

**Entrepreneurial competencies of disabled entrepreneurs in Iran: Implications for learning  
and development**

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## **Abstract**

This qualitative research set out to explore competencies of disabled entrepreneurs by presenting their lived experiences in developing their capabilities to create and manage their own business. It also aimed to identify the dimensions and components of entrepreneurial competencies of disabled entrepreneurs. The participants were 16 entrepreneurs with physical and mobility disabilities, four educational managers of disabled vocational education and rehabilitation centers and four entrepreneurship academics. Our findings suggested the disabled entrepreneurs possess specific personal and functional entrepreneurial competencies. Personal competencies include attitudinal competencies, entrepreneurial self-efficacy and entrepreneurship learning self-efficacy. Functional competencies encompass entrepreneurial competencies, commitment and social competencies.

**Keywords:** *disabled entrepreneur; entrepreneurial competencies; learning and development; vocational education and rehabilitation programs*

## **Introduction**

Research on the factors that enable and drive successful entrepreneurial processes and performance has suggested the crucial importance of entrepreneurs' competencies in fulfilling the demands of the highly challenging and complicated entrepreneurial tasks and roles (Baron 2008; Man, Lau, and Chan 2002; Spencer and Spencer 1993). Previous research findings (Lans, Versteegen, and Mulder 2011; Morris et al. 2013) have also indicated that entrepreneurial competencies play critical roles in the whole process of a new venture creation, success and growth. As such, developing individuals' entrepreneurial competencies has been identified as

more influential on the creation and success of entrepreneurial ventures than providing them with an encouraging and appropriate business environment (Man et al. 2002).

A growing body of literature have highlighted the significant impact of capabilities of entrepreneurs on the performance and growth of new ventures in different stages and various settings such as small businesses at the start-up phase (WU 2009), small and medium sized enterprises (Kyndt and Baert 2015; Man et al. 2002; Mitchelmore and Rowley 2013) and high-growth firms (Mitchelmore, Rowley, and Shiu 2014).

While the nature, influence, application and outcomes of entrepreneurial competencies vary in different steps of the entrepreneurship process and different contexts, few studies (Lans et al. 2011; Mitchelmore and Rowley 2013; Morris et al. 2013; Morris, Webb, and Franklin 2011) have looked at these competencies through a task and context specific perspective. Previous research mostly examined managers' and staffs' entrepreneurial qualities in big companies (Rae 2007; Swiercz and Lydon 2002; Tan 2001). Particularly, our knowledge about competencies of entrepreneurs running a small entrepreneurial business is limited (Sánchez 2012; Lans et al. 2011). Furthermore, entrepreneurs have mostly been presumed as individuals having no disabilities (Hwang and Roulstone 2015; Pavey 2006). Therefore, empirical research on disabled entrepreneurs and particularly their entrepreneurial competencies is extremely scarce (DeMartino et al. 2011; Namatovu and Dawa 2012; Renko, Harris, and Caldwell 2015). This lack of knowledge and understanding encounters policymakers and professionals involved in the development of entrepreneurship among disabled people, organizations and institutions active in supporting disabled entrepreneurship and educators, vocational rehabilitators and consultants with serious challenges in developing strategies and designing programs to improve entrepreneurial competencies in current and potential disabled entrepreneurs (Cooney 2008;

Morris et al. 2013; Pavey 2006). In response, this study set out to explore entrepreneurial competencies in a particular context; that of small businesses successfully created and managed by disabled entrepreneurs in Iran. It also aimed to identify the dimensions and components of these competencies presenting disabled entrepreneurs' lived experiences in developing their competencies to be able to play the roles and tasks as an entrepreneur. Particularly in Iran where disabled people have scarce opportunities to acquire the requisite entrepreneurship knowledge and capabilities and engage in entrepreneurial activities (Ashtari 2013; Bahreini 2007), this study is one of the first attempts to identify competencies of disabled entrepreneurs. This paper is organized as follows: the first section reviews the current literature on entrepreneurial competencies. Then, the importance of entrepreneurship for disabled individuals is highlighted and the gaps in the literature are identified. Next section represents the research method. Subsequently, the findings are detailed and discussed in the light of implications for policymaking, practice and disabled people vocational rehabilitation education, training and consultation. Finally, this paper concludes with suggesting directions for future research.

### **Entrepreneurial competencies**

Research on the qualities that enable and motivate different entrepreneurial processes started with exploring the personal traits and characteristics that entrepreneurs are endowed with (Barkham 1994; Kotey and Meredith 1997). Numerous studies identified personal characteristics that have significant influences not only on entrepreneurs' but also on their businesses' performance and success (e.g. Man et al. 2008; Zhao, Seibert, and Lumpkin 2010; Ling, Zhao, and Baron 2007). Researchers (e.g., Krueger, Michael, and Carsrud 2000; Kyndt and Baert 2015) have

criticized these characteristics for being static, instinctive (KyndtandBaert 2015) and insufficient to deal with the inherited challenges of entrepreneurial tasks (Jain 2011; Stuetzer et al. 2013). Furthermore, empirical studies such as Jong, Song, and Song (2013) and Peterson et al.(2003) failed to find a significant direct effect of personality characteristics on the performance of entrepreneurial businesses. Consequently a highly growing body of research explored entrepreneurial competencies as the dynamic and malleable capabilities which have enduring and influential effects on successful task performance of entrepreneurs as well as their business performance and success (e.g., Baron and Ensley 2006; KyndtandBaert 2015; Man et al. 2002; Mitchelmore and Rowley 2013, 2010; Sánchez 2012).

Competence refers to one's ability to regulate their personal traits, knowledge, skills and behavior to successfully perform a specific task in a specific professional setting (Lans et al. 2011; Morris et al. 2013; Spencer and Spencer 1993). Entrepreneurial competence has been defined as the capability to apply the required knowledge, personal characteristics, skills and attitudes to effectively fulfill the demands of the highly complex and challenging tasks and roles in different stages of a new venture creation and growth (Brinckmann 2008; Lans et al. 2011; Man et al. 2002; Sánchez 2012). In this definition rather than having only one dimension and being stable, entrepreneurial competence contains multiple facets (cognitive, attitudinal, behavioral, functional and social) and can be formed and developed by contextual factors such as education, training and experience (KyndtandBaert 2015; Lans et al. 2011; Mitchelmore and Rowley 2010; Morris et al. 2013; Sánchez 2011).

