IMPACT OF FINANCIAL, SOCIAL AND HUMAN CAPITAL ON ENTREPRENEURIAL SUCCESS

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ABSTRACT: This paper analyzes the impact of financial, social and human capital on entrepreneurial success by examining initial investment in business, access to finance, network ties, trust in network, shared vision, education and experience as the predictors. The necessary data were collected using structured questionnaire on a sample of 118 Nepalese renewable energy enterprises having 264 respondents and analyzed through correlation and multiple regression analysis using IBM SPSS statistics 20. The study shows that the strong role played by access to finance, network ties, trust in network, education and experience while a weak role played by initial investment in business and shared vision in determining entrepreneurial success. This study is considered to be useful for biogas companies, solar companies and micro-hydro construction companies to grow their own business by focusing on the main factors affecting entrepreneurial success. The study can be further extended by incorporating other sectors of renewable energy such as, improved cooking stove, wind technology, and biomass sectors to get greater insight into the results.

KEYWORDS: Entrepreneurial Success, Financial Capital, Human Capital, Social Capital

INTRODUCTION

Entrepreneurship can be described as a process of action that undertakes the entrepreneur to establish an enterprise (Loss & Bascunan, 2011). Entrepreneurship is a creative activity and the phenomena to capitalize opportunities through innovation. The ratio of successful innovations is rather small (Loeckenhoff, 2017). Entrepreneurship deals with opportunities over threats (Krueger et al., 2000). Wakkee et al. (2015) found that growth path used by small and medium enterprises (SMEs) is market penetration through increasing efficiency. Entrepreneurship though looks a simple term is highly encompassing.

The entrepreneurial success is determined by multiple factors. According to Alvarez and Busenitz (2001), entrepreneurial resources might be unique to entrepreneurial success. The new venture growth depends upon access to resources (Aldrich & Martinez, 2001). The access to resources develops capacity to discover an opportunity (Davidsson & Honig, 2003). In this perspective, the studies showed that the formation of new enterprise is customary when an individual has access to finance (Evans & Jovanovic, 1989; Holtz-Eakin et al., 1994 and Blanchflower et al., 2001). An individual having finance is able to acquire necessary resources in order to grasp an opportunity to start an enterprise (Clausen, 2006). On the other side, the various studies are in distinction to the above-mentioned model as it is observed that several entrepreneurs start new enterprise without ample financial capital (Aldrich, 1999; Davidsson & Honig, 2003 and Hurst & Lusardi, 2004). It shows that an enterprise can start without ample
capital. Accordingly, access to finance by entrepreneur is a key element for the growth of the firm, however, it is not essentially important to start an enterprise (Hurst & Lusardi, 2004).

Human capital constitutes the abilities and skills of workers that affect the overall productivity of a venture (Marshall & Samal, 2006). Human capital in the form of education and experience is the key factor affecting entrepreneurial success (Becker, 1975). Human capital is regarded as the knowledge, qualifications, experiences and skills of employees (Zeghal & Maaloul, 2010; Deakins & Whittam, 2000). Higher level of education increases both the probability of becoming self-employed and the success in the sector in terms of the income (Robinson & Sexton, 1994). The education and experience are important factors to identify and exploit an opportunity (Chandler & Hanks, 1998; Shane & Venkataraman, 2000; Anderson & Miller, 2003). Similarly, formal education is one of the important factors of human capital that may assist in the accumulation of explicit knowledge and skills to entrepreneurs (Gimeno et al. 1997; Reynolds et al. 2002). According to Irastorza and Peña (2014), human capital and location-related environmental variables are the best predictors of both entrepreneurial and salaried immigrants’ earnings. Alvarez and Busenitz (2001) stated that an entrepreneurial individual has specific resources which expedite to identify an opportunity and the accumulating of new resources to create new enterprise. The studies showed that few individuals have capacity to recognize and exploit an opportunity than others as they have better access to information and knowledge (Aldrich, 1999; Shane, 2000; Shane & Venkataraman, 2000 and Anderson & Miller, 2003). The individual factors, environmental factors and financial factors are the important factors affecting entrepreneurial success (Azimzadeh et al., 2013). Shane and Nicolaou (2013) showed that agreeableness, openness to experience and extraversion and self-employment income are as the personality characteristics of success.

According to Reynolds (1991), there are four social contexts related to entrepreneurial prospects: social networks, analyzing the life situations and characteristics, ethnic identification and population ecology. Social network focuses on social relationships and trust while the analyzing the life situations and characteristics emphasize to work something significant in their lives. Similarly, ethnic background is one of the important ‘push’ factors to become an entrepreneur. Population ecology is social context related to the environmental factors that have an influence on survival and success of an enterprise. On the other side, entrepreneurs should have skills in diverse field instead of any one skill indicating that must be jacks-of-all-trades (Lazear, 2005). Investments in human and social capital enhance entrepreneurial performance substantially (Bosma et al., 2002). The social capital and individual’s resources are an important factors in the growth of the firm (Roomi, 2011). The experience and the financial capital are the key elements affecting success of an enterprise (Bosma et al., 2000). The growth of the firm and the profitability are also affected by family background (Anderson & Miller, 2003). An individual associated with higher socio-economic group has more access to resources. Significantly, their businesses were characterized by greater profitability and growth potential. Consequently, entrepreneurship is regarded as a dynamic process and affected by multiple factors.

According to Schoar (2010), individuals are engaged in two types of entrepreneurship: subsistence and transformational. These individuals vary in their economic objectives, skills and roles they play in the economy. David (2004) and Rose et al. (2006) opined that high level of education, role model and ownership of the business are important elements for the growth of the firm. Messersmith and Wales (2011) viewed that entrepreneurial orientation is related to
the sales growth. Entrepreneurial motivation is also regarded as one of the key elements in entrepreneurial performance (Jain & Ali, 2012). The goals, individual’s personality, strategy and environment are also affecting success of enterprises (Rauch & Frese, 2000). Kingma and Yeung (2014) indicated that network effects are also important for the self-employed people. Zafar (1984) found that entrepreneurial success is affect by entrepreneur’s traits, opportunity, skills, business plan, financial capital, infrastructure and environment. Moreover, gender, perceived opportunities, self-efficacy (mainly, confidence in one’s own ability, knowledge and skills etc.), knowing entrepreneurs and financing are the major determining factors of new business start-up (Arafat & Saleem, 2017).

