 1999; Rigg and O'Dwyer, 2012).

Some studies suggested to focus on entrepreneurs with higher potential (Shane, 2009; Schoar, 2010; Naudé, 2014). Indeed, Rigg and O'Dwyer (2012) while defining mentoring as a critical support for the entrepreneur, they have proved that, the results of the mentoring program significantly changed when the high-quality mentors assigned to the high-growth potential start-ups. Therefore, *focusing on some part of the entrepreneurs (that mentioned transformational entrepreneurs) can be a main recommendation* of this study. Because it's

observed that support rate of the program is quite high (given in the study previously). But, high rate of support causes the high rate of subsistence entrepreneurs (Shane, 2009) who do not have any impact on economic development, employment or social welfare. Most of them create jobs for themselves and their family members (Schoar, 2010). Besides, it is reported by TÜBİTAK experts that, due to high numbers of supported entrepreneurs, the quality of entrepreneurs and projects are not satisfactory. So, if the purpose is to increase the number of high-growth start-ups which will contribute the development of the country or at least the region, then it is essential to select and focus on the transformational entrepreneurs.

For sure, there is a need for recommendations on the selection of these transformational entrepreneurs. Related to this, Breschi et al. (2018) suggested to reveal the characteristics of successful entrepreneurs who are the owners of high-growth firms (these are the firms that started their initiatives with less than 10 employee and at the end of the 5th year achieve more than 10 employee). To distinguish these firms, policy makers or program administrators can act like a venture capitalist (VC). The most effective measures for VC funding such as professional experience of the owner, education level, patent, team or personal financial sources can also be used to choose the transformational entrepreneurs. During the evaluation phase of the business plan, these factors can be used separately to determine the mentoring support. Another support program for these entrepreneurs can also be designed, with more attention on evaluation criteria.

From the same point, the terms of application by these kinds of entrepreneurial support programs can also be restructured. It is proved in this study that, start-ups whose owners had a full-time job before starting the initiative are more likely to succeed on the basis of job creation. If so, having a full-time job may be a pre-condition for application or at least a selection criteria.

The 'network' function was assessed by the participants as a high importance but low performance in the program. It means that, they had expectations but not satisfied on this function which represents to reach the customers, investors, potential partners or other beneficial links. If the start-up owners reported that they would need help on the related issue, then policies should be considered to provide this kind of support for them. Activities can be organized to create possibility of connecting links for the entrepreneurs. Additionally, international online platforms or communities can be used and coordinating organizations

may be assigned by government to manage these processes. This kind of interventions can also create opportunities for internationalization, which is stated as a way of growth by Davidsson et al. (2005).

The mentoring program used in this study is carried out with hundred percent public support and the entrepreneur gets this service effortlessly. There isn't any defined responsibility or agreement on the mentee side. Moreover, although monitoring is critical for all these kind of programs (Gertler et al., 2016), it is observed that monitoring phase is not well-designed which enables to abuse the service. Hence, a process should be designed that requires the entrepreneur to make sacrifice for getting this support along with well-managed monitoring system. For example, a new support program for entrepreneurial mentoring can be designed which does not have hundred percent support rate. Even if the entrepreneur (financial) contribution is ten percent, this tiny effort will probably force them to benefit from the mentoring relationship.

Another issue, which was frequently mentioned in this study that entrepreneurial mentoring is based on 'learning' which is defined as the most crucial capability of the entrepreneur. But, for learning to occur, the entrepreneur's willingness for learning is required first. Chrisman and McMullan (2004) similarly stated that no matter how much the mentor is qualified and well- trained, the entrepreneur's effort is needed to transfer the information by the mentor. Learning from mistakes is an essential capability not only for entrepreneurs but also for individuals and the successful persons are those who have this ability (Sullivan, 2000). So, interventions should be considered to increase the learning enthusiasm of the entrepreneur. For sure, it is not that easy due to its depending on many factors such as education system and culture. But the selection of high-capability entrepreneurs (who are eager to improve her/himself) may cause the learning outcome naturally. Additionally, success stories or the possible returns of success can be highlighted to inspire the others. On the other hand, an approach, which accepts and respects failure, can be adopted in the environment to encourage the entrepreneurs. The main indicators of effective entrepreneurial mentoring mechanisms are represented in Figure 21.

One of the findings of this study is that, the 'friendship' function in the mentoring relationship is not critical according to entrepreneur's perception. Then, emotional connection may not be necessary (or at least may not be expected) between the mentor and

the mentee. Therefore, instead of long-term relationships, mentoring workshops can be designed (e.g. up to three times) to gather mentors and entrepreneurs during the support period of the project. This type of support will probably be more target-oriented and career-related. But as it is already mentioned, it seems that there has not been any established mentoring culture in Turkey, which makes difficult to gain psychosocial benefits of mentoring relationship. Although psychosocial functions are essential for the development of the entrepreneurs, it may be ignored for the initial step of interventions. By focusing on career-related functions first, the concept of mentoring can be penetrated into the ecosystem, besides the outcomes of the program can be easily measured.

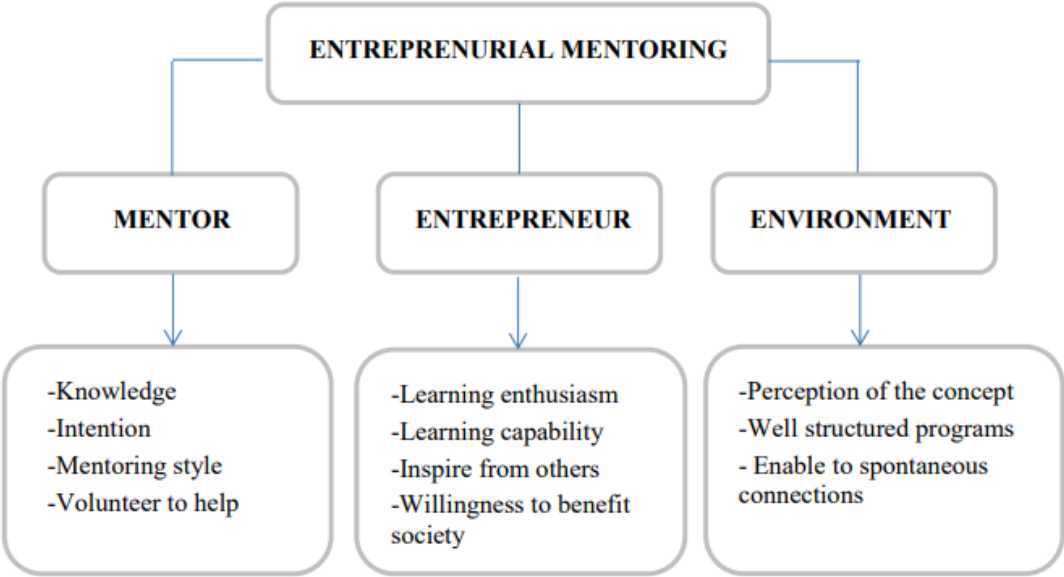


Figure 21: The main indicators of effective entrepreneurial mentoring

Entrepreneurship activities are generally described as a challenging journey which need support consistently. However, Cope and Watts (2000) emphasized the long-term relationships in regard of mentoring. Considering this, longer programs can be developed to support entrepreneurs. Besides, the opportunity of having more than one mentor can also be a good practice. Because, as we already stated previously, mentors do not have to provide all of the defined functions and roles. But a start-up may need various functions which a single mentor cannot provide. Then, these kinds of approaches can be adopted by program managers and policy makers.

It should be noted that, there isn't one best policy for all. Therefore, countries should develop policies with considering their technological infrastructure and human capital (Marcotte, 2014). Furthermore, economic condition, social culture and geography should also be taken into account in regard of policy making. Summary of the main policy recommendations are given in the Figure 22.