### *Entrepreneurial competency models*

During the last four decades, research has identified a variety of entrepreneurial competencies in different entrepreneurial contexts. Some studies have suggested capabilities related to recognize and exploit entrepreneurial opportunities as the key competencies of entrepreneurs (Lans et al. 2010; Rasmussen, Mosey, and Wright 2011). While, others highlighted managerial (Boyatzis 1982; Erikson 2002), cognitive (e.g., Barbosa, Gerhardt, and Kickul 2007; Baron 2004, 2006; Grégoire, Corbett, and McMullen 2011), attitudinal (Hmieleski and Corbett 2008) and social competencies of entrepreneurs as to be impactful on their business performance (Chen 2007; Baron and Markham 2003).

Researchers have attempted to organize these competencies in various models (Jain 2011). Majority of the models are based on and/or developed the conceptual model for the construct (Table 1) developed by Man et al. (2002). The model associates entrepreneurs' personal competencies and their business management and performance. At the heart of this model lies a set of six key entrepreneurial capabilities (conceptual, opportunity, relationship, organizing, strategic, and commitment). Conceptual competence encompasses entrepreneurs' cognitive and analytical capabilities to identify and solve complicated problems creatively and effectively, look at one issue from various perspectives (Man et al. 2002; Mitchelmore and Rowley 2010; Lans et al. 2011; Mitchelmore and Rowley 2014) and engage in constant learning and self-development activities (Lans et al. 2011). It also reflects entrepreneurs' personal meta-competencies that facilitate "the acquisition of the other substantive competencies" (Le Deist and Winterton 2005, 39).

'Insert Table 1 around here'

Opportunity competence reflects attitudinal and behavioral capabilities of entrepreneurs to search for, explore, evaluate and exploit opportunities to address the unanswered market niches, identify a market for an innovation or technology and create novel ideas for products or services (Ardichvili, Cardozo, and Ray 2003; Man et al. 2002; Morris et al. 2013). Research has also suggested relationship and networking (Man et al. 2002; Le Deist and Winterton 2005; Mitchelmore and Rowley 2010, 2013, 2014) as behavioral competencies of entrepreneurs (Man et al. 2002; Lans et al. 2011).

In addition to personal competencies, previous research has highlighted a set of entrepreneurial business management capabilities that were further classified into four groups. The first group is the operational competencies that empower entrepreneurs to effectively perform their functional tasks and roles (Le Deist and Winterton 2005). The second group includes the organizational competencies of entrepreneurs and reflects their capabilities in planning and managing different resources (internal, external, physical, financial and technological) and effectively performing the tasks related to human resources and relations such as recruitment, leadership and task delegation (Man et al. 2002; Le Deist and Winterton 2005; Mitchelmore and Rowley 2010, 2013; Lans et al. 2011).

The third group of competencies relates to strategic capacity of entrepreneurs that enables them to maintain successful and sustainable performance and growth of their business in the future through developing and implementing short and long term goals and plans (Man et al. 2002; Lerner and Almor 2002). Finally, business management competencies contain commitment of entrepreneurs that is their ability to persist in dealing with the difficulties and dedicate their efforts to advance their business (Man et al. 2002; Lans et al. 2011). Studies have identified three aspects of commitment competence including: motivational (self-efficacy), moral

(responsibility to do right things) and cognitive (learning and self-management) that drive entrepreneurs' constant and active engagement in their task performances (Lans et al. 2011). Empirical research has supported the influential impact of these competencies both directly and indirectly (through shaping competitive scope and creating organizational capabilities) on business performance (Man et al. 2008). Yet, there is a huge gap in our knowledge and understanding about entrepreneurs' competencies running a small business in a specific context (Lans et al. 2011; Man et al. 2002) as those created by disabled people. To narrow the gaps, this study aimed to explore competencies of disabled entrepreneurs leading a small business.

### **Entrepreneurial competencies of disabled people**

Disability has been predominantly defined as having any enduring physical, mental, intellectual or sensory impairments which affect individuals' interactions and activities and hamper their effective and equal participation in society as other people (Pagán 2009; Renko et al. 2015). Therefore, it is the disability that hinders disabled people from successful involvement in society which needs to be identified and treated by the provision of rehabilitation services. However, researchers have recently looked at the concept through a social perspective and defined it as "a disadvantage that stems from a lack of fit between a body and its social environment" (Goering 2015, p.134). This definition views disability as a result of social, environmental and attitudinal obstacles that prevent people with disability from dynamic and maximum participation in society and highlights the roles and responsibilities of society and government to meet the needs and aspirations and realize the capabilities of disabled people. Iranian scholars have also advocated the social view and defined disability as having physical or mental impairments that significantly

prevent disabled people from active participations in social activities (Ashtari 2013; Bahreini, 2007). Though, Iran government has resisted recognizing disability as a social issue and was not successful in developing effective plans to eliminate the social barriers of disabled peoples' active involvement in the society (Samadi 2008).

People with disabilities has long been struggling with getting employment and on the job various challenges, barriers and constraints all over the world (e.g., Cooney 2008, in Ireland; Hwang and Roulstone 2015, South Korea; Jones and Latreille 2011, UK; Lorenzo et al. 2007, South Africa; Namatovu and Dawa 2012, East Africa; Pagán-Rodríguez 2012, Europe; Renko et al. 2015, the U.S). Particularly, disabled people in developing countries encounter more serious employment and workplace challenges and difficulties (Namatovu and Dawa 2012) and Iran is not an exemption (Rahbar, Momayez, and Mohammadi 2013). Scholars attributed these challenges mainly to the lack of a well-established legal and regulation system for disabled people compared to the strong laws that protect disabled's rights including their employment in other countries such as the U.S (Moore and Kornblit 2011). Despite the constant struggle to enhance disabled people's rights since 1959, Iran government has failed to play an active and effective role in removing the work related as well as business creation challenges faced by disabled people (Samadi 2008). Different laws and legislations have been passed for disabled people, the most important and comprehensive of which is the Disability Protection Act (2003) that secures employment for disabled (Moore and Kornblit 2011). According to the act, all of the organizations receiving public funds are obliged to employ three percent of their employees from the people with disabilities and provide them with the facilities required to perform their tasks (Alaedini 2004). However, majority of the public organizations do not comply with the law and

there is no effective monitoring and punishment system that makes the law work (Bahreini 2007).