On the goal of universal electrification by 2030, Narula et al. (2012) showed that two future demand scenarios with a ‘minimum threshold’ and a ‘higher threshold’ of electricity consumption of 65 and 420 kW per household per year in South Asia respectively. Moreover, the public expenses for kerosene can be substantially reduced if all households switch to electricity as their primary source of lighting. In this connection, the Decentralized Distributed Generation (DDG) options play an important role by reducing capital investments needed for the technologies to meet the goal of universal electrification by 2030. TERI (2005) showed that the south east region has common requirements for promoting RETs related to energy security issues and servicing larger rural population. The governments of the respective countries have made commitments towards developing renewable energy sector though their implementations are at various levels of effectiveness. However, there are barriers at technology, policy and institutional levels. According to Pillai and Banerjee (2009), though India has made significant progress in renewable energy, a majority of the Indian population does not have access to convenient energy services like LPG and electricity. Several renewable energies such as, wind, photovoltaic module manufacture and solar water heaters have high growth rates while new technologies like tidal, ocean thermal energy conversion, solar thermal power plants and geothermal power plants are at the demonstration stage and future dissemination will depend on the experience of these projects in the context of India. Similarly, Mirza et al. (2003) showed that the use of solar thermal technologies such as, solar water heaters and solar cookers reduce fossil fuels consumption that help in improving the living standards of Pakistani people and environment quality. Fukuda & Siagian (2010) revealed that the presence of social entrepreneurs and local research entity such as universities play a catalytic role in developing and disseminating renewable energy technologies (RETs) in Indonesia.

In the context of Nepal, access to finance, raw materials and policy related issues are regarded as the key barriers of entrepreneurial success (Jha & Upadhaya, 2002). It was stated that encouraging younger people for entrepreneurship development through investment friendly environment should be given due priority (Sharma, 2008). It is necessary to divert youth’s energy to an entrepreneurship by creating opportunity for self-economic development. The economic development cannot be initiated without the pioneering efforts of entrepreneurs. However, it is attributed that entrepreneurs in Nepal are very shy to invest capital in industrial sector (K.C., 2003). There is a growing need to promote entrepreneurial ideas and skills and make the people more economically active (Karki, 2007).

Furthermore, Pokharel (2006) highlighted the importance of renewable energy sector by indicating that sustainable development can be possible by creating enterprises on renewable energy technologies. The scheme like access to clean energy through rural electrification scheme is considered as important especially for Nepal as it has created rural entrepreneurship, marketing innovations and social responsibility, with opportunities to develop other
product/service areas powered by electricity (Pandey, 2009). AEPC (2011) revealed that 50 percent higher income to electrified households from small business while upon electrification, prospect of starting such business increases by 5 percent. Likewise, livestock income is higher by Rs. 2600 for electrified households compared to non-electrified households. According to AEPC/ESAP (2010), solar home system is likely to increase the probability of initiating small business by 3 percent. It also shows that the monthly income is 60 percent higher than the average income from small business for non-users of solar home system.

The entrepreneurship is regarded as the major contributor in building and sustaining economic growth. It is related to the process of generating new enterprise (Sharma, 2008). The entrepreneurial essence is seen as the engine of economic growth and development (Agarwal, 2003 and Sigdel, 2015). Entrepreneurship may generate thousands of new enterprises in Nepal, which can serve as the driving force for economic development. The sustainable economic development depends upon products and services produced in the country rather than remittances-based economy like Nepal. Due to acute unemployment situation in Nepal, about 1,800 youths have been departing abroad day by day for employment (www.dofe.gov.np). The economy of the country has gone remittances-based economy. As a proportion of GDP, Nepal is the highest recipients of remittances (31.3 percent) in the world followed by Kyrgyzstan (30.4 percent) and Tajikistan (26.9 percent) in 2016 (Desilver, 2018). In these circumstances, entrepreneurship can generate employment locally and convert remittances-based economy into sustainable economy.

The above discussion shows that the studies dealing with entrepreneurial success in renewable energy sector of Nepal are of greater significance. This study is the first of its kind as no study has so far been conducted to examine the factors affecting entrepreneurship in renewable energy sector of Nepal.

REVIEW OF LITERATURE

Financial, social and human capital are the important factors affecting entrepreneurial success (Alvarez & Busenitz, 2001). Financial capital is one of the most visible resources; it can create a buffer against random shocks and allow the pursuit of more capital-intensive strategies, which are better protected from imitation (Cooper et al., 1994). Timmons (1989) found that entrepreneurial success is affected by entrepreneur, founders’ team, opportunity and resources. In this connection, planning and decision making are the key factors of success (Rauch & Frese, 2000). Furthermore, Paulson et al. (2006) showed that financial market imperfections affect choice between self-employed and wage employed, which is a very significant macroeconomic factor of entrepreneurial success. There is interdependence between the SMEs’ profitability and bank loans, while a significant relationship between profitability and the size of business (Olutunla & Obamuyi, An empirical analysis of factors associated with the profitability of small and medium enterprises in Nigeria, 2008).

The social capital has enjoyed a remarkable rise to prominence in both the theoretical and applied social science literature over the last decade (Grootaert et al., 2003). Social capital in the form of network ties, trust and shared vision have an influence on firm performance (Andersson et al., 2002; Koka & Prescott, 2002; Uzzi & Gillespie, 2002; Kotabe et al., 2003; Wu, 2008 and Gronum et al., 2012). Network ties, trust and shared vision have a positive impact on firm performance (Saha & Banerjee, Impact of social capital on small firm performance in...
West Bengal, 2015). Alam et al. (2012) showed that family support, social ties and internal motivation are positively and significantly related to the success of women entrepreneurs. Likewise, the size, density, centrality, entrepreneur self-efficacy, competitive network and supportive network predicted subjective performance significantly (Prajapati & Biswas, 2011). Sengupta (2011) revealed that network plays a key role in facilitating access to business finance by building trust between entrepreneurs and investors. The network connectivity has strong and additive effects on performance specifically in case of rural entrepreneurs in developing countries (Aarstad, 2012). Dua & Bhandarker (2017) showed that both forms of social capital: internal and external are important for bringing about overall organizational innovativeness in the product and the market.

Martins (2016) revealed that networks provide opportunities to accomplish sustainable competitive advantages and compete successfully in the marketplace. The important variables are entrepreneurial orientation followed by managerial traits in determining organizational performance (Bhuian et al., 2012). The entrepreneurial success has a relationship with will to start a business, identification of an opportunity (Kumar, 2007). Omrani et al. (2013) showed that professional risk-taking, courage and innovation are the top three significant factors for technology entrepreneurs. Danso et al. (2016) found that high levels of entrepreneurs’ risk-taking tendency enhance firm performance.

Human capital is defined as the knowledge, qualifications, experiences, and skills of employees that are taken with them after leaving the firm (Zeghal & Maaloul, 2010). It consists of competence and capabilities’ (i.e. learning and education, experience and expertise in innovation and creation) of the employees. Human capital has a positive effect on financial performance (Laing et al., 2010; Salman, et al., 2012 and Mosavir et al., 2012). Rose et al. (2006) found that the education, experiences and financial support are the major factors affecting business success. Similarly, Rao et al. (2013) revealed that the education, training in the specific sector and prior experience have a positive relationship with entrepreneurial success. Likewise, Zhouqiaoqin et al. (2013) found that human capital, women characteristics and motivation have a significant influence on the success of women entrepreneurs while family background has a less significant influence on the success of women entrepreneurs in China. An individual having diverse works experience and diverse educational backgrounds has much more possibility to start an enterprise than one who has experience in one role and concentration in one subject at school (Lazear, 2005). Bates (1990) and Schoar (2010) concluded that human capital is a key determinant of entrepreneurial success. In the context of renewable energy sector of Nepal, it is not yet known about the role of human capital in entrepreneurship development.