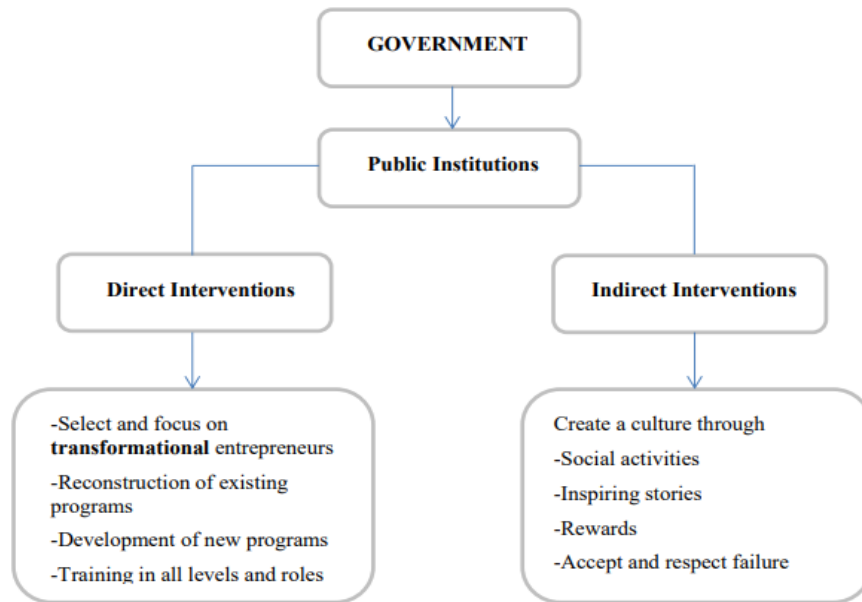


Figure 22: Summary of the main policy recommendations

5.4. Concluding remarks

In this study, the impact of the mentoring programs on start-up firms was investigated. A sample of mentoring program which was being implemented by a public institution in Turkey was chosen and comparison method was used to reveal the impact. At the end of the evaluation of the selected program, there is no significant difference found between mentored and non-mentored start-ups on the basis of defined metrics except 'patent'. The only significant difference between these groups is, on 'patent' metric and mentored group's rate is significantly higher compared to the other group. Additionally, satisfaction level of mentees was searched and the result was found that 'network' and 'reflection' functions (which were defined as a critical support for the entrepreneurs) of the mentoring should be improved in the program. These results may be interpreted as *the mentoring program is not as effective as expected*. The possible causes of these results were discussed in detail previously.

The main reasons for ineffective mentoring programs can be summarized as being lack of well-designed processes and unfavorable ecosystem. Defining the goals is crucial to improve these programs. Mentoring should not be a tool to increase the number of entrepreneurs or survival of start-ups; instead, it should be a support mechanism to transform the new initiatives into firms who creates economic impact for the country through innovation, employment or export. Then, focusing on these kind of high-potential (transformational) entrepreneurs might be a good policy to achieve economic goals.

Moreover, improving the capabilities of mentors and mentees is also essential to increase gains from the relationship. Mentors should be competent persons who may be able to help in accordance with the real needs of entrepreneurs, besides they should have an instinct of helping others. On the other hand, entrepreneurs should be selected from individuals who pursue of creating value for the society and always willing to learn. Only in such cases the positive impact would be emerged through mentoring.

Program administrators or policy makers who are not aware of success factors are also another reason for ineffective mechanisms. So, these kinds of programs should be restructured with specific targets and predefined evaluation metrics. For sure, evaluation mechanisms should be implemented at regular intervals and the programs should be revised according to results. In this regard, the research question and the findings of this study can be used as a guide for policy makers and program managers.

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APPENDICES

A. THE TRANSLATED SURVEY USED IN THIS STUDY

Welcome. This survey was developed to evaluate the mentoring support that is provided to the firms which have been started with TÜBİTAK fund. Information about identity or company are not requested. The answers will be used just for the related study and will not be shared with third parties. Moreover, it will not affect the applications made to TÜBİTAK in any way. The answers from non-mentored companies are also important for the study. The questionnaire, which consists of 3 sections and 25 questions, takes about 4 minutes to complete. The answers of the survey will not be evaluated on an individual basis, instead the answers will be analyzed by collectively. You can send an email to esra.celik@TUBITAK.gov.tr to learn the results or to have more information. Thank you for your support.

Personal Information

| | |
|--|--|
| Age: | <input type="radio"/> 22-25 <input type="radio"/> 26-30 <input type="radio"/> 31-40 <input type="radio"/> Above 41 |
| Sex: | <input type="radio"/> Female <input type="radio"/> Male |
| Education status: | <input type="radio"/> Undergraduate <input type="radio"/> Master student <input type="radio"/> Master <input type="radio"/> PhD student <input type="radio"/> PhD |
| Status before starting the initiative: | <input type="checkbox"/> Student <input type="checkbox"/> Academician <input type="checkbox"/> Full-time employee <input type="checkbox"/> Part-time employee <input type="checkbox"/> Unemployed |

Company Information

| | |
|---------------|---|
| Started year: | <input type="radio"/> 2012 <input type="radio"/> 2013 <input type="radio"/> 2014 <input type="radio"/> 2015 |
| City: | <input type="text" value="Select to choose"/> ▾ |

| | |
|--|---|
| Sector of the activities: | <input checked="" type="checkbox"/> Select to choose <input type="checkbox"/> Information Technology Biotech, Agriculture, Environment and Food Technologies Electric-Electronic Technologies Material, Metallurgy and Chemistry Technologies Machine Manufacturing Technologies Transporting, Defense, Energy and Textile Technologies |
| The number of full-time employees at the started time: | <input type="radio"/> 0 (zero) <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3-5 <input type="radio"/> More than 6 |
| Current number of full-time employees: *Please select other if your company has been liquidated or transferred. | <input type="radio"/> 0 (zero) <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3-5 <input type="radio"/> 6-9 <input type="radio"/> More than 10 <input type="radio"/> Other |
| Total number of voluntary (free) or part-time employees: | <input type="radio"/> 1-2 <input type="radio"/> 3-5 <input type="radio"/> More than 6 |
| Does your company get an investment? *Please select other for the situations like partnership agreement. | <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Other |
| Amount of investment: | <input type="radio"/> Less than 100.000 TRY <input type="radio"/> Between 100.000 and 500.000 TRY <input type="radio"/> More than 500.000 TRY |
| Number of patents belong to the company: | <input type="radio"/> 0 (zero) <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> More than 3 |
| Please select the appropriate items about company activities: | <input type="checkbox"/> The first sale of the project output has been done. <input type="checkbox"/> The first sale of the project output has been done and sales are still continue. <input type="checkbox"/> Another product or service is selling. <input type="checkbox"/> No selling has been done yet. |

Mentoring Experience:

| | |
|--|--|
| Did you get a mentoring support? | <input type="radio"/> Yes <input type="radio"/> No |
| Please select the appropriate item about not having a mentoring support: | <input type="checkbox"/> I didn't think that it would be beneficial. <input type="checkbox"/> Because I have people around who are mentoring to me (spouse, friend, teacher etc.) <input type="checkbox"/> Despite a mentor is assigned, I couldn't/didn't meet with the mentor. <input type="checkbox"/> <i>I haven't aware about the support.</i> |

| | | | | | | |
|---|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Did you choose your mentor? | <input type="radio"/> Yes <input type="radio"/> No | | | | | |
| How many months - approximately- did you meet with your mentor? *The time interval between the first and the last meeting. | <input type="radio"/> Less than 3 months <input type="radio"/> 3 to 6 months <input type="radio"/> 6 months to 1 year <input type="radio"/> More than a year | | | | | |
| How many times did you meet with your mentor? * Telephone, skype or facetime meetings can be included but very short phone calls should be excluded. | <input type="radio"/> 1-3 <input type="radio"/> 4-5 <input type="radio"/> 6-10 <input type="radio"/> More than 10 | | | | | |
| The average duration of the meetings: | <input type="radio"/> Less than 30 minutes <input type="radio"/> 30 minutes to 2 hrs <input type="radio"/> More than 2 hours | | | | | |
| Which type of meetings did you use with your mentor? * Mentoring sessions should be considered | <input type="checkbox"/> Face to face <input type="checkbox"/> Facetime, skype etc. <input type="checkbox"/> Telephone <input type="checkbox"/> Email | | | | | |
| Have you ever meet with your mentor after the program ended? | <input type="radio"/> Yes <input type="radio"/> No | | | | | |
| Please state your expectation level on defined functions of the mentoring, at the beginning of the program. | INFORMATION: Provides beneficial information on business development, finance, marketing or law to be aware of. ADVICE: Give suggestions or make guidance to reach a solution when there is a problem. NETWORK: Provide or facilitate access to people or organizations that may be useful. MOTIVATION: Encourage, support, motivate. REFLECTION: Gives feedback on attitudes and behaviors, helping to see personal weaknesses and strengths like a mirror does. FRIENDSHIP: Being a good listener in difficult times, help to evacuate stress. ROLE MODEL: Source of inspiration. | | | | | |
| | | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
| | Information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Advice | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Network | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Motivation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Reflection | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Friendship | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Role model | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Please state your satisfaction level on defined functions of | | | | | | |

| | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| the mentoring above, at the end of the program. | | Strongly disagree | Disagree | Undecide d | Agree | Strongly agree |
| | Information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Advice | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Network | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Motivation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Reflection | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | Friendship | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Role model | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Other comments and suggestions about mentoring support | | | | | | |
| | | | | | | |

Thank you for your support.

B. THE ORIGINAL(TURKISH) VERSION OF THE SURVEY

Hoş geldiniz. Bu anket, TÜBİTAK desteği ile kurulmuş olan firmalara verilen mentorluk (iş rehberliği) hizmetini değerlendirmek amacıyla hazırlanmıştır. Ankette kimlik ya da kuruluşu tanımlayan bilgiler istenmemektedir. Verilen yanıtlar, yalnızca yapılan araştırma için kullanılacak ve üçüncü şahıslarla paylaşılmayacaktır. Ayrıca, TÜBİTAK'a yapılmış ve yapılacak başvuruları hiçbir şekilde etkilemeyecektir. Mentorluk hizmeti almayan kuruluşların yanıtları da çalışma için önem arz etmektedir. Tamamı 3 bölüm ve 25 sorudan oluşan anketin tamamlanması yaklaşık 4 dakika sürmektedir. Anket sonuçları bireysel bazda değerlendirilmeyecek, verilen cevaplar birleştirilerek analiz edilecektir. Araştırmanın sonuçlarını öğrenmek ya da daha fazla bilgi almak için esra.celik@TUBITAK.gov.tr adresine eposta gönderebilirsiniz. Desteğiniz için teşekkür ederiz.

Kişisel Bilgiler

| | |
|---|--|
| Yaş: | <input type="radio"/> 22-25 <input type="radio"/> 26-30 <input type="radio"/> 31-40 <input type="radio"/> 41 ve üzeri |
| Cinsiyet: | <input type="radio"/> Kadın <input type="radio"/> Erkek |
| Eğitim düzeyi: | <input type="radio"/> Lisans <input type="radio"/> Yüksek Lisans (Öğrenci) <input type="radio"/> Yüksek Lisans (Mezun) <input type="radio"/> Doktora (Öğrenci) <input type="radio"/> Doktora ve üzeri |
| Şirketinizi kurmadan önceki iş durumunuz: | <input type="checkbox"/> Öğrenci <input type="checkbox"/> Akademisyen <input type="checkbox"/> Tam zamanlı çalışan <input type="checkbox"/> Yarı zamanlı çalışan <input type="checkbox"/> Çalışmıyor |

Firma Bilgileri

| | |
|--|--|
| Şirketin kurulduğu yıl: | <input type="radio"/> 2012 <input type="radio"/> 2013 <input type="radio"/> 2014 <input type="radio"/> 2015 |
| Şirketin kurulduğu il: | <input type="text" value="Seçmek için tıklayın"/> ▼ |
| Şirket faaliyetlerine ilişkin sektör: | <input type="text" value="Seçmek için tıklayın"/> ▼ Bilişim Teknolojileri Biyoteknoloji, Tarım, Çevre ve Gıda Teknolojileri Elektrik ve Elektronik Teknolojileri Malzeme, Metalurji ve Kimya Teknolojileri Makine İmalat Teknolojileri Ulaştırma, Savunma, Enerji ve Tekstil Teknolojileri |
| Şirketin ilk kurulduğu dönemdeki tam zamanlı çalışan sayısı: | <input type="radio"/> 0 (Sıfır) <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3-5 <input type="radio"/> 6 ve üzeri |

| | |
|---|---|
| Şirketin şu andaki tam zamanlı çalışan sayısı: *Şirketiniz tasfiye veya devir edildi ise lütfen 'diğer' işaretleyiniz. | <input type="radio"/> 0 (Sıfır) <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3-5 <input type="radio"/> 6-9 <input type="radio"/> 10 ve üzeri <input type="radio"/> Diğer |
| Şirketin –varsa- gönüllü (ücretsiz) veya yarı zamanlı çalışanlarının toplam sayısı: | <input type="radio"/> 1-2 <input type="radio"/> 3-5 <input type="radio"/> 6 ve üzeri |
| Şirketiniz yatırım aldı mı? *İşbirliği anlaşması gibi durumlar için lütfen "Diğer"i işaretleyiniz. | <input type="radio"/> Evet <input type="radio"/> Hayır <input type="radio"/> Diğer |
| Yatırımın tutarı: | <input type="radio"/> 100 bin TL altı <input type="radio"/> 100 bin TL-500 bin TL arası <input type="radio"/> 500 bin TL üzeri |
| Şirket bünyesinde alınmış patent sayısı: | <input type="radio"/> 0 (Sıfır) <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 veya daha fazla |
| Lütfen, şirket faaliyetleri ile ilgili, uygun olanları işaretleyiniz. | <input type="checkbox"/> Proje çıktısı ürünün/hizmetin ilk satışı gerçekleşmiştir. <input type="checkbox"/> Proje çıktısı ürünün/hizmetin ilk satışı gerçekleşmiş ve halen satış yapılmaya devam edilmektedir. <input type="checkbox"/> Şirket, proje kapsamı dışındaki bir ürün/hizmet ile satış yapmaktadır. <input type="checkbox"/> Şirketin, hâlihazırda satış yaptığı herhangi bir ürün/hizmet olmamıştır. |

Mentor(İş Rehberi) Deneyimi:

| | |
|---|---|
| Mentorluk desteği aldınız mı? | <input type="radio"/> Evet <input type="radio"/> Hayır |
| Lütfen, mentorluk desteği almamış olmanızla ilgili olarak, en uygun olanı işaretleyiniz. | <input type="checkbox"/> Fayda sağlayacağını düşünmedim. <input type="checkbox"/> Etrafımda, bana mentorluk yapan insanlar (eş, arkadaş, hoca vb.) olduğu için tercih etmedim. <input type="checkbox"/> Eşleştirme yapıldı fakat mentor ile görüşmedim/görüşemedim. <input type="checkbox"/> Destekten haberim olmadı. |
| Mentorunuzu siz mi seçtiniz? | <input type="radio"/> Evet <input type="radio"/> Hayır |
| Yaklaşık olarak, kaç ay süreyle mentorluk hizmeti aldınız? *İlk görüşme ve son görüşme arasında geçen zaman. | <input type="radio"/> 3 aydan az <input type="radio"/> 3-6 ay arası <input type="radio"/> 6 ay - 1 yıl arası <input type="radio"/> 1 yıldan fazla |