There is also no precise statistics available on the total number of disabled, type of their disabilities and status of their employment in Iran (Rassafiani&Zeinali,2007).According to the latestCensus (2012), there are 1,017,659 (1.35% of the whole population 75,149,669) people with a type of recognized disability. Majority of the disabled (724,608, 71, 20%) are at the working age (15-64). Among the disabled, 51,046 (7.04%) are out of work compared to 2,488,372 (10.4%) of unemployed persons with no disability. Furthermore, most of the disabled are individuals with physical and mobility disabilities (738,715,72.59%). Of the disabled, 637,357 (62.63%) are male and 380,302 (37.37%) are female.Interestingly, over half of disabled individuals aged over 6 years (987,722, 97%) are educated (518,503, 52.49%) and almost 5 per cent (47,657,4.8%) have a postgraduate degree.Comparing this to education level of disabled in other countries, in Iran disabled individuals have higher education qualifications than their counterparts in both Western and Asian countries (Cooney 2008;Hwang and Roulstone 2015). However, researchers believe the number of disabled is higher than what estimated by the Census and is about 4% of the population (Adib-sereshkiandSalenhpour 2011) andabout 21% of the disabled at the working age are out of work (Ashtari 2013).The high rate of unemployment suggests that people with disabilities have to overcome different barriers and obstacles to get employment and much more serious challenges in creating their own venture (Rahbar et al. 2013). Lack of a specific definition for disability; recognition of their needs and rights; accessibility to public buildings and transportation; trust in their capabilities and quality of their work; appropriate education and training; and financialsupports are only few examples of these

peoples' challenges and problems (Bahreini 2007; Moore and Kornblat 2011; Salenhpour and Adibsereshki 2001).

This is not true only for disabled people living in Iran. Individuals with disabilities in both developed and developing countries experience various difficulties in getting employment (e.g., Cooney 2008; Hwang and Roulstone 2015) as well as establishing their own business (Renko et al. 2015). These challenges include personal and attitudinal (lack of business training and perceived lack of abilities and discriminations), socio-cultural (norms and views toward disability and underestimating disabled capabilities), economic (lack of financial support and capital), workplace-related (less promotion opportunities, task delegation and salary), to name but a few (Barnes and Sheldon 2010; Hwang and Brandon 2012).

All these has made entrepreneurship and self-employment as a viable alternative to a paid career path and an effective means of vocational rehabilitation for people having different types of disabilities (Cooney 2008; DeMartino et al. 2011; Health and Reed 2013; Jones and Latreille 2011). Being an entrepreneur, disabled individuals can highly contribute to the economy of their country, their family and society (Renko et al. 2015). Though, disabled people has long been considered as to lack the capabilities required to establish and run their own business and assumed to need a lifelong care and support (Cooney 2008; Pavey 2006). Governments around the world have also developed policies that support disabled's secured paid employment (Grover and Piggott 2013).

As such, disabled people in other countries (Cooney 2008; Lo and Ville 2013; Pavey 2006) and Iran (Bahreini 2007) are mostly provided with the vocational education and training that

derive them to seek a paid job rather than the opportunities to acquire the knowledge and competence to launch their own business.

Additionally, few researchers around the world (Heath and Reed 2013; Namatovu and Dawa 2012; Renko et al. 2015) and in Iran (Verstraete and Van Goethem 2012) have dedicated their efforts to investigate entrepreneurship among disabled people. Majority of previous studies examined the advantages of and barriers to entrepreneurship and self-employment for disabled and used the two concepts interchangeably (Cooney 2008; Hwang and Roulstone 2015; Lorenzo et al. 2007; Namatovu and Dawa 2012; Pavey 2006; Peterson and Philhour 2000). Prior research has also examined personal characteristics of disabled entrepreneurs (Cooney 2008; Hwang and Roulstone 2015), their satisfaction with self-employment (Pagán 2009) and the impact of government policies on facilitating disabled peoples' self-employment (Grover and Piggott 2013; Hwang and Roulstone 2015). Importantly, the findings of the few studies on disabled people in Iran are mostly "inaccessible for English-speaking scholars" (2012, p.84). The main focus of these studies was also to explore the employment status of disabled (Ashtari 2013), services provided to disabled people (Rahbar et al. 2013) and the impact of training on enhancing disabled's chance for employment (Alaedini 2004).

While, disabled people encounter more serious challenges in creating and growing their own business than non-disabled and their success in dealing with the challenges of entrepreneurial processes highly depends on possessing a combination of entrepreneurial capabilities (Cooney 2008; Namatovu and Dawa 2012; Pagán 2009; Renko et al. 2015), empirical studies on entrepreneurial competencies of disabled entrepreneurs has recently emerged in the literature and is still at the exploratory stage (DeMartino et al. 2011). To our knowledge, there is no published work that investigates competencies of disabled entrepreneurs in Iran. To narrow the gaps, this

study aimed to identify entrepreneurial competencies that drive disabled individuals to successfully create and manage their own small business. It also explored the dimensions and components of these competencies.

## **Method**

This study employed the qualitative research method to explore the competencies of disabled entrepreneurs by presenting their lived experiences to develop their capabilities and successfully establish and run their own business for two main reasons. First, there are few empirical knowledge and insights on entrepreneurial competencies, particularly for disabled people (DeMartino et al. 2011). Furthermore, the quality, complexities and components of entrepreneurial competence can be most reliably explored by qualitative methods of inquiry (Fernald, Solomon, and Tarabishy 2005; Kempster and Cope 2010; Lans et al. 2011). Prior studies have also adopted qualitative methods to examine entrepreneurial competencies of disabled entrepreneurs (DeMartino et al. 2011; Namatovu and Dawa 2012).