In the context of Nepal, Poudyal (2002) revealed that faith in a business plan and willingness to stick to it can increase an entrepreneur’s chances for success and profitability. The critical factors contributing to success of entrepreneurship are easy access to finance followed by easy access to raw materials (Shrestha, 2007). Thapa (2007) found that the education has a positive effect on entrepreneurial success. Moreover, Pokharel et al. (2006) showed that the five key aspects of a successful pro-poor enterprise are firm size, governance, skills, networking and conducive policy. Likewise, Pokharel (2006) showed that creation of enterprises on renewable energy technologies is vital for sustainable development in Nepal. However, many electricity schemes in developing countries failed due to lack of entrepreneurship and opportunity forward/backward linkages and the market (Pandey, 2009). Entrepreneurship and small business have an important impact on national development for both developed and developing
countries (Karki, 2007). Without having conducive business environment nobody would be able to start a business in a specific country successfully (Karki, 2010/11). Furthermore, Sharma (2015) found that a large proportion of respondents did not receive any entrepreneurship development training, while the others who received training also did not find the training to be useful in carrying out microenterprises. Moreover, social and cultural factors such as family background, caste, gender, migration, education and training influence people to become entrepreneur (Pant, 2013). Sigdel (2015) revealed that age, experience and export promotion are important factors affecting the success of women entrepreneur while education does not appear to be an important factor affecting the success of women entrepreneur. Women can become active entrepreneurs, if they have access to the finance (Rakhal, 2015). According to Dwibedi (2015) the need for women education, awareness to outshine in the sector and making them to realize their strengths can strive for excellence in the entrepreneurial arena. In addition to market segmentation, access to capital, lack of skills and knowledge are the main constraints to microbusiness growth (Villanger, Entrepreneurial Abilities and Barriers to Microenterprise Growth: A Case Study in Nepal, 2015). Moreover, AEPC (2011) and AEPC/ESAP (2010) found that the higher income to electrified households from small business compared to non-electrified households in the context of Nepal. The rural electrification and the installation of solar home system are likely to increase the probability of starting small business.

Though there are the above-mentioned findings in the context of other countries and Nepal, no such findings using more recent data exist in Nepalese renewable energy sector. This study, therefore, deals with the following issues in the context of Nepalese renewable energy sector: (1) What is the nature of financial, social and human capital used by renewable energy entrepreneurs? (2) How do initial investment, access to finance, network ties, trust, shared vision, education and experience play role in determining firm performance? (3) What is the key factor affecting entrepreneurial success?

THEORETICAL AND CONCEPTUAL FRAMEWORK

Several entrepreneurship theories put forward by scholars which have their origins in economics, psychology, sociology, anthropology and management. Entrepreneurship theories remain important to the development of the entrepreneurship. The major entrepreneurship theories are economic, psychological, sociological, anthropological, opportunity-based and resource-based entrepreneurship theories (Simpeh, 2011). The review of the major entrepreneurship theories has been provided in chapter-two under review of major theories. Among others, this study is based on resources-based entrepreneurship theories. Alvarez and Busenitz (2001) extends boundaries of resource-based theory into resource-based entrepreneurship theory. The access to capitals are an essential for entrepreneurship and growth of an enterprise (Aldrich & Martinez, 2001). This theory emphases on the importance of financial, social and human capitals (Aldrich, 1999).

Financial capital is a vital precondition of entrepreneurship. This theory contends that entrepreneur has a specific capitals that enable to recognize an opportunity and accumulating resources for new enterprise (Alvarez & Busenitz, 2001). Entrepreneurs are capable of identifying and grasping opportunities than others. Social network create an opportunity for success of enterprise. An individual may have the capacity to identify opportunity that transform into start-up business through social networks. Furthermore, the human capital
entrepreneurship theory consists of education and experience (Becker, 1975). The education and experience are important resources for business success. The human capital factors have a positive relationship with entrepreneurship development. Thus, among others, this study deals with the role of financial, social and human capital on entrepreneurial success.

Based on the above mentioned literature review, it is beyond the scope of this study to consider all the dependent and independent variables. However, the major variables have been considered in this study. The conceptual framework adopted in this study is presented in Figure 1.

Figure 1: Schematic diagram of conceptual framework on factors affecting entrepreneurship development

The schematic diagram of conceptual framework shows entrepreneurial success is affected by various financial, social and human capital factors. Financial capital depends upon initial investment and access to finance while social capital depend upon network ties, trust and shared vision. Human capital depends upon education and experience. Thus, the firm performance depends upon financial, social, and human capital.

Objectives of the Study

The major objective of this study is to examine entrepreneurship development in renewable energy sector of Nepal. The specific objectives are:

1) To assess the impact of financial capital in the form of initial investment and access to finance on entrepreneurial success.

2) To analyze the impact of social capital in the form of network ties, trust and shared vision on entrepreneurial success.
3) To evaluate the impact of human capital in the form of education and experience on entrepreneurial success.

**Operational Definition and Research Hypothesis**

This section deals with the definition of dependent and independent variables along with research hypothesis employed in this study. In order to analyze factors affecting entrepreneurial success in renewable energy sector in Nepal, this study has used entrepreneurial success in the form of firm performance index (FPI) and success perception index (SPI) as the dependent variables while the independent variables are financial capital in the form of initial investment and access to finance, social capital in the form of network ties, trust and shared vision and human capital in the form of education and experience. The operational definition of key words along with research hypothesis are as under:

**Entrepreneurial success**

In general, the growth in income or profit made by providing goods and services is known as a measure of success of entrepreneurs (Thapa *et al.*, 2008). However, entrepreneurial success has been measured not only on the basis of financial performance but also on non-financial firm performance in this study. The firm performance index and success perception index are considered as the indicators of entrepreneurial success in this study.

**Firm performance index (FPI)**

Firm performance in financial terms is measured as an average sales and profit growth (Saha & Banerjee, Impact of social capital on small firm performance in West Bengal, 2015). The owners/managers were asked to rank their firm in terms of the growth of sales and profit. The mean value of their responses are considered as the Firm Performance Index (FPI).

**Success perception index (SPI)**

The subjective measurements of firm performance is based on the entrepreneurs’ perception adopted from past studies (Danes *et al.*, 2009; Sorenson *et al.*, 2009 and Saha & Banerjee, 2015). Entrepreneurs’ perception towards present business success, future profitability and future growth are considered as the Success Perception Index (SPI) which is also computed on the basis of mean responses of the owners/managers.

