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How Human Capital Transforms into Business Performance: The Mediating Effect of Innovation

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Abstract
This study explored the relationship between human capital and business performance, using innovation as a mediator. 128 young startup founders in Kerala were asked to complete a 34-item questionnaire for this quantitative study in order to gather information on human capital, innovation, and the financial and non-financial performance of businesses. PLS-SEM was used to evaluate the proposed framework. The firm's financial performance was influenced by human capital, both directly and indirectly. Moreover, innovation plays a mediated role between the two constructs. However, human capital has no indirect effect on a firm's non-financial performance, so innovation has no mediated effect between human capital and non-financial performance. This paper empirically proves that investment in human capital influences the financial and non-financial performance of enterprises. This study reveals that there is a mediating effect of innovation on the relationship between human capital and financial performance, but innovation has no mediating effect on the relationship between human capital and non-financial performance

Keywords: Human capital, Innovation, Financial performance, non-financial performanc

Introduction

One of the pillars of industrial and organisational psychology research is how to maximise the influence and effectiveness of human capital in organisations. Most people agree that such maximisation is advantageous for both the people involved and the organisations in which they work. In reality, research in strategic human resource management and applied psychology clearly shows that investing in human capital could enhance performance at both the individual and organizational levels. For example, Becker and Huselid (2006), Le, Oh, Shaffer, and Schmidt (2007), and Subramony, Krause, Norton, and Burns (2008). As a result, a fundamental premise of organizational inquiry holds that the availability of human resources inside an organisation can significantly affect performance. (Takeuchi, Lepak, Wang, & Takeuchi, 2007). Success-related factors have attracted the interest of policymakers, scholars, and practitioners as well as receiving a lot of theoretical attention. The majority of this focus has been on the connections between small businesses' performance, innovation, and human capital (e.g. Anderson and Miller, 2003; Honig, 1998; Thornhill, 2006; Unger et al., 2011). Human capital leads to potential opportunities of the business (Shane, 2000). This encourages innovation since it enables them to take advantage of possibilities more efficiently (Kim et al., 2006). Such cleverness is what makes small business success possible. This demonstrates the significance of human capital for small business performance since they considerably foster the creativity that enables such performance. A firm's performance is an assessment of all the actions and activities performed to achieve the initial set of business objectives. One of the most researched concepts in management studies is firm performance. The total well-being of a business is defined by its performance, which contrasts the outcomes with the resources used to accomplish the goals that were established (Agwu, 2018).

One of the key elements to stealing better performance is being innovative or having the ability to bring innovation to what one does. Entrepreneurs can come up with novel methods for carrying out routine tasks (Ward, 2004). According to (Darling, Gabrielsson, and Seristo, 2007), innovativeness is aimed at the creation and implementation of original solutions

to problems arising in the context of the corporate environment. Entrepreneurial success has been proven to be positively correlated with innovative behaviours. The first to market with a new good or service controls the market and benefits from all related advantages of being first. (Currie, Humphreys, Ucbasaran, and McManus (2008), innovation and entrepreneurship lead to the production of new resources with the intention of generating income. This study adopts innovation as an intervening construct in achieving the business success of startups in Kerala based on these prior research findings.

The researcher's contribution to this study is to establish a mediational model for startups' success in Kerala, India. Startups India has a vital role the development of entrepreneurship. The goal is to establish a vibrant entrepreneurial ecosystem that contributes significantly to the creation of jobs. A startup in India is defined by the Ministry of Commerce and Industry as any business that has been operating for less than ten years and has a yearly turnover of less than INR 100 crore. India's startup ecosystem is still in its nascent stages. A startup ecosystem is made up of several elements that help a startup. Startups has its own uniqueness at every ecosystem. Kerala has around 4100 + startups working in various sectors spread across its 14 districts. In particular, we attempted to investigate how innovation mediates between entrepreneurial performance and the human capital of young entrepreneurs in Kerala, India. Researcher used the bootstrap process to check the mediating effect (Preacher and Hayes, 2008). Following is the structure of the remaining section of the paper. The theoretical framework and hypotheses of our investigation are covered in Section 2, and the relevant research is reviewed in relation to the mediation model's requirements. The research methodology is explained in Section 4. Data analysis findings are presented in Section 5. Sections 6 and 7 examine the results, and their ramifications, and provide suggestions for more research.