## **Sample**

This study involved disabled entrepreneurs who had established and managed their entrepreneurial business because scholars argued that the range and quality of competencies required to create and run an entrepreneurial business differ in small businesses than large firms (Winterton 2002). The disabled entrepreneurs were selected from those with physical and mobility disabilities defined as individuals having a long-term physical and movement impairment which prevent them from environmental and social interactions and activities

(Goering 2015; Pagán 2009; Renko et al. 2015) for several reasons. First, physical disabled people are more probable to establish their own business because they are more independent and need less supports than individuals with other types of disabilities (Hwang and Roulstone 2015). Second, the nature, form and harshness of disability influence disabled's task and job related activities (Hall and Wilton 2011). Accordingly, disabled persons with physical and mobility disabilities may face less difficulties and challenges in performing entrepreneurial tasks and roles, receiving entrepreneurship training (Heath and Reed 2013) and consequently developing their entrepreneurial competencies than other disabled people. Finally, people with physical and mobility disabilities outnumber other disabled persons in Iran (Ashtari 2013).

A sample of 16 disabled entrepreneurs was selected using the purposive sampling methodology (Patton 1990). The sample size indicates in-depth understanding of the entrepreneurs' competencies increasing and running their own business ventures (Mason 2002; Patton 1990). The sample was chosen from successful disabled entrepreneurs (those who have launched and managed their business more than five years) to ensure that they had practiced and developed some specific competencies to be able to effectively perform various entrepreneurial tasks and roles. To maximize the variety in the participants, they were drawn from two vocational and rehabilitation centers for physical and mobility disabled people in Tehran, Iran. The centers provide the disabled persons with various educational and vocational rehabilitation and consultation programs.

This study also involved an academics sample consisting of four vocational rehabilitation and educational managers and four entrepreneurship associate professors who had at least five years of entrepreneurship teaching experience and has published research works in related fields. This

sample was selected to ensure inclusion of educators highly involved in and informant of entrepreneurial competency development among people with disabilities (Morris et al. 2013).

Participants were given a consent sheet detailing the aims and benefits of the study, ensuring them there is no risk associated with participation and they are free not to answer any of the research questions, and asking their permission to record the interview (Groenewald 2004). They were also ensured about the confidentiality of the data and their personal identities. Doing so, they were assigned pseudonyms, though the names are Persian names in order to avoid losing the context of the study.

The entrepreneurs were conducted to participate in the study through the vocational rehabilitation manager of each center. Some of the participants were also introduced by other disabled entrepreneurs. Table 2 represents the background information of the participants. The disabled entrepreneurs aged between 27 and 49 years old. Majority of them were male (11 males and 5 females). Most of them were educated where nine had a Bachelor degree, five had a Master's degree, two finished primary school and one had a Diploma. Regarding type of their business, they had a wide range of businesses from both industry (e.g., automobile spare parts manufacturing and electronic circuit board manufacturing) to service (e.g., health insurance and restaurant) sectors and had between 5 and 10 years of experience in running their business. Of the vocational rehabilitation and educational managers, three were male and one was female and aged between 38 and 57. All of the associate professors involved in this study were male and aged between 42 to 54 years.

'Insert Table 2 around here'

## **Data collection and analysis**

Face-to-face and semi-structured interviews were employed as the most appropriate method to gain deep insights on entrepreneurial competencies of the disabled entrepreneurs (Jones 2002). Entrepreneurship scholars argue that the existence, degree and quality of entrepreneurial competencies of entrepreneurs can be most reliably examined through in-depth and structured interviews (Fernald et al. 2005). The participants were asked to describe their everyday experiences, task performances and routines in order to explore the key competencies that made them capable to successfully launch and run their own venture (Lans et al. 2011). Furthermore, previous researchers have also used the technique to investigate entrepreneurial competencies (Kempster and Cope 2010).

The interviews were conducted at the participants' workplace and by the first author. Based on the literature on entrepreneurial competencies, a list of questions was developed and submitted to an "expert panel" consisting of three university entrepreneurship and qualitative research lecturers to ensure the content validity of the questions. The list included but not limited to questions such as: What do you think makes you capable of starting and managing your own business? What makes you capable of facing the problems and challenges of running your own business? What are your tasks and responsibilities in managing your business? The interviews lasted between 30 to 95 minutes and were recorded on a digital audio recorder. Each interview was transcribed verbatim within 48 hours of the actual interview.

Data analysis was carried out using NVIVO 8 software to assist in transcription, organization, coding, and data analysis. Two phases of data analysis was conducted (Grbich 2007). First, the data were initially analyzed during the data collection process. After each

interview had been conducted, the transcriptions were read over and over by each researcher separately to explore the emerging issues, potential codes and themes and gaps in the data. Through this ongoing process, we checked the quality of the data and revised the questions asked to better explore competencies of the disabled entrepreneurs (Denzin 1994).

Then, we analyzed the data thematically after the interviews had been conducted by examining the initial codes to provide a deep understanding of the disabled entrepreneurs' competencies (Braun and Clarke 2006). This phase was concerned with reducing the data into manageable and meaningful groups, categories, and themes. Through this phase, the authors read all the interview transcripts and highlighted the parts where the participants described competencies of disabled entrepreneurs. Examples of the initial codes are: 'highly confident in dealing with business learning problems' and 'ability to find deficiencies in knowledge'. In order to identify entrepreneurial competencies of the entrepreneurs, we used the constant comparative method (Merriam 1998) and examined responses of the participants to the same questions against other participants to explore the similarities and differences in the disabled entrepreneurs' competencies. However, we used the educational managers' and entrepreneurship academics' insights as complementary to entrepreneurial competencies of the disabled. This step of analysis led to identifying the themes on competencies of the disabled entrepreneurs such as 'entrepreneurial learning self-efficacy'.