**Financial capital**

The creation of new enterprise is possible when an individual has access to finance (Evans & Jovanovic, 1989; Holtz-Eakin *et al.*, 1994 and Blanchflower *et al.*, 2001). According to Ngek (2016), businesses rely on financial capital to invest, develop and grow, however, on average SME have low levels of financial literacy and financial capital availability. Similarly, Adomako and Danso (2014) argued that financial knowledge without financial capital could play little or no role in influencing the success of an entrepreneurial venture. Financial capital is regarded as crucial factor that very often determines venture success (Marshall & Samal, 2006). The greater level of financial capital leads to greater levels of expected growth. (Gómez *et al.*, 2018). Financial capital comprised of initial investment and access to finance in this study.
Initial investment (INVEST)

The initial investment is an important factor affecting success of street enterprises (Thapa et al., 2008). Clausen (2006) found that access to finance is important factors to start an enterprise by exploiting opportunities. However, the other studies have different conclusions that an individual can start an enterprise without ample financial capital (Aldrich., 1999; Davidsson & Honig, 2003 and Hurst & Lusardi, 2004). The founder’s access to capital is a key forecaster of new enterprise growth but not essentially important for the establishment of a new venture (Hurst & Lusardi, Liquidity constraints, household wealth and entrepreneurship, 2004). Moreover, access to finance is a major barrier to small business start-ups (Macht & Robinson, 2009; Underwood, 2009). Based on it, this study develops the following hypothesis:

H1: There is positive relationship between initial investment and the firm performance.

Access to finance (ACCESS)

Kuzilwa (2005) revealed that finance through credit has been observed to be one of the important determinants of small business success while Rose et al., (2006) concluded that financial support is one of the major factors affecting business success. According to Lee and Denslow (2005), a lack of capital is one of the major factors affecting entrepreneurial success. The lack of finance can restrict business growth (Obamuyi, 2010) and create liquidity problems in the business (Hughes, 2003) and often leads to business failure. Access to capital is a critical issue for women-owned small businesses (Lee & Denslow, 2005). Without sufficient capital, small firms are unable to develop new products and services or grow to meet demand (Coleman, 2000). Based on it, this study develops the following hypothesis:

H2: There is positive relationship between access to finance and the firm performance.

Social capital

Social capital is referred to the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships processed by an individual or social unit (Nahapiet & Ghoshal, 1998). They categorized social capital into three interrelated dimensions: cognitive (shared codes, language and shared narratives), relational (trust, norms, obligations and identifications) and structural (network ties, network configuration and appropriate organization) for analysis purposes. According to Dua and Bhandarker (2017), both forms of social capital: internal and external are important for bringing about overall organizational innovativeness in the product and the market. Social capital is important for the growth of an enterprise (Roomi, 2011).

Network ties (NETWORK)

The term networks describes a collection of actors such as, people, departments or businesses) and their strategic links such as, family, community, finance, business alliances with each other (Johnsen & Johnsen, 1999). Networks are used to gain access to information, opportunity and support (Rajput, Developing Entrepreneurial Model for Pakistani SMEs: A Case Study on Commercial Fast-food SMEs, 2011). For this study, network is defined as the ability to build, manage and involve in the formal and informal network. Network ties deal with the specific ways the actors are related which have a positive impact on firm performance (Saha & Banerjee, Impact of social capital on small firm performance in West Bengal, 2015). Likewise, the supplier/customer linkages play a very important and positive role in cultivating
entrepreneurship. (Guo et al., 2015). Inkpen (1998) also revealed that the positive effect of pooling or sharing a firm’s resources and capabilities with those of others on the firm’s performance and value creation. Martins (2016) found that networks provide opportunities to achieve sustainable competitive advantages and thus contest successfully in the marketplace. However, Rajput (2011) showed that network has insignificant relationship with entrepreneurial success. Based on it, this study develops the following hypothesis:

**H₃:** There is positive relationship between network ties and the firm performance.

**Trust in network (TRUST)**

Trust is the expectation between two or more entities (persons and organizations) implying that regular day-to-day behavior will be honest, cooperative and predictable based on shared norms (Fukuyama, 1995). Trust among exchange partners has a significant impact on the respective firm’s performance by reducing transaction costs and conflicts (Saha & Banerjee, Impact of social capital on small firm performance in West Bengal, 2015). Trust is a prime requisite for success and it is an important factor for establishing viable and sustainable small businesses (Neace, 1999). An increased sales and a greater return on investment may be identified as direct outcomes of trust (Luo, 2002; Zaheer & Harris, 2006). Trust has a positive impact on financial and non-financial firm performance to the firms engaged in informal networks (Saha & Banerjee, Impact of social capital on small firm performance in West Bengal, 2015). Based on it, this study develops the following hypothesis:

**H₄:** There is positive relationship between trust in network and the firm performance.

**Shared vision (SVISION)**

Shared vision is viewed as individuals having similar values and expectations of behavior (Thorelli, 1986). It is also known as ‘shared goals’ (Inkpen & Tsang, 2005). In effective networks, members hold a common vision about what the members should accomplish, what is valued or of interest and what is required or expected from membership (Wollebaek & Selle, 2002). Shared vision has a positive impact on financial and non-financial firm performance to the firms engaged in formal networks while it does not have an influence on firm performance among the non-member firms (Saha & Banerjee, Impact of social capital on small firm performance in West Bengal, 2015). In effective networks, members hold a common vision about what the members should accomplish, what is valued or of interest and what is required or expected from membership (Wollebaek & Selle, 2002). Based on it, this study develops the following hypothesis:

**H₅:** There is positive relationship between shared vision and the firm performance.

**Human capital**

Human capital is defined as the knowledge, qualifications, experiences, and skills of employees that are taken with them after leaving the firm (Zeghal & Maaloul, 2010). Human capital variables include knowledge, education, skills and previous experience (Deakins & Whittam, 2000). The human capital entrepreneurship theory contains education and experience as the important factors for entrepreneurial success (Becker, 1975). The education and experience provide understandings to identify and exploit an opportunity (Chandler & Hanks, 1998; Shane & Venkataraman, 2000; Anderson & Miller, 2003). Human capital comprised of education and experience of owners/managers in this study.
Education (EDU)

Education is one of the major factors affecting entrepreneurial success (Lee & Denslow, 2005). Thapa et al. (2008) found that level of education has a positive relationship with entrepreneurial success. Similarly, Rose et al. (2006) concluded that education is one of the major factors affecting success in business. Likewise, Thapa (2007) revealed that the education has a positive effect on entrepreneurial success. However, people with more education are not necessarily more entrepreneurial (Minniti & Bygrave, 2003). Based on it, this study develops the following hypothesis:

H6: There is a positive relationship between the level of education of the owners/managers and the firm performance.

Experience (EXP)

The studies find that human capital has a positive relationship with becoming an entrepreneur (Davidsson and Honig, 2003; Korunka et al., 2003). The entrepreneurs having longer experience have greater likelihoods of success (Thapa et al., 2008). Lack of experience is one of the major factors affecting entrepreneurial success (Lee & Denslow, 2005). Similarly, Rose et al., (2006) showed that experience is one of the major factors affecting success in business. Based on it, this study develops the following hypothesis:

H7: There is a positive relationship between experience of the owners/managers and the firm performance.