Literature review and hypotheses

Entrepreneurship and Business Performance

A firm's performance is an assessment of all the actions and activities performed to accomplish the initial set of business objectives. One of the most researched concepts in management studies is firm performance. The general well-being of an organisation is defined by its performance, which contrasts the outcomes with the resources used to accomplish the set objectives (Agwu, 2018). Previous researchers have shown that the two main performance measuring indicators of business are financial and non-financial performance (Cardinaels and Van veen-Dirks, 2010).

The factors that affect a firm’s performance have been extensively discussed in academics. Several academics who study the connection between entrepreneurship and success have underlined the importance of this type of relationship. Previous scholars noticed that human capital is the key element of small business success (Coleman, 2007). On the basis of human capital theory, people work to maximise the economic returns on their human capital investments and aim towards being compensated for their efforts in human capital (Becker, 2009). A company will be more successful and have a bigger competitive edge over its competitors if its stock of human capital is higher (Brown et al., 2005). When people start their own businesses, People who invest more in their human capital have a greater chance of growing their enterprises and thriving in them than people who invest less (Cassar, 2006). There are many justifications in the literature that is now available on entrepreneurship for how human capital enhances a company's success. First off, having access to human capital makes it easier for proprietors of generic enterprises to locate and seize business opportunities that remain neglected by others (Shane, 2000). Second, planning strategy and risk are favourably related with human capital, which in turn directly affect the company’s performance (Baum et al., 2001; Frese et al., 2005). All workers have specialist knowledge and skills that they have acquired from their earlier professional experiences and training, which increases their value as human capital (Cantner et al., 2009). In general, strategic management has a long history of viewing human capital as a valuable thing in both the managerial and individual levels (Becker, 2009). Existing research emphasises the significance of human capital to the success of businesses. Additionally, it makes distinctions between the various characteristics that make up someone's personality, such as social skills, professional expertise, education, and experience. In considering this, researcher developed the following hypothesis

H1: Human capital variables have a positive effect on financial performance of business

H2: Human capital variable has a positive effect on non-financial performance of business

Entrepreneurship and innovation

Innovation has a vital role for the entrepreneurial process, activity, or action. One of the key elements to stealing better performance is being innovative or having the ability to bring innovation to what one does. Entrepreneurs that are creative can come up with novel methods for carrying out routine tasks (Ward, 2004). According to (Currie, Humphreys, Ucbasaran, and McManus, 2008), innovation is related to entrepreneurship which contributes to the production of new resources with the aim of generating income. According to the authors, entrepreneurs are those who have the knowledge and skills enough to transform simple inventions into valuable findings. Innovation plays a part in making these ideas a reality whereas invention focuses on creating fresh concepts. According to the authors, innovative ideas and entrepreneurial behaviour work in combination to determine an organization's long-term viability. The wide range of work options, the encouragement of skill development, and the favourable environment for innovation are all benefits of entrepreneurship. Entrepreneurs' networks, networks of information, and networks all play significant roles in providing the resources required to start and grow firms. Small business owners who are also entrepreneurs greatly influence both the performance and the long-term goals of their organizations (Donckels and Frohlich, 1991).

Numerous arguments are put forward in their literature on how entrepreneurs' human, social, and financial capital affects their companies' innovative activities. Researchers have connected the knowledge and skill levels of small businesses to their innovative activities. Researchers found that there is theoretical support for the connection between innovation and human capital (Mahemba and De Bruijn, 2003), and investment in education and training (Baumol, 2004).

The human capital theory's main goal was to predict how employees' income will be distributed based on their investments in human capital (Becker, 2009). This hypothesis, which is employed by Unger et al. (2011) to show a relationship between human capital and company success, has spawned a sizable body of directly relevant research. Important studies have also incorporated human capital into their models for predicting innovation, entrepreneurial success, and growth. According to the concept, people seek to maximise their economic rewards in accordance with their own worth as human capital. Knowledge and experience and expertise that make up human capital, this fosters competition and creativity (Coleman, 1988). Human capital is a key component in innovation, which is a difficult process. The processes of spreading and utilising current inventions, as well as the development of new goods, are two distinct facets of important is the relationship between human capital and innovation. Innovation has grown in importance as a subject of research, especially in the domains of economics and management sciences.