Several techniques were adopted to ensure the trustworthiness of our findings. First, detailed transcriptions and field notes were prepared and the findings were checked against biasness by presenting the codes, themes, and findings to two lecturers involved in entrepreneurship researches (Bogden and Biklen 2003). Second, the disabled entrepreneurs were selected through the educational managers of the vocational and rehabilitation centers and their friends to guard

against biases in selecting the entrepreneurs. This also ensured including the entrepreneurs who were fully involved in different entrepreneurial processes and developed their entrepreneurial competencies by facing with various challenges in the process of launching and managing their own business (Renko et al. 2015) rather than those just running a small business. After the first author had completed the data collection process, she arranged one final meeting with the person who had provided her with data. The reasons for doing so were twofold: to express her appreciation to allowing her to gather data and to explain our initial interpretations of the data had been collected. This proved to be very useful as on a few occasions, we learned things that helped us to better understand specific issues. In addition, the data collection methods were triangulated (Patton 1990). In qualitative research, triangulation is regarded as an important verification tool. Easterby-Smith et al. (2012) comment that triangulation is important especially from the social constructionist perspective, which seeks many different realities in a phenomena. In this respect, triangulation in this paper has sought to provide comprehensive understanding through convergence between the multiple sources of information (disabled entrepreneurs, educational managers and academics) that we accessed during the data collection stage. Furthermore, we utilized content and observational data, in addition to number of interviews. These materials provided corroborative evidences, which supported the information provided through in-depth interviews with the participants. First author was also able to generate observational data through observing the disabled entrepreneurs' work environments. Additionally, we were able to build an interview sample, which included informants who were known to hold differing views, and this was complemented by informal conversations with educational informants in university. As Denzin and Lincoln (2011, p. 3) have expressed: "Qualitative research involves an interpretative, naturalistic approach to the world". Hence, we

believe that our data, which was collected from diverse sources in multiple sites, provides a good representation of the world and lived experiences of our informants.

The themes on competencies of the disabled entrepreneurs are detailed in the following sections.

## **Findings**

This study aimed to explore the competencies that enabled and inspired disabled individuals to create and run their own business venture as well as the dimensions and components of each competence (Table 3). The analysis was constructed on prior studies on competencies of entrepreneurs in small businesses including personal and functional competencies (Le Deist and Winterton 2005) and dimensions of each competence which are: attitudinal, entrepreneurial, commitment and social competencies (e.g., Man et al. 2002; Morris et al. 2013; Lans et al. 2011). These competencies were selected as the main framework for our study due to their critical importance for disabled entrepreneurs to deal with the challenges and problems of establishing and leading their own ventures (Barnes and Sheldon 2010; Hwang and Brandon 2012) specifically in Iran's business environment (Bahreini 2007; Moore and Kornblit 2011).

'Insert Table 3 around here'

## **Personal competencies**

This study explored attitudinal competencies, entrepreneurial self-efficacy and entrepreneurship learning self-efficacy as the personal competencies that empowered the disabled entrepreneurs to successfully execute different tasks and roles to create and manage their own business. These competencies emerged as to be dynamic that is, they consisted of different dimensions and components that some disabled entrepreneurs may have but some may not.

### *Attitudinal competencies*

Analysis of the data revealed the disabled entrepreneurs possessed an enabling attitude. That is, constructive and encouraging thoughts and feelings towards both their disabilities and abilities. This was evident in majority of the participants' comments on their capabilities including Mohammad who stated:

“I strongly think that my disability cannot stop me from continuing, from seeing my abilities and using them. That's true, I have some disabilities, I cannot move, I cannot walk... But I can use my hands, my eyes and my brain...I feel that my abilities are much more than what I cannot do.”  
(Mohammad)

This enabling attitude goes beyond the disabled entrepreneurs' positive and intense beliefs and feelings about their abilities and made Maryam and Mohammad capable to look at their problems and particularly the difficulties caused by their disabilities from a developing perspective and effectively overcome them. For example Maryam expressed her developing view to her disabilities as:

“When I first felt that I cannot move, I never thought it is a serious problem...I had to cope with it. I thought what will happen if I never move, I will lose everything. This derived me to solve the problems and improve my abilities.” (Maryam)

This enabling attitude derived Masoume to take her colleagues' place when they were absent in order to change their attitudes towards her disabilities, prove them her capabilities and gain

their trust as she said: “When a designer was absent, I did her works... I wanted to tell them I am able to do different things, and make them believe in my abilities and trust that I’m able to.”

### *Entrepreneurial self-efficacy*

The findings in this section were organized based on Elfving et al.’s (2009) definition of entrepreneurial self-efficacy (strong beliefs in one’s competencies to execute the tasks required to create and manage a new venture). The disabled entrepreneurs had a strong and deep belief in their capabilities and specifically “huge confidence in their business abilities and doing big things”. (Kamran)

This high confidence in entrepreneurial capabilities enabled them to take the initiation to create their own venture and change their lives as Koroush stated: “something inside me always told me that I can change the conditions, I can change my life and start my business”. Some of the entrepreneurs also perceived themselves as highly competent in dealing with the problems and difficulties involved in the entrepreneurship processes and considered the problems as opportunities to challenge and develop their capabilities. For instance describing his challenges, Hashim postulated:

“When I encounter a problem, I never leave it. Whatever difficult situation happens, I am ready to face it. The more difficult is the problem, the higher is the pride to solve it because only strong individuals solve difficult problems.” (Hashim)

Furthermore, the disabled entrepreneurs expressed high expectations from their abilities in order to improve them as Mehdi explained “I am very hard and harsh on myself. Because I think if not and I feel satisfied with what I am, I will never try to improve my abilities and this stops me from putting efforts to succeed”. Reza was also strongly confident in the success and outcomes of his business when he described “The project had high risks but I was sure my ideas

will defiantly work, my business grows very fast and in near future all in the city will know our company”.

### *Entrepreneurship learning self-efficacy*

In addition to the general entrepreneurship self-efficacy, the disabled entrepreneurs expressed their high capacity to and confidence in acquiring the knowledge, skills, behavior and procedures related to an entrepreneurial venture creation and management. Specifically Morteza “feels that learning business is not that difficult. When others could learn it what stops him from putting more efforts and learn... he has to only put more time and energy and find his own way”.