METHODOLOGY

Research design

The study adopts descriptive and causal-comparative research design. The study is based on fact finding operation searching for adequate information on entrepreneurship development in the renewable energy sector of Nepal. In this connection, this study has determined the effect of initial investment in business, access to finance, network ties among network members, trust in network, shared vision, education, and experience on firm performance and success perception. In order words, it has analyzed factors affecting entrepreneurial success. The dependent variables are specified as firm performance index and success perception index while the independent variables are initial investment in business, access to finance, network ties, trust in networks, shared vision, education, and experience.

Nature and sources of data

This study is based on both primary and secondary data. The required primary data were collected from 264 owners/managers of 118 REEs using structured questionnaires. Furthermore, the national level secondary data covering a period of 42 years of biogas sector, 25 years of solar sector, and 55 years of micro-hydro sector have been collected for this study.

Primary data includes opinion of renewable energy entrepreneurs and managers on entrepreneurial development in the sector. These data are collected through field survey using structured questionnaire. Likewise, secondary data were collected from the annual reports of Alternative Energy Promotion Centre (AEPC), Biogas Sector partnership Nepal (BSP-Nepal),

**Population and sample**

The study covers renewable energy sector of Nepal considering the samples from biogas solar, solar sector and micro-hydro sector. There are 260 renewable energy enterprises (REEs) in Nepal having age of 3 years or more in the sector. The number of REEs by development regions in Nepal are presented in Table 1. There are 162 REEs or 62 percent out of 260 lies in central development region. A total of 162 REEs of the central development region was considered as the population of the study.

**Table 1: Number of REEs by development regions in Nepal**

<table>
<thead>
<tr>
<th>SN</th>
<th>REEs</th>
<th>Development Regions</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Eastern</td>
<td>Central</td>
</tr>
<tr>
<td>1</td>
<td>Biogas companies (BCs)</td>
<td>21</td>
<td>46</td>
</tr>
<tr>
<td>2</td>
<td>Solar companies (SCs)</td>
<td>1</td>
<td>61</td>
</tr>
<tr>
<td>3</td>
<td>Micro-hydro construction companies (MHCCs)</td>
<td>2</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24</td>
<td>162</td>
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<tr>
<td></td>
<td>Percentage</td>
<td>9</td>
<td>62</td>
</tr>
</tbody>
</table>

**Source:** Annual report of Alternative Energy Promotion Centre (AEPC), various issues and Annual report of BSP-Nepal, various issues.

The study has determined its sample by using simplified formula for proportions of finite population (Yamane, 2007). The study assumes 95 percent level of confidence. Based on these assumptions, the required sample size was calculated as under:

\[
n = \frac{N}{1 + N(e)^2} \quad \ldots (3.1)
\]

Where, \(n\) = sample size; \(N\) = population size; \(e\) = level of precision.

\[
n = \frac{162}{1 + 162 (0.05)^2} = 115.30 \approx 116 \text{ REEs}
\]

Thus, the minimum sample size should be 116 REEs. It seems to be representative of the Nepalese renewable energy sector as a whole. The selected REEs are biogas companies, solar companies, and micro-hydro construction companies as shown in shown in Table 2.
Table 2: Number of REEs selected for the study

<table>
<thead>
<tr>
<th>SN</th>
<th>REEs</th>
<th>Total REEs(N)</th>
<th>Proportion (%)</th>
<th>No. of REEs selected (n)</th>
<th>n/N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BCs</td>
<td>46</td>
<td>28</td>
<td>33</td>
<td>71.74%</td>
</tr>
<tr>
<td>2</td>
<td>SCs</td>
<td>61</td>
<td>38</td>
<td>44</td>
<td>72.13%</td>
</tr>
<tr>
<td>3</td>
<td>MHCCs</td>
<td>55</td>
<td>34</td>
<td>39</td>
<td>70.91%</td>
</tr>
<tr>
<td>Total</td>
<td>162</td>
<td>100</td>
<td>116</td>
<td></td>
<td>71.60%</td>
</tr>
</tbody>
</table>

Source: Annual report of Alternative Energy Promotion Centre (AEPC), various issues and Annual report of BSP-Nepal, various issues.

The details of sample size and distribution of questionnaires for each sector and number of questionnaires distributed and collected are presented in Table 3.

Table 3: Number of REEs and collection of questionnaires

<table>
<thead>
<tr>
<th>REEs</th>
<th>Sample size determine (No. of REEs)</th>
<th>Questionnaires distributed (No. of REEs)</th>
<th>Questionnaires collected (No. of REEs)</th>
<th>No. of questionnaires distributed</th>
<th>No. of questionnaires collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCs</td>
<td>33</td>
<td>38</td>
<td>33</td>
<td>114</td>
<td>63</td>
</tr>
<tr>
<td>SCs</td>
<td>44</td>
<td>48</td>
<td>45</td>
<td>144</td>
<td>102</td>
</tr>
<tr>
<td>MHCCs</td>
<td>39</td>
<td>44</td>
<td>40</td>
<td>132</td>
<td>99</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>130</td>
<td>118</td>
<td>390</td>
<td>264</td>
</tr>
</tbody>
</table>


For the purpose of the study, 130 REEs has been selected out of 162 REEs based on availability of data. For each sector, random sampling is used to determine the respondents. From 130 REEs, 390 owners/managers were selected as respondents for this study. Out of 390 questionnaires distributed, a total of 273 questionnaires are returned from 118 REEs, yielding a response rate of 70 percent. Out of 273 questionnaires received, nine questionnaires were discarded as they were not filled up properly. Thus the primary data analysis is based on 264 questionnaires received from 118 REEs.

Selection of study area

The national level secondary data were collected for the study while the primary data were collected from a selected study area of Nepal. The study area was selected for field survey using structured questionnaire based on the penetration of renewable energy enterprises (REEs) in Nepal. Accordingly, the central development region out of five regions of Nepal was selected for filed survey. Based on the concentration of the renewable energy enterprises, six out of 19 districts of the central region were selected for the filed survey. The selected districts are Kathmandu, Lalitpur, Bhaktapur, Kavre, Chitwan, and Makwanpur districts. The study area was selected based on the following justifications:

- The highest penetration of REEs is in the central development region of Nepal.
- The penetration of all three categories of REEs- biogas companies, solar companies and micro hydro construction companies are high in the region and the selected districts.
• All three sectors having more than 30 sample size.
• The accessibility of study area within the scope of the study.
• The most of REEs in the region are in operation.
• Location of the most of line agencies is in the region.

Reliability and validity of tools

The study uses procedures, methods and techniques that are tested for their validity and reliability in order to be unbiased and objective design. Validity is the capability of an instrument to measure what is intended to measure. Face and content validity are employed in the study. The study has been taken experts’ opinion and the questionnaire pretested over a sample of 9 renewable energy enterprises (REEs) in order to test validity of tools through judgment on logical link between the questions and objective of the study.