According to (Hausman, 2005) revealed that Businesses run by people with little experience or without a formal degree tend to be less inventive. Romano (1990) asserts that small business owners frequently lack the knowledge and experience necessary for creative activity. Due to a lack of expertise, small businesses may be unable to turn their better consumer knowledge into innovative goods and services (Sethi et al., 2001). Therefore, knowledge (Thornhill, 2006) and education (Baumol, 2004) are prerequisites for innovation. Individual training aids internal learning and the generation of fresh concepts in businesses, and knowledge is essential to innovation and the acceptance of new technologies (Hoffman et al., 1998; Galende and Fuente, 2003). Thornhill (2006) demonstrated that instruction in entrepreneurial innovation tasks and knowledge acquisition based on personal experience are positively correlated. Similarly to this, Koskinen and Vanharanta (2002) found that subconscious information (experience, learning, etc.) might be crucial to small enterprises' innovation efforts.

Researchers discovered that the characteristics of human capital, which encompass all cognitive talents, information obtained via formal schooling, and skills and competencies gathered up independently on the job, had an effect on small enterprises' innovative activities. The following hypothesis was made by a researcher.

H3: Human capital positively influences firms’ innovation process

Innovation and success

Numerous businesses are aware that innovation is the main indicator of success and development. According to Thornhill (2006), Innovation is essential to corporate growth and success because it gives businesses a competitive edge and boosts their operational efficiency (Roberts & Amit, 2003). The entrepreneurial attitude of a company is demonstrated through innovation activity, which may be started by both people and organisations (Lumpkin and Dess, 1996; Naman and Slevin, 1993). Growth, profit, and success are all enhanced by innovation (Hyvärinen, 1990). (Bullon, 2016) emphasized the importance of innovation and demonstrated how inventive new businesses may differentiate themselves from rivals by developing novel goods and services. These new businesses have a chance to both attract and keep customers when they innovate and offer new products. Success, according to Heunks (1998, p. 1), is any indicator of economic profitability, such as growth, rising productivity, and profit. Many distinct variables may be used to evaluate a business's performance. For instance, In a survey of 845 Canadian manufacturing enterprises, Thornhill (2006) discovered a relationship between innovation and success, with success being determined by increased sales.

A firm's performance is an assessment of all the actions and activities performed to achieve the organizational objectives. Most academic works have emphasised the significance of company performance. The general well-being of a business is defined by its performance, which contrasts the outcomes with the resources used to accomplish the goals that have been established (Agwu, 2018). In previous studies, financial performance and non-financial performance are the two primary performance-evaluating measures (Cardinaels & Van veen-Dirks, 2010). The researcher examined both financial and non-financial performance to assess firm success in this study. Based on the aforementioned criteria, researchers have created the following hypothesis on the relationship between innovation and business success.:

H4: Innovation positively influences firms' performances

Mediating effects of innovation on firm's performance

Researchers confirmed that innovation is a facilitator of human capital from the previously mentioned literature (e.g., Koskinen and Vanharanta, 2002; Thornhill, 2006; Lee et al., 2010; Hausman, 2005). As a result, we contend that company owners who have better access to human capital will be more willing to adopt innovative approaches that promote small business success. These resources also have a negligible but detectable effect on business success through the innovation process. This study offers a mediational model that considers human capital as an input, innovation as a process, and firm performance as an output, in contrast with prior studies on the success of small businesses. Our education guess is having well human capital and they adopted innovativeness, which leads to have a greater success. In this study, researcher wants to know the direct and indirect effect on innovation on firms' performance and which effect has more consistent. We used the bootstrap procedure to check the mediating effect (Preacher and Hayes, 2008). In this study, young startup founders' financial and non-financial performance is examined to determine whether there is an indirect influence of human capital.

H5: Innovation plays a mediating role between human capital and firms' financial performance

H6: Innovation plays a mediating role between human capital and firms' non-financial performance

Conceptual Framework

The next stage in our research was to develop an empirical model that reflects the relationships between our theoretical stances and business performance. In our model, which is based on the aforementioned justifications, we have inputs (human capital), a process (innovation), and a product (Business performance).