Therefore, he exerted great efforts to learn the complex and challenging entrepreneurial competencies. Reza also perceived himself as having “high abilities to learn the methods and techniques he required to start his business and never become tired of learning”. Learning efficacy also enabled the entrepreneurs to identify the gaps in their knowledge and competencies as Koroush explained how he recognized that he “needed to work with the soft wares but he didn’t know how”. He further explained because his mobility disabilities made attending the courses difficult for him, he “searched for online courses and watched the online videos”. Mehdi also attempted to learn the requisite skills to work with molding machines by going “to the shops selling the machines and asking for an expert and went to a shop for several months and learned it”. Before starting his business, Maryam also “planned to go to courses to learn marketing, accounting and how to communicate with customers... not to be dependent on the helps of others”. This strong belief of entrepreneurship learning efficacy also empowered the disabled entrepreneurs to persist in the face of the challenges and difficulties they encountered in the

process of acquiring various entrepreneurial competencies. Mohammad expressed his strong resilience in learning as:

“No one was there to teach me, I learned the wrings, the circuit design, the estimations, how to contact with the suppliers and satisfy the customers... all by myself and putting lots of untiring efforts. I failed couple of times, but I never become tired”.

Learning self-efficacy has been identified as to be influential in learning complicated and challenging knowledge and skills in various domains such as management and leadership (Hannah, Avolio, Luthans, and Harms 2008; Lin and Tsai 2008). This study contributes entrepreneurship learning self-efficacy as a ‘meta-competence’ (Le Deist and Winterton 2005) that facilitates the acquisition and adoption of the complex and challenging knowledge, skills and behavior required to create and manage an entrepreneurial venture (Rae 2006, 2007).

### **Functional competencies of disabled entrepreneurs**

Functional competencies have been defined as capabilities that enable successful performance of the tasks and roles of an entrepreneur in creating and leading a business venture (Le Deist and Winterton 2005; Swiercz and Lydon 2002). This study explored entrepreneurial competencies, commitment and social competencies as three dimensions of disabled entrepreneurs’ capabilities in effectively executing entrepreneurial tasks and roles (Table 3).

### *Entrepreneurial competencies*

Analysis of the data suggested several cases’ competencies in generating various creative and innovative entrepreneurial business ideas. For example, Koroush explained that he has “an idea on developing a website for disabled to easily find the available jobs in the market” and currently “is working on a mobile application for disabled”. Furthermore, Susan identified her business ideas based on incorporating her own specific needs and other disabled’s needs and necessities

and Reza created the idea of “a comfortable wheelchair with various functions” when thinking how to address his and his friends’ needs.

### *Leadership*

Leadership competence have been defined as the interpersonal capabilities that enable entrepreneurs to intentionally mobilize and inspire a group of competent people and regulate their behavior and performance to exploit an entrepreneurial opportunity (Brinckmann 2008; Gupta, MacMillan, and Surie 2004; Leitch, McMullan, and Harrison 2013). Entrepreneurial leadership competence of the disabled entrepreneurs reflects their capabilities in selecting a teamwork having technical knowledge and entrepreneurial ideas. Akbar selected those among job seekers who had “innovative ideas. When they come to interview, he never asked their grade point average. But he asked if they could solve a problem smartly”. Kamran also selected his employees by specifying their strengths and capabilities because he “wanted they complement each other, fill the gaps in his knowledge and abilities and build a strong group”. In addition, some cases expressed their strong capability to influence and inspire their teamwork to engage in entrepreneurial activities as Akbar stated that:

“Most of us do not want to communicate and work with non-disabled. They prefer to work alone...I put them in groups and arrange some meetings with them...Watching me as the leader of the group motivates them to mingle around and perform their tasks well.” (Akbar)

Susan also expressed her ability to delegate the tasks of their teamwork based on their capabilities when describing how she “grouped her employees based on what they can do best” in order to improve their qualities and self-efficacy. Kamran explained how he delegated the tasks to improve his employees’ qualities as:

“I have a hard of hearing staff. I put him in the furniture quality check section. He can use his eyes to see very small weaknesses and imperfections in our products. Doing this, he can use and improve his other abilities than his hearing impairment.” (Kamran)

In playing their leadership roles, the disabled entrepreneurs also directed their teamwork through coaching them. Reza played a coaching role for his teamwork by sharing them his “knowledge, feelings and experiences with no limitations... always being available to answer their questions and supporting them to do their tasks”. Mehdi coached his group members and particularly those who are disabled by closely checking their works, guiding them through their task performance, assisting them to improve their performance and having tight contacts with them.

### **Commitment**

Analysis of the data in this section was organized based on previous research on commitment competence that drives entrepreneurs to pursue their business (Man et al. 2002; Lans et al. 2011) and aimed to explore the specific components of the competence for the disabled entrepreneurs. The findings suggested that alike other entrepreneurs, the disabled entrepreneurs were highly committed to their business creation goals (e.g., Koroush said “my purpose was establishing my own business, I never become distracted. I was highly attached to it, involved in it. I put a lot of energy and efforts in it, I could not leave it.”). They were also committed to the quality of their products/services and satisfaction of their customer (e.g., Bahram said “We try our best to guarantee the high quality of our products and customer satisfaction is so important to us. That’s why customers trust us and come again”).

Specifically, the disabled entrepreneurs were highly committed to the disabled community. That is, they highly employed a caring approach to disabled people and offered them their

products and services to make life easier for them and their family. For example, Masoud explained:

“People with serious and multiple disabilities can use our services with a reasonable price. We give them up to 70% discount and they don’t have to pay by cash...we have also some insurance services with low prices for their family.” (Masoud)

Reza also felt a huge responsibility to help disabled develop their business skills and create their own business:

“I feel I have a massive responsibility on my shoulders of people like me. I always think of my mission and that is I should spend most of my life and energy to develop disabled people and offer them the opportunities to create their own business. I asked my disabled friends to propose their entrepreneurial ideas. I will provide them whatever it takes to do their business.” (Reza)

Korosh is highly and voluntarily “a member of an NGO involving in develop and providing training for disabled. He searches for disabled who stayed at home and talked to them to participate in the programs and gave them job consultation”. Mehdi also selected some of his teamwork from disabled persons and after they “learned how to work with the machines, they can launch their business under him and he gave them advices on how to find the markets”.