Moreover, reliability is the worth of a measurement procedure that provides repeatability and accuracy. The reliability test consists of pre-test and statistical test in order to test internal consistency of data in the study. To test the reliability, Cronbach’s alpha has been computed as presented in Table 4.

Table 4: Reliability statistics

<table>
<thead>
<tr>
<th>Factors</th>
<th>Number of items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>133</td>
<td>0.92</td>
</tr>
<tr>
<td>Firm performance index (FPI)</td>
<td>3</td>
<td>0.85</td>
</tr>
<tr>
<td>Success perception index (SPI)</td>
<td>3</td>
<td>0.77</td>
</tr>
<tr>
<td>Social capital</td>
<td>36</td>
<td>0.87</td>
</tr>
<tr>
<td>Human capital</td>
<td>5</td>
<td>0.71</td>
</tr>
<tr>
<td>Financial capital</td>
<td>7</td>
<td>0.71</td>
</tr>
<tr>
<td>Network ties</td>
<td>28</td>
<td>0.88</td>
</tr>
<tr>
<td>Trust</td>
<td>4</td>
<td>0.71</td>
</tr>
<tr>
<td>Shared vision</td>
<td>4</td>
<td>0.74</td>
</tr>
<tr>
<td>Firm growth</td>
<td>2</td>
<td>0.73</td>
</tr>
</tbody>
</table>


The overall Cronbach’s alpha coefficient was observed to be 0.92 showing the reliability of data. The factor-wise Cronbach’s alpha coefficient has also been observed to be 0.71 which is also more than 0.70 showing the reliability of the primary data used in this study. Cronbach’s α coefficient (>0.7) for all constructs established scale reliability (Nunnally & Bernstein, 1994).

The Models

The method of analysis employed in this study consists of estimating the econometric models, correlation analysis and chi-square analysis. The linear regression models were used to determine the factors affecting entrepreneurial success, while correlation analysis is used to establish the relationship between dependent and independent variables used in the study. All statistical test results were computed at the 2-tailed level of significance using IBM SPSS Statistics 20. Furthermore, t-statistics, F-statistics, adjusted R², Cramer’s V, and Variance inflationary factors (VIF) have also been adopted for the analysis of the data.
The econometric models employed in this study attempt to analyze the effect of financial capital, social capital, and human capital on entrepreneurial success by estimating various linear regression models. In other words, the entrepreneurial success may be regarded as subject to the constraints of financial, social and human capital variables. Thus, the theoretical statement may be stated as,

Entrepreneurial success (FPI or SPI) = f(INVEST, ACCESS, NETWORK, TRUST, SVISION, EDU, EXP) … (1)

The equation to be estimated has therefore been specified as,

FPI = β₀ + β₁INVEST + β₂ACCESS + β₃NETWORK + β₄TRUST + β₅SVISION + β₆EDU + β₇EXP + εᵢ … (2)

SPI = β₀ + β₁INVEST + β₂ACCESS + β₃NETWORK + β₄TRUST + β₅SVISION + β₆EDU + β₇EXP + εᵢ … (3)

Table 5 shows the description of dependent and independent variables.

Table 5: Description of the dependent and independent variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Symbols</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm performance index</td>
<td>FPI</td>
<td>The owners/managers were ranked their firm in terms of the growth of sales and profit. The mean weight of their responses were considered as the firm performance index.</td>
</tr>
<tr>
<td>Success perception index</td>
<td>SPI</td>
<td>The owners/managers perception towards present business success, future profitability and future growth were considered as the success perception index (SPI) or non-firm performance index. The mean weight of the responses was considered as the success perception index.</td>
</tr>
<tr>
<td>Independent variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial investment</td>
<td>INVEST</td>
<td>Initial investment was categorized into five ranges from 500,000 or below to 2,000,000 or more. The respondents asked to rank with respect to their business status. The mean weight of the responses was considered as initial investment.</td>
</tr>
<tr>
<td>Access to finance</td>
<td>ACCESS</td>
<td>The responses on access to finance were taken on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree). The mean weight computed for each respondent is used as an index of access to finance.</td>
</tr>
<tr>
<td>Network ties</td>
<td>NETWORK</td>
<td>The responses on network ties were taken on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree). The mean weight computed for each respondent was used as an index of network ties.</td>
</tr>
</tbody>
</table>
Trust in network  TRUST  The responses on trust among network were taken on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree). The mean weight computed for each respondent was used as an index of trust.

Shared vision  SVISION  The responses on shared vision were taken on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree). The mean weight computed for each respondent was used as an index of shared vision.

Education  EDU  The responses on the highest level education were taken as 1 = SLC (Class 10), 2 = Intermediate degree or 10+2, 3 = Bachelor degree, and 4 = Master degree or above. The score given the respondent was used as index for education.

Experience  EXP  The responses on experience were taken on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree). The mean weight computed for each respondent was used as an index of experience.

RESULTS AND DISCUSSION

In this section, an attempt is made to determine the relationship of financial, social and human capital with firm performance by with the help of descriptive statistics, correlation analysis and regression analysis in the context of renewable energy sector in Nepal. In order to analyze the relationship of dependent variables with independent variables, the Spearman's rho (ρ) correlations are computed and the results are presented in Table 6. More specifically, it shows the correlation coefficients of firm performance index (FPI) and success perception index (SPI) with initial investment, access to finance, network ties, trust, shared vision, education and experience.

Table 6: Spearman's rho correlations matrix for overall sector

This table reveals the Spearman's rho correlations of firm performance with financial, social and human capital based on the responses of 264 respondents from 118 renewable energy enterprises. Firm performance includes firm performance index (FPI) and success perception index (SPI), while financial capital comprises initial investment and access to finance. Likewise, social capital consists of network ties, trust and share vision, and human capital contains education and experience of the owners/managers of renewable energy enterprises.
Correlations | Mean | SD | FPI | SPI | INVEST | ACC | NETW | TRUST | SVIS | EDU | EXP
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
FPI | 4.14 | 0.47 | 1 | | | | | | | | |
SPI | 4.12 | 0.45 | 1 | | | | | | | | |
INVEST | 3.04 | 1.66 | 0.06 | 0.15** | 1 | | | | | | |
ACCESS | 3.95 | 0.46 | 0.29** | 0.33* | 0.15** | 1 | | | | | |
NETWORK | 4.12 | 0.39 | 0.26** | 0.38* | 0.05 | 0.31* | 1 | | | | |
TRUST | 3.95 | 0.46 | 0.25** | 0.32* | 0.09 | 0.33* | 0.38* | 1 | | | |
SVISION | 3.61 | 0.75 | 0.18** | 0.19* | 0.12** | 0.32* | 0.31* | 0.49* | 1 | | |
EDU | 2.57 | 0.74 | 0.35** | 0.25* | 0.18* | 0.22* | 0.26* | 0.19* | 0.18* | 1 | |
EXP | 4.11 | 0.49 | 0.24** | 0.29* | -0.02 | 0.23* | 0.27* | 0.14* | 0.001* | 0.05 | 1 |


Notes: The asterisk signs (*) and (**) indicate that the correlations are significant at 1 percent and 5 percent level of significance (2-tailed) respectively.