| Bu süre boyunca, mentorunuz ile kaç defa görüştünüz? * Telefon, skype, facetime vb dahil ancak, randevulaşmak gibi çok kısa görüşmeler hariç. | <input type="radio"/> 1-3 <input type="radio"/> 4-5 <input type="radio"/> 6-10 <input type="radio"/> 10'dan fazla | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-----------------------|-----------------------|-----------------------|-----------------------|--|--|-----|----|------|-------|-----------|-------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Görüşmelerinizin ortalama süresi ne kadardı? | <input type="radio"/> 30 dakikadan az <input type="radio"/> 30 dakika ile 2 saat arası <input type="radio"/> 2 saatten fazla | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mentorunuz ile gerçekleştirdiğiniz oturumlarda, hangi görüşme şekillerini kullandınız? * Randevulaşma gibi sebeplerle yapılan kısa haberleşmeler dışındaki görüşmeler | <input type="checkbox"/> Yüz yüze <input type="checkbox"/> Facetime, skype vb. <input type="checkbox"/> Telefon <input type="checkbox"/> Eposta | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mentorluk desteği sonrasında, mentorunuz ile hiç görüştünüz mü? | <input type="radio"/> Evet <input type="radio"/> Hayır | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mentorluk hizmetinin başında, açıklamaları verilen konulardaki beklenti düzeyinizi belirtiniz lütfen. | <p>BİLGİ: İş geliştirme, finans, pazarlama veya haberdar olunması gereken kanunlar gibi konularda faydalı bilgiler sağlama. TAVSİYE: Problem olduğunda çözüm önerilerinde bulunma veya çözüme ulaşmada doğru yönlendirmeler yapma. AĞ: İstenilen veya yararlı olabilecek kişi ve kuruluşlara erişim sağlama ya da kolaylaştırma. MOTİVASYON: Cesaretlendirme, destekleme, motive etme. AYNA TUTMA: Tutum ve davranışlar konusunda geri bildirim verme, zayıf ve güçlü tarafları görmeye yardımcı olma. ARKADAŞLIK: Zor zamanlarda iyi bir dinleyici olma, dertleşerek stresi azaltma. ROL MODEL: İlham verme, örnek olma.</p> <table border="1"> <thead> <tr> <th></th> <th>Hiç</th> <th>Az</th> <th>Nötr</th> <th>Biraz</th> <th>Çok fazla</th> </tr> </thead> <tbody> <tr> <td>Bilgi</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Tavsiye</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Ağ</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Motivasyon</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Ayna tutma</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Arkadaşlık</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Rol model</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> </tbody> </table> | | | | | | | Hiç | Az | Nötr | Biraz | Çok fazla | Bilgi | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Tavsiye | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Ağ | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Motivasyon | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Ayna tutma | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Arkadaşlık | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Rol model | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
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Giriřimci firmalara
verilen mentorluk
desteęi ile ilgili dięer
görüř ve önerileriniz:

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Arařtırmaya katılarak verdięiniz destek için teřekkür ederiz.

C. ADDITIONAL STATISTICS

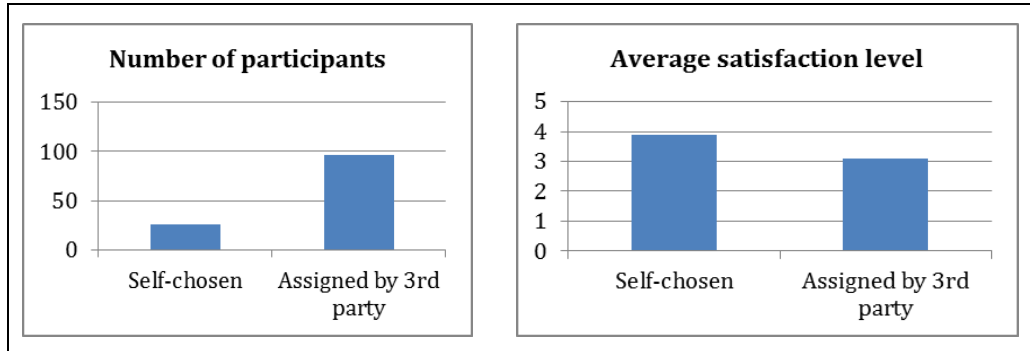


Figure C1: Number and average satisfaction level of the mentored participants

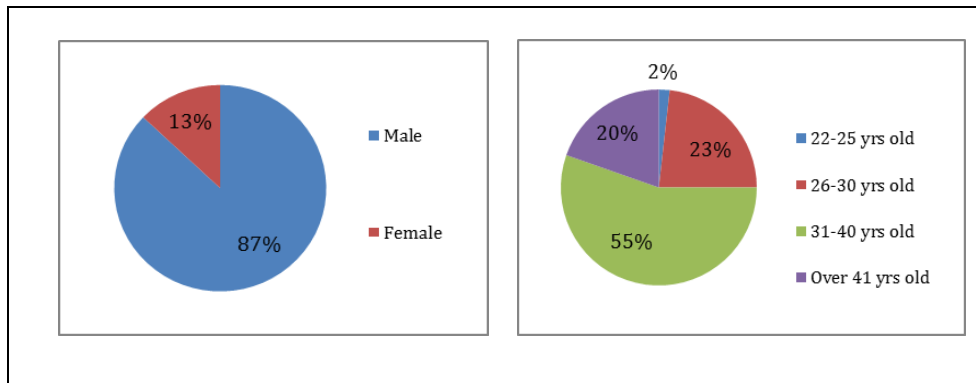


Figure C2: The gender and the age distribution of the all participants

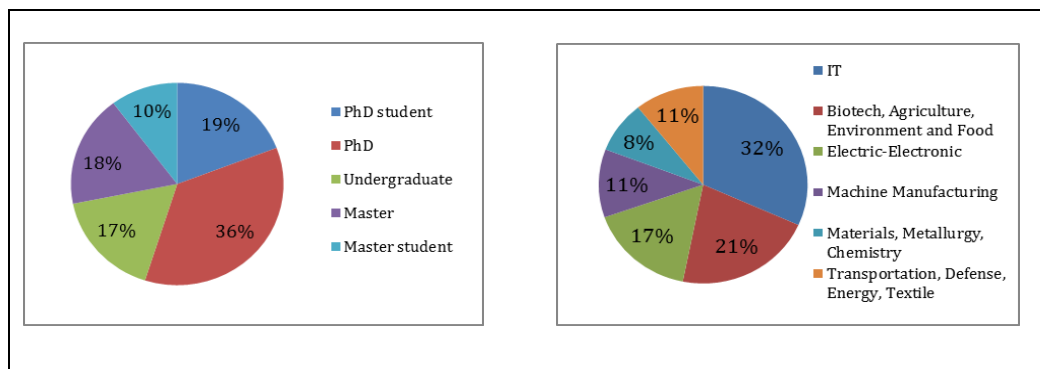


Figure C3: The education level and the field distribution of the all participants

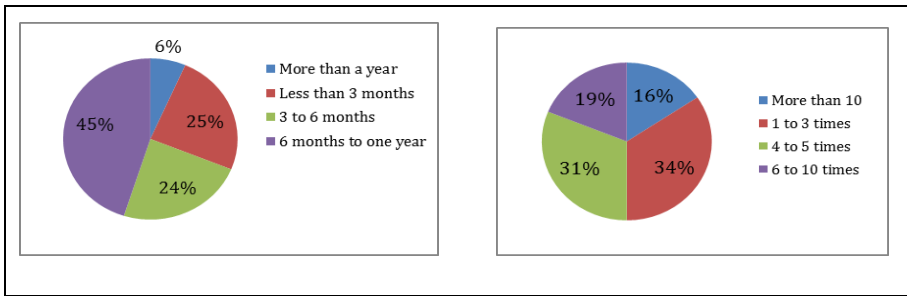


Figure C4: The meeting details (duration and frequency) of the mentoring relations