### **Social competencies**

Finally, the entrepreneurs commented on the importance and impactful roles that communication skills play in connecting with people and society (e.g., Mehdi stated: “It is very important for me as a disabled entrepreneur to communicate with other people and the society... I need to listen to them carefully and discuss with them. People are different; I have to match with them”). Zahra also articulated her capability to “easily connect with people” and how “all the people working for her and customers feel comfortable to talk to her about their problems and family”. This

ability assisted her in linking with people and creating and maintaining networks. More specifically, Masoud emphasized the influential impact of social interaction and networking in business collaboration and gaining social supports:

“I put a lot of energy and time to meet and talk to people. I think it is very important for a disabled entrepreneur to know and connect to as many as people possible because we can cooperate and they can help us in many ways.” (Masoud)

Hasan described how he found business opportunities using his linkages: “We find new customers through those we have worked for them. When they are satisfied with the quality of our work they introduce us to others and this expands our connections”. One of the educational managers also confirmed the importance of social interactions and networks for disabled persons in recognizing business opportunities: “To become an entrepreneur, they should be open to people. They should know how to present their ideas and abilities. They should not be reluctant to collaborate with others” (Coordinator 3). In addition, Mehdi highlighted how meeting with other entrepreneurs “opened new business doors to him...because, they share information and discuss on how to solve problems” and he asked them to introduce new suppliers or financial resources to him.

## **Discussion**

This study integrated the literature on entrepreneurial competencies and disabled entrepreneurship to explore the competencies that made disabled entrepreneurs capable of successfully creating and managing their own business ventures. It also aimed to identify the dimensions and components of each competence. The findings highly contribute to the few studies that examined entrepreneurial competencies in a specific context (e.g., Lans et al. 2011;

Man et al. 2002;Renko et al. 2015) such as small businesses that disabled people established. The findings also contribute a set of dynamic personal and functional capabilities that qualified disabled entrepreneurship. These competencies that can be learned and developed (Morris et al. 2013; Renko et al. 2015) enabled the entrepreneurs to effectively deal with the multiple problems and challenges of the business environment for disabled people in Iran (Bahreini 2007; Moore and Kornblit 2011) and successfully create and manage their own venture.

Our findings revealed personal competencies of the disabled entrepreneurs consisted of three dimensions. First, an enabling attitudinal competence that goes beyond having a positive and favorable attitude towards entrepreneurship (e.g., Morris et al. 2013). This constructive and inspiring thought and feeling towards both disabilities and abilities enabled and inspired the disabled entrepreneurs to look at their problems and specifically, those created by their disabilities from a developing perspective and overcome the difficulties. It also created a favorable desire in them to change other peoples' attitudes towards their disabilities through proving their abilities to them and earning their trust. This enabling attitude made the disabled entrepreneurs competent to overcome one of the key challenges that disabled individuals particularly in Iran's business environment encounter; that is peoples' discouraging attitudes towards their abilities and lack of confidence in their capabilities and quality of their works (Bahreini 2007; Moore and Kornblit 2011).

Second, the personal competencies of the disabled entrepreneurs reflect their strong entrepreneurial self-efficacy (perceived entrepreneurship competence, perseverance in facing problems and high expectations from both their competency development and the outcomes of their business). This finding emphasizes the critical importance of entrepreneurial self-efficacy in a small venture creation and success (e.g., Trevelyan 2011; Tumasjan and Braun

2012; Tyszka et al. 2011). Particularly for the disabled entrepreneurs in Iran, this strong entrepreneurial self-efficacy enabled and derived the entrepreneurs to struggle against the problems caused by their disabilities and their entrepreneurial task performances.

Furthermore, this study contributed entrepreneurship learning self-efficacy as a 'meta-competence' (Le Deist and Winterton 2005) of the disabled entrepreneurs that enables the acquirement of other fundamental entrepreneurial competencies. Entrepreneurship learning self-efficacy has been identified as to be influential in learning complex and challenging knowledge and skills (Hannah et al. 2008; Lin and Tsai 2008). However, the notion has not yet been formally explored in the context of entrepreneurship and specifically, as a competence of disabled entrepreneurs that enabled them to acquire and adopt the multi-faceted and challenging competencies required to create and manage an entrepreneurial venture (Rae 2006, 2007). Entrepreneurship learning self-efficacy manifests the disabled entrepreneurs' high perceived capacity of and confidence in the acquisition of the required entrepreneurship knowledge, skills, behavior and procedures. This strong belief of learning efficacy made the disabled entrepreneurs in Iran having limited access to entrepreneurship education and training (Bahreini 2007; Moore and Kornblit 2011) capable to exert great efforts to learn the requisite entrepreneurial competencies, identify the gaps in their knowledge and capabilities, plan to further their learning and development and use various and flexible learning strategies to enhance their performance. It also empowered the disabled entrepreneurs to persist when encountered with the challenges and difficulties in the process of learning the competencies.

In addition to the personal competencies, this study suggested entrepreneurial competencies, commitment and social competencies as the functional competencies of the disabled entrepreneurs that empowered their successful performance of their challenging tasks and roles (Le

Deist and Winterton 2005; Swiercz and Lydon 2002). More specifically, entrepreneurial competencies reflect the disabled entrepreneurs' capabilities in generating creative and innovative business ideas, creating or recognizing entrepreneurial opportunities (mostly based on an integration of their own and other disabled's needs) and leadership. These findings accentuate the critical roles played by entrepreneurial opportunity recognition competencies (e.g., Ardichvili et al. 2003; Man et al. 2002; Lans et al. 2011), in particular for disabled entrepreneurs to successfully execute their much more challenging entrepreneurial tasks and roles (Renko et al. 2015).

This study also highlighted entrepreneurial leadership (choosing a competent teamwork having technical knowledge and entrepreneurial ideas, influencing and inspiring them to engage in entrepreneurial activities and delegating their tasks based on their abilities) which has been identified as a functional competency of entrepreneurial leaders (Bagheri and Pihie 2011) as to be a key competence for disabled entrepreneurs' successful task performances. Interestingly, to successfully play their leadership tasks, the disabled entrepreneurs and particularly, those employed other disabled people also adopted a coaching role to improve their employees' entrepreneurial capabilities and direct their behavior. Prior research mostly examined the roles that coaches play in improving entrepreneurs' business performances (e.g., Audet and Couteret 2012; Crompton et al. 2012). This study explored the disabled entrepreneurs' coaching competence to effectively lead their employees through absolutely sharing with them their knowledge, feelings and experiences, closely supervising them to perform their tasks, providing comments on the quality of their task performances and extending their work-related networks.