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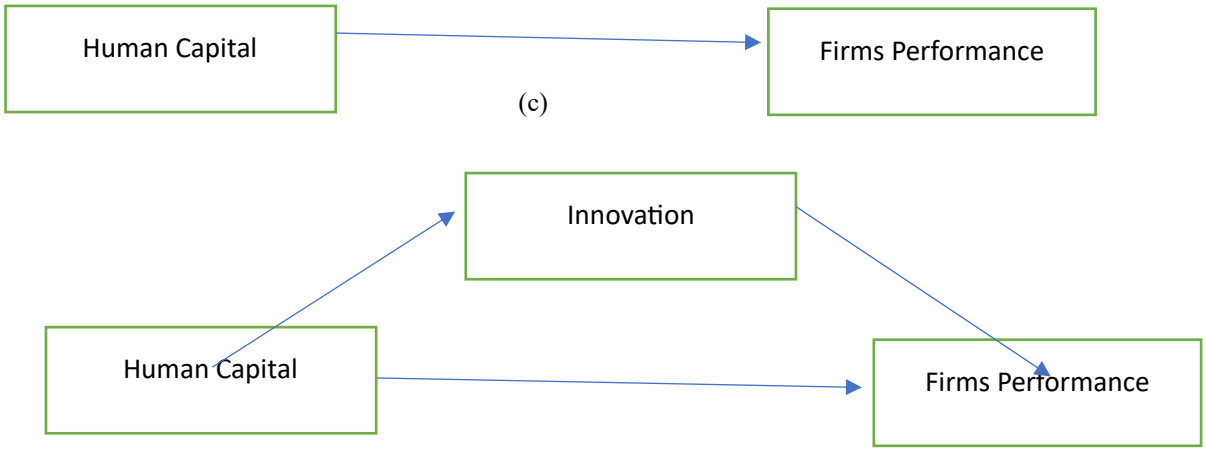
Figure 1.

Proposed research model



Designs and Methodology

The deductive approach taken in this study tries to clarify the causal connections between human capital, innovation, and business performance variables. A number of hypotheses were established, for which quantitative data was gathered, in order to analyse the hypothesis that examines the role of mediation in innovation between human capital and firm performance. This study used a survey approach, which made it possible to collect quantitative data from young entrepreneurs who were registered with the Kerala Startup Mission (Saunders et al., 2009).

Analytical technique

Researcher used PLS SEM in this study, SEM is a multivariate method that is frequently used for examining structural relationships. It allows for the simultaneous analysis of several variables in a comprehensive framework (Hair et al., 2016). PLS-SEM provides valuable insight into how ideas and concepts that may be experimentally tested are conceived. It might also highlight the difficulty of causal analysis. According to Akter et al. (2017), the crucial justification for adopting PLS-SEM in this work is that it guarantees the estimate of a model utilising a small sample with numerous latent variables.

Analysis of Data and Results

Validity and Reliability

The results of the validity and reliability tests are displayed in Table I below. In order to evaluate the internal consistency, the values for Cronbach's alpha and composite reliability (CR) were examined. The constructs are internally consistent, as evidenced by CR and Cronbach's alpha values which are both higher than 0.70, according to the findings in Table I. All constructs were found to be convergently valid when the average variance extracted (AVE) values for each construct were more than the suggested threshold level of 0.50. Similarly, factor-loading values were investigated in order to evaluate indicator reliability. According to Hair et al. (2016), factor loading should be higher than 0.50 to assess indicator reliability. In this study, HCEE1, HCM5, and IN1 were remove because of low factor loading. Rest of the indicators have factor loadings larger than 0.5. This demonstrates that the items are sufficiently loaded with the respective construct.

Construct	Items	Loadings	AVE	CR	α
Financial Performance	FP1	0.644	0.621	0.907	0.876
	FP2	0.865			
	FP3	0.846			
	FP4	0.789			
	FP5	0.801			

	FP6	0.762			
HC Experience and expertise	HCEE2	0.53	0.554	0.857	0.796
	HCEE3	0.686			
	HCEE4	0.892			
	HCEE5	0.854			
	HCEE6	0.702			
HC Learning and education	HCLE1	0.647	0.548	0.879	0.837
	HCLE2	0.734			
	HCLE3	0.806			
	HCLE4	0.73			
	HCLE5	0.796			
	HCLE6	0.716			
HC Managerial capabilities	HCM1	0.69	0.552	0.88	0.838
	HCM2	0.805			
	HCM3	0.799			
	HCM4	0.763			
	HCM6	0.756			
	HCM7	0.63			
Innovation	IN2	0.686	0.504	0.859	0.805
	IN3	0.682			
	IN4	0.69			
	IN5	0.702			
	IN6	0.809			
	IN7	0.684			
Non-Financia Performance	NFP1	0.747	0.601	0.883	0.836
	NFP2	0.794			
	NFP3	0.794			
	NFP4	0.749			
	NFP5	0.791			

Table I. Reliability and Validity

As shown in Table II and Table III, the Fornell-Larcker criteria and HTMT criteria (Hair et al., 2017) were used to determine discriminant validity. Tables II and III show that all the constructs are empirically independent, verifying discriminant validity.