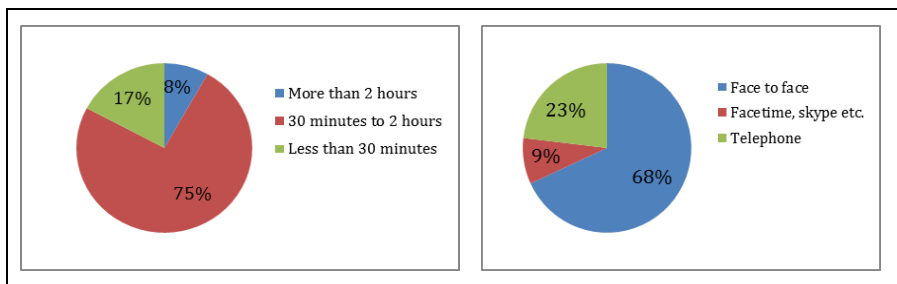


Figure C5: The meeting details of the mentoring relations

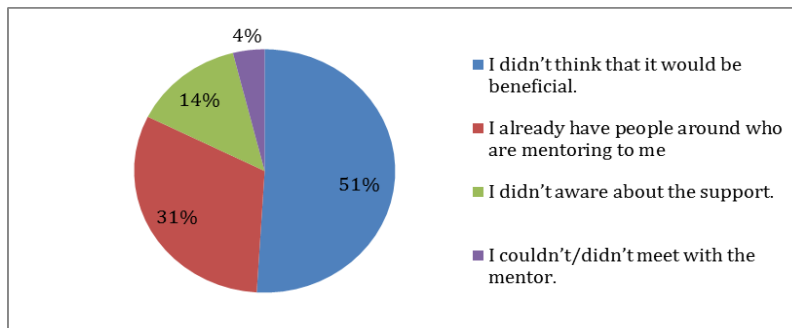


Figure C6: Reasons for not participated mentoring program

D. HUMAN SUBJECTS ETHICS COMMITTEE APPROVAL

UYGULANALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER



ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

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05 NİSAN 2018

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (IAEK)

İlişi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Doç.Dr. Adil ORAN

Danışmanlığını yaptığımız yüksek lisans öğrencisi Esra AYDOĞDU'nun "Mentorluk Mekanizmasının Başlangıç Firmaları Üzerindeki Etkisi" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay 2018-SOS-070 protokol numarası ile 05.04.2018 - 30.12.2018 tarihleri arasında geçerli olmak üzere verilmiştir.

Bilgilerinize saygılarımla sunarım.


Prof. Dr. Ş. Halil TURAN

Başkan V


Prof. Dr. Ayhan SÖL

Üye


Prof. Dr. Ayhan Gürbüz DEMİR

Üye


Doç. Dr. Yeşar KONDARCI

Üye


Doç. Dr. Zana ÇİTİK

Üye


Doç. Dr. Emre SELÇUK

Üye


Dr. Öğr. Üyesi Pınar KAYGAN

Üye

E. TURKISH SUMMARY / TÜRKÇE ÖZET

Günümüz teknoloji çağında, ülkelerin rekabet edebilmesi ve refah seviyelerini yükseltebilmeleri için gerekli ana unsurlar, bilim ve teknoloji olarak kabul edilmektedir. Bu amaçla, tüm ülkeler yarışta yer alabilmek veya buldukları yeri koruyabilmek için çeşitli bilim ve teknoloji politikaları geliştirmektedirler.

Bilim ve teknoloji ile yakın ilişki içinde olan yenilik kavramı ise, ekonomik büyümenin anahtar sürücüsü olarak tanımlanmaktadır. En yalın şekilde, yeni ve farklı bir şeyin ortaya çıkması olarak tanımlanan kavram, çoğunlukla hedefin kendisi olmaktan ziyade, ekonomik gelişme, istihdam veya sosyal refah yaratma amacıyla kullanılan bir politika aracıdır.

Schumpeter'in ekonomik gelişim modelinde, girişimci, yeniliği ve değişikliği yapan kişi olarak yer almaktadır. Literatürde sıklıkla atıf verilen bu tanım sebebiyle, girişimci ve girişimcilik kavramları, kural koyucuların ilgisini çekmektedir. Her ne kadar girişimciliğin ekonomik etkisini ölçmek kolay olmasa da, pozitif bir etkisi olduğunu öneren çok sayıda araştırma mevcuttur. Ancak, bu önemli role karşın yeni kurulan girişimlerin çok büyük bir kısmı hayatta kalamamakta veya büyüme gerçekleştirememektedir. Dahası, oldukça küçük bir kısmı hızlı büyüme gerçekleştirerek ekonomik etki yaratan firmalara dönüşmektedir. Kısaca özetlemek gerekirse, yalnızca yenilikçi girişimler beklenen etkiyi yaratabilmektedir. Buna ilişkin pek çok dinamik olması, kural koyucuların işini kuşkusuz zorlaştırmaktadır.

Bazı araştırmacılar, girişimcileri iki gruba ayırarak, bu gruplardan yalnızca birine ait olanlarının beklenen ekonomik etkiyi yaratabileceğini savunmaktadır (Schoar, 2010). Dönüşümcü olarak tanımlanan bu grupta yer alan girişimciler, yalnızca kendisine maaş kaynağı yaratma kaygısından ziyade, başkalarına da iş olanağı sunma ve toplum için bir etki yaratma dürtüsüne sahip kişilerdir. Varoluşçu olarak tanımlanabilecek diğer gruptakiler ise, çoğu durumda zorunluluktan girişime başlayan, yalnızca kendisine ve beraberinde belki aile üyelerine de geçim kaynağı yaratma isteğinde olan bireylerdir. Kimi ülkeler, ekonomik etki yaratan girişimlerin sayısını artırabilmek için, hızlı büyüme gerçekleştirebilecek dönüşümcü girişimcilere odaklanan politikalar geliştirmektedir.

Girişimlerin başarısı, şüphesiz, yalnızca girişimcinin karakteri ve hayalleri ile ilişkili değildir. Kanunlar, bölgesel faktörler ve ekosistem gibi çok sayıda belirleyici veya engel de söz konusudur. Özellikle girişimlerin yeni başladığı ilk yıllar, en kırılgan dönem olarak gösterilmektedir. Bu aralıkta ortaya çıkan engel ve zorlayıcı durumların üstesinden gelebilmeleri için mentorluk programları önerilmektedir. Mentorluğun, başlangıç firmalarının ilk yıllarında karşılaştığı zorlukların üstesinden gelmelerinde etkili bir yardım aracı olduğunu söyleyen çok sayıda çalışma mevcuttur (örn. Baron 1998; Rigg ve O'Dwyer, 2012; St-Jean, 2011; Cope ve Watts, 2000).

İş dünyasından eğitime, hukuktan sağlığa pek çok alanda kullanılan mentorluk, en yaygın bilinen şekliyle; iş hayatına yeni atılan bir kişi ile aynı organizasyon içinde yer alan daha deneyimli bir başka kişi arasında, genç olan bireyin kariyerinin ilk yıllarında destek alması amacıyla kurulan ilişki olarak tanımlanmaktadır (Kram, 1983). Organizasyonel bağlamda mentor, yeni çalışana destek sağlamak amacıyla atanan yüksek pozisyondaki güçlü kişiyi temsil eder (Ragins ve McFarlin, 1990). Burada sözü edilen destek, yalnızca kariyer ilerlemesine yol açacak kazanımları değil, aynı zamanda genç bireyin kişisel gelişimini de ifade eder. Bununla ilgili olarak Cox (2005) ilişkiyi, mentorun bilgi ve kişiliği aracılığıyla genç bireyin kimlik keşfi olarak tanımlamıştır. Ragins ve Kram (2007) kavramı daha da ileriye taşıyarak, bireylerin yapamayacaklarını düşündükleri kimi şeyleri, mentorluk sayesinde başarabileceklerini iddia etmişlerdir.

Mentorluk ilişkisini, belirli bir konuda bir taraftan diğer tarafa bilgi aktarımı olarak tanımlayan Clutterbuck (2004), kavrama dair Amerika ve Avrupa tipi olmak üzere iki yaklaşım olduğunu dile getirmiştir. Amerika tarzında, mentorun koruma ve destek olma rolleri öne çıkarken, Avrupa yaklaşımında, bireyde kişisel farkındalık sağlama ve doğru kararlar alabilmesine yardım etme rolleri vurgulanmaktadır. Bu tez çalışmasında kullanılan mentorluk kavramı için, Avrupa yaklaşımı benimsenmiştir.