Additionally, commitment has emerged as a multi-dimensional competence in this study. First, it includes the disabled entrepreneurs' sense of responsibility towards their business creation

goals, quality of their products/services and customer satisfaction (Lans et al. 2011; Man et al. 2002). Particularly, the disabled entrepreneurs' commitment goes beyond their business and reflects their huge devotion to the development of their community through caring about disabled people and their family, training and developing their business skills and providing them with the opportunities to establish their own business under their close supervision and guidance. This finding emphasizes the influential role that disabled entrepreneurs can play in developing their community (e.g., Cooney 2008). Particularly for disabled individuals in Iran who suffer from the scarcity of effective and supportive organizations and associations (Alaadini 2004; Bahreini 2007), this commitment strengthened the linkages between the disabled entrepreneur and employees having disabilities and enhanced the disabled employees' opportunity to develop their business qualities and establish their own business. Finally, this study suggested the key importance of interpersonal, interactive and social capabilities in starting and managing a small venture (Lans et al. 2011). Social competence of the disabled entrepreneurs was crucial for their effective connections with people and the society as well as creating and preserving networks. Social interactions and networks also enabled the disabled entrepreneurs to collaborate in managing their business, attract social supports, recognize business opportunities and share their information and resources to successfully cope with their business problems.

## **Conclusion**

In accord with prior research (e.g., Kyndt and Baert 2015; Lans et al. 2011; Man et al. 2002; Mitchelmore and Rowley 2014; Mitchelmore and Rowley 2013; Morris et al. 2013), it can be

concluded that entrepreneurial competencies vary in different contexts and entrepreneurs require a combination of specific competencies to deal with the difficulties and challenges of their entrepreneurial tasks and roles. While some competencies are more dominant in one context such as small businesses created by disabled entrepreneurs, other competencies are more paramount in other contexts. Therefore, entrepreneurial competence needs to be considered as a task and context specific concept in order to develop theories on the development of these competencies.

This study provides several contributions to entrepreneurial competencies in a specific context and that of small businesses created and managed by disabled people. First, it highly contributes a set of distinctive personal (attitudinal, entrepreneurial self-efficacy and entrepreneurship learning self-efficacy as a meta-competence) and functional (entrepreneurial, commitment and social) competencies to the limited literature on disabled entrepreneurial competencies (DeMartino et al. 2011). Second, the findings contribute better insights on the personal and functional capabilities that disabled entrepreneurs bring to and develop in the entrepreneurial processes. In this, the current study contributes to the scarce literature on entrepreneurial competencies for disabled individuals that can be learned and developed through involvement in entrepreneurial learning opportunities (Kempster and Cope 2010; Morrison et al. 2013). Third, this study contributes to a context-based entrepreneurship theory development specifically, for disabled entrepreneurship by exploring competencies of disabled entrepreneurs (Renko et al. 2015; Zahra, Wright and Abdelgawad 2014). Furthermore, it contributes one of the first empirical evidences on the entrepreneurial competencies of a major but highly marginalized group of disabled entrepreneurs that of disabled entrepreneurs with physical and mobility impairments in Iran (Ashtari 2013).

## Implications

This study highlights disabled entrepreneurship as a specific context for entrepreneurship research in order to explore the nature, priority and consequences of adopting entrepreneurial competencies in specific settings. The findings also assist real, nascent and prospect disabled entrepreneurs and especially those with physical and mobility impairments to identify the requisite competencies they require to learn and develop to create their own entrepreneurial business and improve the quality of their entrepreneurial task performances by active involvement in entrepreneurship education and training programs (Heath and Reed 2013).

Furthermore, this research provides policymakers and professionals engaged in the development of disabled entrepreneurship as well as organizations and institutions involved in supporting disabled people with the fundamental competencies to develop and implement more effective vocational, educational and rehabilitation strategies and programs to encourage and promote entrepreneurship rather than paid employment among disabled people. Additionally, educators and vocational rehabilitation consultants can employ the set of entrepreneurial competencies emerged from this study to design more efficient and purposeful programs and activities that accommodated disabled's specific needs and develop such competencies in current and future entrepreneurs (Cooney 2008; Hwang and Roulstone 2015; Namatovu and Dawa 2012).

## Future research directions

This study attempted to provide a deeper understanding of the competencies of disabled people having physical and mobility impairments to start and manage their own small business. Future research could investigate if the emerging competencies of the disabled entrepreneurs are

common among other entrepreneurs with different types of disabilities in order to facilitate developing a comprehensive theory for disabled entrepreneurship. It will be enlightening for future studies to examine the interactions between these competencies and explore the factors that affect the formation and development of such competencies in disabled individuals. Furthermore, different components of the competencies and specifically, enabling attitudes, entrepreneurship learning self-efficacy, entrepreneurial leadership and coaching role of entrepreneurs have great potentials for further research on entrepreneurial competencies in small businesses and particularly those created by disabled people. Further studies might also identify which entrepreneurship pedagogies can effectively develop such competencies and specifically, entrepreneurship learning self-efficacy in disabled people. Recent research highlighted the significant impact of technology-based methods of entrepreneurship education on disabled peoples' business skills and social capital improvement (Heath and Reed 2013). It would be highly valuable to explore the effectiveness of other types of entrepreneurship education and training methods to develop disabled entrepreneurial competencies.

Furthermore, this study involved a small sample of successful disabled entrepreneurs who were identified using convenient sampling and via their lecturers and friends. Therefore, the findings are limited and cannot be generalised to other contexts. Future research needs to be undertaken using a larger sample size and more diverse samples of disabled entrepreneurs with different impairments in order to provide a better knowledge of entrepreneurial competencies of disabled entrepreneurs. Future investigations could also develop a specific instrument to measure the competencies and their dimensions and components explored in this study and contribute to assess these competencies among disabled entrepreneurs. Finally, this research also included few female disabled entrepreneurs due to the small number of disabled women engaged in

entrepreneurship. Therefore, there is a huge potential for future studies on entrepreneurship among disabled females.

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