Table II. Fornell–Larcker criteria

	FP	HCEE	HCLE	HCM	IN	NFP
FP	0.788					
HCEE	0.339	0.744				
HCLE	0.086	0.487	0.74			
HCM	0.293	0.415	0.578	0.743		
IN	0.298	0.247	0.25	0.453	0.71	
NFP	0.354	0.379	0.273	0.193	0.284	0.775

Table III. HTMT Ratio

	FP	HCEE	HCLE	HCM	IN	NFP
FP						
HCEE	0.378					
HCLE	0.144	0.637				
HCM	0.337	0.551	0.709			
IN	0.359	0.302	0.311	0.512		
NFP	0.406	0.446	0.295	0.219	0.316	

Table IV. Higher order construct – Reliability and Validity

Construct	Items	Loadings	AVE	CR	α
Human Capital	HCEE	0.802	0.686		0.775
	HCLE	0.821			
	HCM	0.86			

Table V. Higher order construct - Fornell–Larcker criteria

	FP	HC	IN	NFP
FP	0.787			
HC	0.298	0.828		
IN	0.306	0.392	0.709	
NFP	0.356	0.313	0.287	0.774

Table VI. Higher order construct - HTMT Ratio

	FP	HC	IN	NFP
FP				
HC	0.34			
IN	0.359	0.443		
NFP	0.406	0.378	0.316	

Figure 2 displays the calculated model. There are three dimensions that exist in the human capital construct, such as learning and education (HCLE), Experience and expertise (HCEE), and managerial capabilities (HCMC).). In this study each dimension has six, five and six items respectively. The construct of innovation comprises six items, while the construct of business performance has two dimensions, such as financial performance and non-financial performance. There are six items for financial performance and five items for non-financial performance.

Structural Model

The next stage is to evaluate the hypothesized relationship in order to verify the suggested models

Hypotheses Testing

H1: Human capital variables has a positive effect on financial performance of business

H1 evaluates whether Human Capital (HC) has a significant positive effect on financial performance (FP) of business. The result revealed that HC has a positive significant result on firms FP. (β=.210, $p<0.021$). Hence H1 was supported. Similarly direct effect of human capital on innovation (β=.392, $p<0.000$), Human capital on non-financial performance (β=.237,

p<0.015), Innovation on financial performance (β=.224, p<0.011) had a positive significant effect, hence H2, H3 & H4 were supported.

Tables VII and VIII display the findings of the hypothesis testing.

Table VII. Direct effect

	Original sample	Standard deviation	T statistics	P values
HC -> FP	0.210	0.091	2.305	0.021
HC -> IN	0.392	0.070	5.557	0.000
HC -> NFP	0.237	0.098	2.424	0.015
IN -> FP	0.224	0.088	2.535	0.011
IN -> NFP	0.194	0.105	1.848	0.065

Mediated Effects

As shown in Table VIII, researcher initially examined the indirect effect of human capital on financial and non-financial performance to investigate the mediating effects of human capital on business performance. There is an indirect effect of human capital on financial performance (β=0.088, p<0.036). However, no indirect influence of human capital on non-financial performance was discovered (β =.076, p>0.098).

Mediation analysis was conducted to evaluate how human capital (HC) influences both financial performance (FP) and non-financial performance (NFP). The results (Table VIII) revealed that total effect of HC on FP was significant (β=.298, p<0.001) whereas HC on NFP was insignificant (β=.0.076, p<0.087).

With the inclusion of mediating variable of innovation (IN), the effect of HC on FP and HC on NFP were significant (β=.210, p<0.016) & (β=.217, p<0.012) respectively. The indirect effect of HC on FP was found significant (β=.088, p<0.036), whereas the indirect effect on HC on NFP was found insignificant (β=.076, p<0.087). This shows the relationship between HC on FP is partially mediated by IN and there is no mediation between HC on NFP by IN.