Mentorluk, koçluk ile sıklıkla karıştırılmakta, dahası birbirleri yerine de kullanılmaktadırlar. Her ne kadar, kavramların çok yakın anlamlar içerdiğine dair görüşler olsa da, aralarındaki farklılara da değinen çalışmalar mevcuttur. Parsloe (1992) koçluğun kısa süreli, mentorluğun ise daha uzun süreli olduğunu vurgularken, Clutterbuck (2008) koçluğun performans odaklı, mentorluğun ise kariyer ilerlemesi ile birlikte kişisel gelişime de odaklandığını söylemiştir. Garvey (2004) ise özetleyici bir şekilde, mentorluğun daha karmaşık bir ilişki tipi olduğunu,

mentorun kimi zaman arkadaş, kimi zaman rol model, kimi zaman da koç olabileceğini söyleyerek; mentorluk kavramını, koç, rehber, danışman gibi destek ilişkilerinin tamamını kapsayan bir şemsiye olarak ifade etmiştir.

Mentorluk ilişkileri, resmi ve resmi olmayan şekilde yürütülebilir. Resmi mentorluk, adından da kolaylıkla anlaşılacağı üzere, program yöneticileri tarafından yönetilen ilişkilerdir. Bu tip programlarda, genellikle tarafların sorumlulukları, görüşme şekilleri ve süreleri önceden tanımlanır. Resmi olmayan durumlarda ise, ilişkiler kendiliğinden ortaya çıkmaktadır, çoğunlukla tarafların birbirlerine karşı duyduğu beğeni ve saygı, ilişki için tetikleyici olmaktadır. Formal programlar, eşleşmenin çoğunlukla üçüncü taraflarca yapılması ve zorunluluk içermesi gibi gerekçeler sebebiyle sıklıkla eleştirilmektedir (örn. Ragins ve Cotton, 1999; Smith vd, 2005). Ancak kadın bireylerin, özellikle karşı cinsten bireyler ile resmi olmayan ilişkilerde yer alma konusunda zorluk yaşamaları (Ragins ve Cotton, 1999) veya yardım talep etme konusunda insanların çekingen davranması (Bisk, 2002) gibi sebepler, formal programlara ihtiyaç duyulmasına sebep olmaktadır.

Mentorluk fonksiyonları, literatürde ilk olarak kariyer ve psikososyal olmak üzere ikiye ayrılmıştır (Kram, 1983). Kariyer fonksiyonları sponsor olma, organizasyon içinde görünür kılma, koçluk, koruma ve zorlu görevler atama olarak sıralanırken, psikososyal fonksiyonlar, onaylama, danışmanlık verme, arkadaşlık ve rol model olarak tanımlanmıştır. Ancak daha sonraki araştırmacılar, rol model özelliğinin üçüncü bir fonksiyon olduğunu savunmuşlardır. Burdaki önemli bir nokta, bir mentorun bu fonksiyonların tamamını sağlaması gerekmediğidir. Ayrıca, aynı mentorun, farklı bireyler üzerinde farklı fonksiyonları da sağlaması mümkündür.

Mentorluk ilişkilerinde pozitif etkilerin ortaya çıkabilmesi için pek çok dinamik söz konusudur. Bunlardan ilki, şüphesiz doğru eşleştirmedir. Tarafların birbirine karşı beğeni duyması, ortak noktalarının olması ve en önemlisi aralarındaki ilişki konusunda benzer algıya sahip olmaları, mentorluk faydasını etkileyen faktörlerdir. Bunun dışında mentorun bilgisi, sahip olduğu bilgiyi aktarma şekli ve mentorluk yapma konusundaki isteği de kritiktir. Ama en önemlisi, mentorluk alan kişinin öğrenme ve fayda sağlama konusundaki hevesidir.

Konu girişimci mentorluğuna geldiğinde ise, kavrama dair tanımlar bir hayli değişmektedir. Bu bağlamda, mentorluk alan birey, kurumsal hayata yeni atılan genç kişiden, kendi işini kuran kişiye geçer. Ancak elbette bu yetersiz bir tanımdır. Literatüre baktığımızda girişimci, yeni bir şey üreten veya zaten var olan bir şeyi yeni bir metod ile üreten kişidir (Schumpeter, 1947). Burada bahsi geçen yenilik kavramı, yeni bir şeyin icat edilmesinden çok (bu anlamı da içermekle birlikte), olası fırsatların kullanılarak değişiklik yapılmasını ifade eder.

Girişimcileri, hedeflerine, karakterlerine ve en önemlisi ekonomideki rollerine göre sınıflandırmak mümkündür. Daha önce de belirttiğimiz üzere, girişimciliğin ve girişimcilerin, ekonomistlerin ve politika üreticilerinin dikkatini çekmesindeki en öncelikli gerekçe, hızlı büyüme gerçekleştirerek istihdam sağlamalarıdır. Bu ise, ancak yenilik faaliyetleri ile mümkün olmaktadır.

Waters vd. (2002), mentorluğu kısaca, kendi işini kuran girişimcilere verilen yardım olarak tanımlamışlardır. Ancak burada vurgulanması gereken nokta, mentorun eski bir girişimci olduğudur (St-Jean ve Audet, 2009). Mentorluk ilişkisi ile beklenen kazanım, bir başkasının deneyiminden öğrenme ile ortaya çıkmaktadır. Aslında Kram (1985) mentorluk ilişkilerindeki öğrenme konusuna çok daha önce değinerek, mentorluk için, öğrenme tutkusu olan bireylere odaklanmayı önermiştir. Deakins (1998) ise öğrenmeyi, yeni girişimlerdeki en önemli gelişim anahtarı olarak göstermiştir. Sullivan (2000) da benzer şekilde, öğrenmenin önemine vurgu yaparak, mentorluğu yeni girişimlerdeki kritik bir öğrenme aracı olarak tanımlamıştır.

Girişimcilik mentorluğuna dair fonksiyonlar, diğer alanlarda olduğu şekilde kariyer, psikososyal ve rol model olarak üçe ayrılır. Ancak elbette, bunlara ilişkin yapılan açıklamalar biraz daha farklıdır. Örneğin kariyer fonksiyonları, hukuki, teknik veya finansal konularda tavsiye vermek olarak gösterilirken, psikososyal fonksiyonlar arkadaşlık, motivasyon ve kişisel gelişim olarak ifade edilmektedir. Sullivan (2000) yine öğrenme konusuna vurgu yaparak, mentor rolünü, girişimcinin öğrenme becerisini artırmak ve öğrenme sonuçlarının sonraki davranışlara yansımaları sağlamak olarak belirtmiştir. St-Jean ve Audet (2013) ise, mentorluk ilişkilerinin değerlendirilmesine ilişkin niyet olduğu durumlarda, mentorluk fonksiyonlarının veya mentor rollerinin dikkatli tanımlanması gerektiğini vurgulamışlardır.

Yeni girişim firmalarına verilen mentorluk desteğinin etkilerinin araştırıldığı bu tez çalışmasında, kavramlara ilişkin tanımlar incelendikten sonra, resmi mentorluk programlarının değerlendirilmesi konulu çalışmalar araştırılmıştır. Odell (1992), değerlendirme mekanizmalarının nasıl yapılacağından önce neden yapıldığının netleştirilmesi gerektiğini öne sürmüştür. Söz konusu çalışma öncelikle, kamu kaynaklarının etkin bir şekilde kullanılması amacını taşımaktadır. Bununla birlikte, analiz sonucu elde edilen bulgular sayesinde, mentorluk programlarının geliştirilmesi veya iyileştirilmesi için öneriler sunmak, bu sayede hızlı büyüme gösteren, istihdam yaratan ve satış yapan başarılı girişim firmalarının sayısını artırmak amaçlanmaktadır.