The result shows that initial investment is positively related to the firm performance index (FPI) and success perception index (SPI). It indicates that increase in the initial investment leads to increase in firm performance index (FPI) and success perception index (SPI). The results also show that access to finance has positive relationship with firm performance index (FPI) and success perception index (SPI). It indicates that higher the access to finance, higher would be the firm performance index (FPI) and success perception index (SPI).

Likewise, the results reveal that network ties, trust, and shared vision have positive relationship with firm performance index (FPI) and success perception index (SPI). It indicates that increase in network ties, trust, and shared vision leads to increase in firm performance index (FPI) and success perception index (SPI). Moreover, the results show that education and experience are positively related to the firm performance index (FPI) and success perception index (SPI). It indicates that higher the education and experience, higher would be the firm performance index (FPI) and success perception index (SPI).

Besides, variance inflationary factor (VIF) has been computed to measure the multicollinearity and which reveals that the results are free from multicollinearity as the computed VIF was found to be less than 5.

Furthermore, the regression results relating to the effect of financial, social and human capital on firm performance index are shown in Table 7.

Table 7: Estimated effect of financial, social and human capital on firm performance index in renewable energy sector in Nepal as a whole

The results are based on mean value of the responses of 264 owners/managers from 118 renewable energy enterprises by using linear regression model. The model is, FPI = β₀ +
\( \beta_1 \text{INVEST} + \beta_2 \text{ACCESS} + \beta_3 \text{NETWORK} + \beta_4 \text{TRUST} + \beta_5 \text{SVISION} + \beta_6 \text{EDU} + \beta_7 \text{EXP} + \epsilon \).

Where, FPI, INVEST, ACCESS, NETWORK, TRUST, SVISION, EDU and EXP represent firm performance index, initial investment, access to finance, network ties, trust in network, shared vision, education, and experience respectively. Results for various subsets of independent variables have given as well. The results comprise intercept, regression coefficients, t-statistics, adjusted R\(^2\), standard estimate of error (SEE), F value and variance inflationary factor (VIF) that are calculated using SPSS.

<table>
<thead>
<tr>
<th>Equation</th>
<th>Intercept</th>
<th>Regression coefficient of</th>
<th>Adj. R(^2)</th>
<th>SEE</th>
<th>F</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Financial capital</td>
<td>Social capital</td>
<td>Human capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>INVEST</td>
<td>ACCESS</td>
<td>NETWORK</td>
<td>TRUST</td>
<td>SVISION</td>
</tr>
<tr>
<td>1</td>
<td>4.11 (67.50)*</td>
<td>0.01 (0.56)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.20 (11.78)*</td>
<td>0.24 (3.46)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.04 (10.19)*</td>
<td></td>
<td>0.23 (3.70)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.21 (12.98)*</td>
<td></td>
<td></td>
<td>0.24 (3.79)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3.94 (27.44)*</td>
<td></td>
<td></td>
<td></td>
<td>0.06 (1.41)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3.64 (36.01)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.20 (5.18)*</td>
</tr>
<tr>
<td>7</td>
<td>3.32 (13.61)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3.20 (11.75)*</td>
<td>0.001 (0.04)</td>
<td>0.24 (3.41)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2.60 (7.76)*</td>
<td></td>
<td>0.20 (2.68)*</td>
<td>0.19 (2.73)*</td>
<td>-0.01 (0.28)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2.78 (10.98)*</td>
<td></td>
<td></td>
<td>0.20 (5.40)*</td>
<td></td>
<td>0.21 (3.69)*</td>
</tr>
<tr>
<td>11</td>
<td>2.24 (6.03)*</td>
<td></td>
<td></td>
<td>0.15 (2.12)*</td>
<td>0.17 (2.28)**</td>
<td>0.15 (2.27)**</td>
</tr>
<tr>
<td>12</td>
<td>2.38 (7.47)*</td>
<td></td>
<td></td>
<td></td>
<td>0.13 (1.99)*</td>
<td></td>
</tr>
</tbody>
</table>


Notes: (1) Figures in parentheses are t-values.
(2) Dependent variable: Firm performance index (FPI).
(3) The asterisk signs (*) and (**) indicate that the results are significant at 1 percent and 5 percent level of significance (2-tailed) respectively.
It shows that the regression results of initial investment, access to finance, network tie, trust among network, shared vision, education, and experience on firm performance. The beta coefficients for initial investment, access to finance, network tie, trust among network, education, and experience are all positive. It reveals that initial investment, access to finance, network tie, trust among network, education and experience have positive impact on firm performance. It indicates that higher the initial investment, access to finance, network ties, trust among network, education and experience, higher would be the firm performance. Moreover, the beta coefficients are significant for access to finance, network ties, trust, education and experience at 5 percent level of significance as shown in equations 2, 3, 4, 6, 7, 8, 9, 10, 11 and 12. On the other hand, the results indicate that the beta coefficients are sometimes positive and sometimes negative for shared vision. It indicates that shared vision does not explain the variation in firm performance index in the context renewable energy sector of Nepal.

Furthermore, the overall results reveal that the most important factor affecting firm performance index is education followed by experience, access to finance, trust, network ties, initial investment and shared vision in the renewable energy sector of Nepal as a whole.

Table 8 presents that the regression results of success perception index on financial, social and human capital related variables in renewable energy sector of Nepal as whole. The results show that the beta coefficients for initial investment, access to finance, network ties, trust, education and experience are all positive. It reveals that initial investment, access to finance, network ties, trust, education and experience have positive impact on success perception index. It means that higher initial investment, access to finance, network ties, trust, education and experience, higher would be the success perception index. In addition, the beta coefficients are significant for access to finance, network ties, trust, education and experience at 1 percent level of significance as shown in equations 2, 3, 4, 6, 7, 8, 9, 10, 11 and 12. On the other hand, the results indicate that the beta coefficients are sometimes positive and sometimes negative for shared vision as shown in equations 5 and 9. It shows that shared vision does not explain the variation in success perception index in the context renewable energy sector of Nepal.

Furthermore, the overall results indicate that the most important factor affecting success perception index is the network ties followed by access to finance, trust, experience, education, initial investment and shared vision in the context of the renewable energy sector as a whole.

The results reveal that initial investment is positively related to firm performance is consistent with the findings of Blanchflower et al. (2001), Evans and Jovanovic (1989), Holtz-Eakin, Joulfaian, and Rosen (1994), Clausen (2006), and Derera, Chitakunye, and O’Neill (2014). However, the results are not consistent with the findings of Aldrich (1999), Davidson and Honing, (2003), Hurst and Lusardi (2004). Likewise, the finding that access to finance has positive impact on firm performance is consistent with the finding of Zafar (1984), Hurst and Lusardi (2004), Shrestha (2007) Woldie, Olutunla and Obamuyi (2008) Leighton, and Adesua (2008), Azimzadehet al. (2013), Rakhal (2015), and Villanger (2015).