Table VIII. Mediated effect

	Total Effect		Direct Effect		Indirect Effect	
	Coefficient	P values	Coefficient	P values	Coefficient	P values
HC -> FP	0.298	0.000	0.21	0.016	0.088	0.036
HC -> NFP	0.313	0.000	0.194	0.012	0.076	0.087

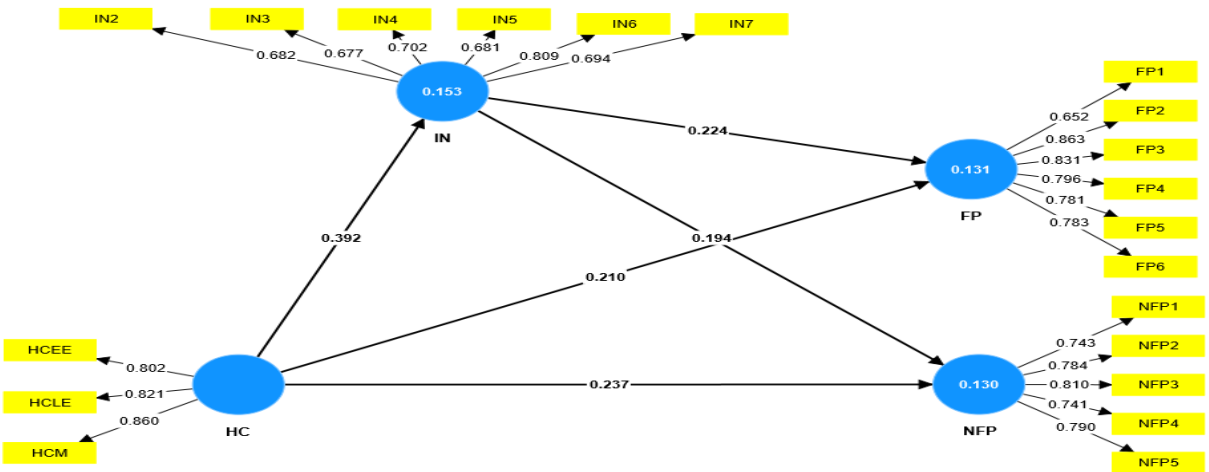


Figure 2.

Estimated model

Conclusion and Implication

Human capital and firms' performance of startups founders have been extensively researched and evaluated the role of innovation on firms' performance. Firms' performance evaluated in subjective measures such as financial and non-financial performance. In this work, we utilized theoretical perspectives of previous studies. In accordance with earlier research findings by Lund Vinding (2006), Minbaeva et al. (2014), and Soo et al. (2017), According to this study, human capital enhances the performance of businesses. young startup founders in Kerala were used to analyse the study hypotheses. To estimate the proposed relationship, PLS-SEM was used. This study's key result is that human capital affects a firm's financial performance both directly and indirectly. More specifically their effects are mediated by innovation activity. One of the interesting findings is the human capital has the direct effect on the firm's non-financial performance, where as there is no indirect effect. Which means innovation has no mediating role between human capital and non-financial performance.

Most studies that have analysed human capital in relation to direct and indirect effect of financial performance, but there are no more studies related to non-financial performance. Financial indicators are commonly used to measure and evaluate business performance in management and social science research. These are the methods used to evaluate the performance of a firm considering only returns and profits. In order to assess the overall performance of their businesses, many organisations nowadays include non-financial indicators in their "Performance Measurement System" (Ittner and Larcker, 2001; Speckbacher, 2003). This paper empirically proved that investment in human capital effects firms' performance, which is measured in financial and non-financial performance. Experience and expertise, Learning and education and Managerial capabilities of entrepreneurs directly and indirectly effect the financial performance of the enterprises. According to this study, innovation plays a mediating function in the relationship between human capital and financial performance, but not in the relationship between human capital and non-financial performance.

In the model presented in this research, investment in human capital is assumed to enhance innovation at the entrepreneurial level. This relationship tends to have better business performance, especially in the financial aspect, but not in the non-financial aspect. By emphasizing how effectively businesses use their experience and expertise, learning and education and managerial capabilities, which improves their performance. entrepreneurs must understand, evaluate and try to improve their experience and expertise, learning and education and managerial capabilities. With this research, we seek to better understand how different aspects of human capital affect the development of new ventures. We reached the conclusion that certain expenditures in human capital significantly improve entrepreneurial success.

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