Değerlendirme mekanizmalarının ortaya çıkarılmasında, programa ait beklenen çıktılar önem arz etmektedir. İdeal olarak, bu çıktıların, programların tasarlanması ile eşzamanlı olarak tanımlanması beklenir. Ancak çoğu durumda, bu çıktılar örtülü tanımlarla ifade edilir, bu ise ölçüm metriklerinin belirsiz olmasına sebebiyet verir. Halbuki, beklenen çıktıların ortaya koyulması, değerlendirme metriklerinin tanımlanması için de kullanılabilir (St-Jean, 2011). Mentorluk ilişkisi sonucunda elde edilebilecek kazanımlar soyut veya somut olabilmektedir. İlişkinin psikososyal fonksiyonlarının çıktıları çoğunlukla subjektiftir, öte yandan kariyer fonksiyonları hem subjektif hem de objektif olabilir. Soyut kazanımlar, çoğu durumda mentorluk alan bireylerin algısı veya tatmin düzeyi ile ölçülür. Bu sebeple bazı araştırmacılar, yalnızca subjektif verilere dayalı değerlendirmelerin eksik kaldığı görüşünü savunarak; satış, personel sayısı artışı gibi somut çıktıların da değerlendirme mekanizmalarına eklenmesi gerektiği görüşünü savunmaktadırlar (McMullan vd., 2001).

Barrett (2006), küçük işletmelerdeki mentorluk etkisini araştırdığı çalışmasında, artan satış, genişleyen ürün yelpazesi, yeni teknolojilere yatırım veya ihracat gibi somut ölçütler tanımlamıştır. Yusuf'un (2010) benzer konulu çalışmasında, katılımcı algısına göre, öğrenme (satış, pazarlama veya bir işletmeyi yönetme gibi konularda) ve ağ sağlama (faydalı bağlantılara erişim) gibi ölçütlere ilişkin veriler elde ederek değerlendirme yapılmıştır. Chrisman vd. (2012) çalışmalarında aynı şekilde, mentorluk programının etkisini ölçmek üzere, satış ve çalışan sayısı artışı metriklerini kullanmışlardır. Scott vd. (2016) ise aynı ölçütlere, girişimin yatırım ve patent alıp almadığını da eklemişlerdir. Bununla beraber, girişimlerin hayatta kalması da pek çok çalışmada, başarı veya etki değerlendirilmesinde kullanılacak bir ölçüt olarak önerilmiştir. Ancak, bu tez çalışmasında ele alınan mentorluk programının, çalışma içinde tanımlanan hedefleri hatırlandığında, yeni

girişimlerin hayatta kalmasını (ki bu kimi zaman hayalet firma olarak yaşayan firmaları da ifade etmektedir) bir ölçüt olarak kullanmak doğru olmayacaktır.

Literatür araştırması ile elde edilen bilgilerin ışığında, mentorluk programının etkilerini ortaya koymak üzere, nicel ve nitel yaklaşımlar bir arada ele alınmıştır. Çalışmanın nicel kısmında, somut başarı kriterleri olarak çalışan sayısı artışı, yatırım, patent, ilk satış, devam eden satış ve farklı bir ürün/hizmet ile satış ölçütleri kullanılmıştır. Nitel kısımda ise, mentorun psikososyal işlevleri dikkate alınarak bilgi, tavsiye, ağ, motivasyon, ayna tutma, arkadaşlık ve rol model ölçütleri kullanılmıştır.

| Değerlendirme Ölçütleri | |
|---|--|
| Mentor Fonksiyonları (Nitel) | Beklenen Çıktılar (Nicel) |
| Bilgi Tavsiye Ağ Motivasyon Ayna tutma Arkadaşlık Rol model | Personel sayısı artışı Yatırım veya işbirliği anlaşması Patent Satış (ilk ve devam eden satış) Başka ürün/hizmet ile satış |

Etki, herhangi bir müdahale sonucunda ortaya çıkan pozitif veya negatif değişim olarak tanımlanmaktadır (Chianca, 2008). Bazı araştırmacılara göre ise, müdahale olan ve olmayan durumdaki sonuçlar arasındaki farktır. White (2010), mentorluk programlarının etkisinin araştırıldığı çalışmalarda, programın öncesi ve sonrasındaki durumların karşılaştırılmasını önermiştir. Ancak satış ve benzeri çıktıların değerlendirildiği durumlarda, pazar koşulları gibi diğer etkenlerin de olması sebebiyle, karşılaştırma grubu kullanılması önerilmiştir (White, 2010). Grossman (2009) da benzer şekilde, mentorluk etkisini ortaya koymak üzere, programa katılan ve katılmayan iki grubu karşılaştırmayı önermiş, bu sayede müdahale olmadığı durumdaki gerçekleştirmelerin de ortaya koyulabileceğini belirtmiştir.

İki grup arasında, belirli bir değişkene göre anlamlı bir ilişki olup olmadığının arandığı durumlarda ki-kare testi önerilen yöntemlerden biridir (Franke vd, 2012). Ki-kare testi, gruplar arasındaki ilişki ya da farklılık olup olmadığını söylemekle kalmayıp, aynı zamanda kategorik değişkenlere dair detaylı bilgi içeren çapraz tablo gösterimleri de sağlamaktadır (McHugh, 2013). Bu çalışmanın nicel kısmında, mentorluk desteği alan ve almayan grubun, tanımlanan değişkenler üzerindeki ilişkisini ortaya koymak için, elde edilen verilerin analizinde ki-kare testi kullanılmıştır.

Çalışmanın ikinci bölümünde ise, mentorluk alan grubun, mentorluk ilişkisine dair algıları analiz edilmiştir. Bunu sağlamak için, çalışmada tanımlanan ölçütlerin, girişimci algısına göre, önem ve deneyimledikleri ilişkideki tatmin düzeyleri ayrı olarak alınmıştır. Ardından, Martilla ve James (1977) tarafından önerilen önem-performans analizi uygulanmıştır. Önem-performans analizi, her ne kadar pazarlama sektöründe müşteri memnuniyetini artırmak üzere ortaya çıkmış olsa da, güçlü ve zayıf yanları basit bir gösterimle hızlıca sunması sebebiyle, sağlık, turizm ya da eğitim gibi pek çok farklı alanda kullanılan bir analiz yöntemidir.

Çalışmada, TÜBİTAK (Türkiye Bilimsel ve Teknolojik Araştırma Kurumu) tarafından yürütülmekte olan Teknogirişim Sermayesi Desteği Programı kapsamında, 2012-2015 yılları arasında hibe destek alarak firma kurmuş olan girişimciler veri seti olarak kullanılmıştır. Bu zaman aralığında, toplamda 556 girişim firması kurulmuş ve bunların arasından 442 firma yöneticisine, yine TÜBİTAK tarafından karşılanan mentorluk desteği verilmiştir.

Literatür taraması sonucunda oluşturulan çevrimiçi anket, TÜBİTAK veritabanından elde edilen 556 eposta adresine iletilmiştir. Birer hafta arayla iki hatırlatma epostası ile duyuru yinelenmiş ve sonucunda 122 adet mentorluk alan, 69 adet de mentorluk almayan katılımcı verisi olmak üzere toplam 191 adet yanıt seti elde edilmiştir. Her ne kadar seçilen karşılaştırma metoduna göre, grup sayılarının eşit olma zorunluluğu olmamasına karşın, sonuçların güvenilirliğini artırmak amacıyla, grup sayılarını yakınlaştırmak üzere yine TÜBİTAK veritabanı kullanılarak elde edilen telefon numaraları ile telefon mülakatları gerçekleştirilerek, mentorluk almayan gruba ait yanıt seti sayısı 102'ye yükseltilmiştir. Böylece, çalışmada kullanılan toplam veri seti 224 olarak son şeklini almıştır.