Likewise, the finding that network ties has positive impact on firm performance is consistent with the finding of Uzzi (1997), Vanhaverbeke (2001a), Inkpen (1998), Sengupta (2011), Saha and Banerjee (2015), Danso et al. (2016), Martins (2016), and Pokharel et al. (2006). However, this finding contradicts with the finding of Rajput (2011). Similarly, the finding that the trust among network has positive impact on firm performance is consistent with the finding of Neace (1999), Luo (2002), Zaheer and Harris (2006) and Saha and Banerjee (2015). Furthermore, the results show that the beta coefficients are sometimes positive and sometimes negative for
shared vision. It indicates that shared vision does not explain the variation in firm performance in the context renewable energy sector of Nepal. This result contradicts with the finding of Wollebaek and Selle (2002), and Saha and Banerjee (2015).

**Table 8: Estimated effect of financial, social and human capital on success perception index in renewable energy sector in Nepal as a whole**

The results are based on mean value of the responses of 264 owners/managers from 118 renewable energy enterprises by using linear regression model. The model is, $SPI = \beta_0 + \beta_1\text{INVEST} + \beta_2\text{ACCESS} + \beta_3\text{NETWORK} + \beta_4\text{TRUST} + \beta_5\text{SVISION} + \beta_6\text{EDU} + \beta_7\text{EXP} + \epsilon_i$. Where, SPI, INVEST, ACCESS, NETWORK, TRUST, SVISION, EDU and EXP are success perception index, initial investment, access to finance, network ties, trust in network, shared vision, education and experience respectively. Results for various subsets of independent variables are mentioned as well. The results include intercept, regression coefficients, t-statistics, adjusted $R^2$, standard estimate of error (SEE), F value and variance inflationary factor (VIF) that are calculated using SPSS.

<table>
<thead>
<tr>
<th>Equation</th>
<th>Intercept</th>
<th>Financial capital</th>
<th>Social capital</th>
<th>Human capital</th>
<th>Adj. $R^2$</th>
<th>SEE</th>
<th>F</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>INVEST</td>
<td>ACCESS</td>
<td>NETWORK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4.01</td>
<td>0.04</td>
<td>0.29</td>
<td>0.28</td>
<td>.014</td>
<td>0.45</td>
<td>4.72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(69.05)*</td>
<td>(2.17)</td>
<td>(4.52)*</td>
<td>(4.82)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.96</td>
<td>0.29</td>
<td>0.39</td>
<td>0.28</td>
<td>.069</td>
<td>0.44</td>
<td>20.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(11.50)*</td>
<td>(4.52)*</td>
<td>(5.82)*</td>
<td>(4.82)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.51</td>
<td>0.39</td>
<td>0.28</td>
<td>0.07</td>
<td>.111</td>
<td>0.43</td>
<td>33.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(9.08)*</td>
<td>(5.82)*</td>
<td>(4.82)*</td>
<td>(1.84)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.99</td>
<td>0.39</td>
<td>0.28</td>
<td>0.07</td>
<td>.078</td>
<td>0.44</td>
<td>23.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(12.81)*</td>
<td>(5.82)*</td>
<td>(4.82)*</td>
<td>(1.84)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3.87</td>
<td>0.07</td>
<td>0.14</td>
<td>0.22</td>
<td>.009</td>
<td>0.45</td>
<td>3.37</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(28.11)*</td>
<td>(1.84)</td>
<td>(3.63)*</td>
<td>(3.98)*</td>
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**Source:** Field survey, 2016.

**Notes:** (1) Figures in parentheses are t-values.
   (2) Dependent variable: Success perception index (SPI).
   (3) The asterisk sign * indicates that the results are significant at 1 percent level of significance (2-tailed).

The finding that there is positive impact of the level of education on firm performance is consistent with the findings of Tuladhar (1996), Chandler and Hanks (1998), Shane and

After making the entire analysis of the data, the first hypothesis (H1) that there is positive relationship between initial investment and firm performance is accepted. The result shows when initial investment increases, the firm performance will also increase. The second hypothesis (H2) has been accepted as the access to finance has positive impact on firm performance. It indicates that higher the access to finance, higher would be firm performance. Similarly, third hypothesis (H3) is accepted because of the positive relationship between network ties and firm performance. It shows that higher the network ties, higher would be the firm performance. The fourth hypothesis (H4) is accepted as the trust among network has positive impact on firm performance. This shows that higher the trust among network, higher would be the firm performance. The fifth hypothesis (H5) is not accepted because of the beta coefficients are sometimes positive and sometimes negative for shared vision. It indicates that shared vision does not explain the variation in firm performance in the context renewable energy sector of Nepal. The sixth hypothesis (H6) has been accepted as the education has positive impact on firm performance. This indicates that higher level of education, higher would be the firm performance. The seventh hypothesis (H7) is accepted because of positive relationship between experience and firm performance. This indicates that higher the experience, higher would be the firm performance.

CONCLUSIONS, IMPLICATIONS AND FUTURE DIRECTIONS

The major conclusion of this study is that access to finance, network ties, trust, education and experience appeared to be the major factors affecting entrepreneurial success. The factors like initial investment and shared vision did not appear to be the important factors affecting entrepreneurial success.

This study is considered to be useful for renewable energy enterprises (REEs), development actors in the sector, academia and policy makers. The study is valuable particularly for biogas companies, solar companies and micro-hydro construction companies to grow their own business by focusing on the main factors affecting entrepreneurial success. It is also useful for the development actors of renewable energy sector for more commercialization of the sector. The study also helps in making entrepreneurship as a field of study. This study aims at generating at least some new knowledge in the literature of entrepreneurship and provides avenues for future research. This study is first of its kind in the field of renewable energy sector of Nepal. Finally, it is also useful for policy makers. It would be a reference materials to formulate entrepreneur-friendly policies to facilitate the existing and potential REEs. It would contribute to generate employment locally that plays a vital role for economic growth by increasing production and providing energy in the country.

The first and foremost research avenue of this study is to make the study more fruitful by adding additional variables such as, the goals, personality, strategies, motivation, managerial skills,
industry knowledge, commitment, innovation, culture, attitude towards risk, entrepreneur self-efficiency, internal motivation, entrepreneurial orientation and the interactions between family and business. The further study can be extended by incorporating other sectors of renewable energy such as, improved cooking stove, wind technology, and biomass sectors to get greater insight into the results. The extension of this study can be made through conducting a detail analysis of sector-wise comparison of renewable energy enterprises to find out widespread results for the sector and their actors. It would be more worthwhile of incorporating the opinion and views of respondents from customers, regulating authorities and development actors in the sector in future studies.

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