SPSS uygulaması kullanılarak yapılan analizler sonucunda, mentorluk alan ve almayan grup arasında personel sayısı artışı, yatırım, ilk satış, devam eden satış ve farklı ürün/hizmet ile satış ölçütlerine göre anlamlı bir fark bulunmamıştır. Buna karşılık, patent ve gönüllü çalışan sayısı da eklenerek hesaplanmış olan personel sayısı artışına göre, iki grup arasında anlamlı bir fark olduğu gözlemlenmiştir (mentorluk alan grubun bu ölçütlere göre kendi içinde ve toplam içindeki oranı diğer gruba göre daha yüksek olarak çıkmıştır). İkinci olarak, yalnızca mentorluk alan gruptan toplanan verilerin analizi sonucu elde edilen bulgular ise şu şekildedir: Ağ (faydalı bağlantılara erişim sağlama) ve ayna tutma ölçütleri yoğunlaşılması gereken konular iken; bilgi, tavsiye ve motivasyon korunması gereken özellikler olarak

ortaya çıkmıştır. Arkadaşlık ölçütü fazla enerji harcanmaması gereken bir işlev olarak değerlendirilmiştir. Öte yandan, rol model ölçütüne ilişkin sonuçları iki türlü değerlendirmek mümkündür. Klasik önem-performans analizine göre fazla enerji harcanmaması gereken aralıkta iken, revize edilmiş önem-performans analizine göre ise yoğunlaşılması gereken konu olarak değerlendirilmesi gerekmektedir. Ancak çalışmada sıklıkla vurgulanan, girişimcilik mentorluğunda, mentorun eski girişimci olması durumu dikkate alındığında bu özelliğin de dikkat edilmesi gereken konular arasında olması gerektiği düşünülmektedir.

Çalışmada elde edilen bulgular sayesinde yapılan temel çıkarımlar şu şekildedir:

1. Eşleşme: Mentorluk ilişkilerinde eşleşme kritik bir unsurdur. Üçüncü kişiler tarafından yapılan eşleştirmeler, kavramın doğasına da aykırı olmakla birlikte, ilişkiden beklenen kazanımları olumsuz etkileyebilmekte, dahası ilişkilerin kısa süre içerisinde sonlanmasına sebebiyet verdiği düşünülmektedir. Bu sebeple programlar, tarafların birbirlerini seçmesine veya onaylamasına imkân sağlayacak şekilde yürütülmelidir.

2. Zamanlama: Yeni firmalarda, mentorluk hizmetinin başlama zamanı ve süresi, pozitif çıktıların gerçekleşebilmesi için önemlidir. Kısa süreli ilişkilerde fayda sağlamak güçleşmektedir. Bununla beraber, resmi mentorluk programlarında izleme süreçlerinin iyi yapılandırılmış bir şekilde yürütülmesi gerekir. Zira programların geliştirilmesi, değerlendirilmesi ve gerektiğinde müdahale edilmesi ancak iyi yapılandırılmış izleme süreçleri ile mümkündür. Elde edilen veriler, bazı çıktıların henüz gerçekleşmediğini ancak gerçekleşme olasılığı olduğunu da göstermektedir, bu sebeple belirlenen ölçütlerin, ne kadar zaman içinde gerçekleşmesi beklendiğine ilişkin çalışmalar yapılabilir.

3. Yöntem: Bu çalışmada ortaya çıkarılan değerlendirme yönteminde, firma performansı ve katılımcı algısı kullanılmıştır; bu tez çalışmasından faydalanarak, mentorluk etkisini ölçmek üzere mentor algısı da üçüncü bir boyut olarak, sonraki araştırmacıların çalışmalarına eklenebilir.

Bu çalışmada elde edilen bilgiler ve ortaya konulan bulgular sonucunda yapılan politika önerileri aşağıda yer almaktadır:

1. Mentorluk ilişkilerinin etkili olabilmesi için gerekli olan ilk unsur, ilişkinin gerçekleştiği ortamdaki mentorluk kültürünün varlığıdır. Mentorun, karşı tarafa yardım etmeyi istemesi ve bunu öncelikli olarak kişisel tatmin dürtüsüyle yapması, mentorluk alan kişinin ise bu ilişkiden fayda sağlayacağına inanması önemlidir. Dolayısıyla, bu kültürün oluşması için çaba harcanması gerekir. Girişimcilik eğitimlerinde mentorluğun anlatılması, konferanslarda bu konuya yer verilmesi veya başarı hikâyesi olarak gösterilebilecek mentorluk ilişkilerinin ortaya çıkarılarak taraflara ilham vermesi sağlanabilir.

2. Mentor niteliği, program yöneticilerinin düşünmesi gereken en önemli konudur. Yeterli sayıda nitelikli mentorun olmadığı bir ortamda, mentorluğun etkisini tartışmak da yersiz olacaktır. İyi eğitilmiş, deneyimli ve daha önemlisi, sahip olduğu bilgileri karşı tarafın anlayabileceği şekilde aktarabilen mentorların varlığı zaruridir. Dolayısıyla mentorların bilgi ve becerisini artıracak yöntemler düşünülmelidir. Eğitimlerin yanı sıra, başarılı ve bu niteliklere sahip girişimciler mentor olmaları yönünde teşvik edilebilir.

3. Mentorluk desteği, özellikle, yüksek büyüme potansiyeli olduğu değerlendirilen girişimci firmalara sağlanabilir. Bu sayede, en nitelikli mentorlar, potansiyeli ve başarı şansı yüksek girişimcilere yönlendirilebilir. Çalışmada çok kez değinildiği üzere, “dönüşümcü” olarak adlandırılan girişimciler beklenen ekonomik etkiyi yaratma potansiyeli olan kişilerdir, dolayısıyla bu gruba odaklanarak, kaynakların etkin kullanımı sağlanabilir. Sözü edilen dönüşümcü girişimcilerin ayırt edilebilmesi için, öncelikle, başarılı olarak nitelendirilen girişimcilerin ortak özelliklerinin ortaya konulması gerekir. Program yöneticileri, bu girişimcileri tanımak için, risk sermayedarlarının bakış açısını benimseyerek, girişimcinin profesyonel iş deneyimi, eğitim düzeyi, takımı, patenti ve öz sermayesi gibi ölçütler kullanabilirler. Bunlara ek olarak, girişimcinin, girişime başlamadan önce tam zamanlı bir işinin olup olmadığı ölçütü de kullanılabilir.

4. Girişimciler tarafından beklenen ‘faydalı ağlara erişim’ için çeşitli programlar geliştirilebilir. Müsterilere, yatırımcılara veya iş ortaklarına erişebilmek için çeşitli etkinlikler düzenlenebilir veya çevrimiçi olarak yürütülen uluslararası platformlara katılım sağlanabilir. Elbette, bu süreçlerin yönetimini sağlayacak ilgili birim veya kuruluşların atanması gerekecektir.

5. Giriřimcilerin hibir bedel ve aba harcamadan eriřebildikleri, dahası herhangi bir tanımlı sorumluklarının olmadığı mentorluk destekleri, girişimci tarafında gayrete sebebiyet verecek şekilde yeniden düzenlenebilir.

6. Giriřimcilik mentorluğunun en önemli kavramı olan ‘öğrenmenin’ gerçekleşmesi için, girişimcilerin öğrenme hevesini artıracak yöntemler düşünölmelidir. Başarı hikâyelerinin ön plana çıkarılarak diğerklerine ilham kaynağı olması sağlanabilir. Ayrıca başarısızlığa da saygı gösteren bir yaklaşım ve kültürün benimsenmesi de öğrenmenin yolunu açacak bir diğerk yöntem olabilir. Beraberinde, öğrenmenin yalnızca girişimci tarafında değil, mentor için de mümkün olduğu unutulmamalıdır. Mentor öğrenmesi için farkındalık yaratma, eğitim, mentorluk düzeylerinin derecelendirilmesi gibi yöntemler düşünölebilir.

7. Mentorluk programları daha uzun süreli yürütölebilir, ayrıca bir mentorun tüm işlevleri sağlaması beklenemeyeceğı için birden fazla mentor veya mentor grubu ile çalışmak mümkün hale getirilebilir.

8. Yeni programlar geliştirilirken, hedefler ve başarı ölçütleri eşzamanlı olarak ortaya koyularak, ilgili programların değerlendirme mekanizmaları da bu sayede oluşturulabilir.

Sonuç olarak, mentorluk ilişkileri, yeni girişimlerin başarılı olabilmesi için önemli birer destek mekanizması olmakla birlikte, beklenen pozitif etkilerin ortaya çıkabilmesi için gerekli ön koşulların göz ardı edilmemesi ve bunlara istinaden oluşturulacak politikaların uygulamaya geçirilmesi gerekir.

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