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Understanding the Role of Social and Human Capital in Entrepreneurial Intentions and in Innovativeness

Sosiaalisen ja Henkisen Pääoman Roolin Ymmärtäminen Yrittäjyysaikeissa ja Innovaatiivisuudessa

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ABSTRACT

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In this thesis, we analyse Social and Human Capital's effect on opportunity-based entrepreneurial intentions and innovativeness across World Bank and Global Entrepreneurship Monitor data compiled from three continents; Europe, Middle East and North America, in 2018. We argue that Human Capital may have a curvilinear relation with entrepreneurial intentions and our findings indicate that Social Capital positively effect entrepreneurial intentions. In our last chapter, we acknowledge limitations of our study and propose ideas for further research.

TIIVISTELMÄ

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Tässä tutkielmassa analysoimme Sosiaalisen ja Henkisen Pääoman vaikutuksia mahdollisuuksiin perustuviin yrittäjyysaikeisiin ja innovatiivisuuteen. Tietolähteenämme toimii Maailman Pankin ja Global Entrepreneurship Monitorin keräämä data Euroopasta, Lähi-Idästä ja Pohjois Amerikasta vuodelta 2018. Osoitamme, että Henkisen Pääoman suhde yrittäjyysaikeisiin voi olla kaareva ja todistamme, että Sosiaalisella Pääomalla on positiivinen vaikutus yrittäjyysaikeisiin. Viimeisessä kappaleessa pohdimme tutkimuksemme puutteita ja ehdotamme mahdollisuuksia jatkotutkimukselle.

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1. Introduction

Monthly salary may be one of the biggest addictions of our age. What makes some people fight the addiction and push them to take a leap into entrepreneurship? Moreover, what is the driver behind opportunity-based entrepreneurial intentions?

This thesis is a study to understand the very beginnings of entrepreneurship, which factors besides financial capital effect entrepreneurial intentions and the emergence of nascent entrepreneurship. Lee (2017) among many others prior, believe that the effects of *Social Capital,* and the status and power embedded within it, are overlooked in the process of venture creation. Further, it is argued that knowledge e.g. *Human Capital* is of major strategic importance for sustaining a competitive advantage in modern economies, placing Human Capital as a critical component when considering a decision in favour or against becoming an entrepreneur. (Barney, 1991; Kogut & Zander, 1992 as cited by Dohse & Walter, 2011)

In this thesis, we analyse Social and Human Capital's effect on opportunity-based entrepreneurial intentions across World Bank and Global Entrepreneurship Monitor data compiled from three continents; Europe, Middle East and North America, in 2018. Additionally, as innovativeness is considered to be within close proximity to entrepreneurship, we complement our thesis by including innovativeness as one of our dependent variables and study if Social and Human Capital positively effect innovativeness as well as entrepreneurial intentions.

At this point, it is also important to separate *opportunity-based entrepreneurship,* driven by a voluntary desire to exploit a business opportunity, from *necessity-based entrepreneurship,* driven by the lack of better choices for work, as distinguished by Reynolds, Camp, Bygrave, Autio & Hay (2001) and confirm our interest specifically in the opportunity-based entrepreneurship.

Although there are already extensive studies made trying to bridge Social and Human Capital into entrepreneurial intentions, prior research indicates that there are still relatively limited amount of comprehensive studies conducted with proper multi-dimensional, cross country wide data (Afandi, Kermani, Mammodov, 2016). As such, this thesis could not be more

punctual. Furthermore, we see an opportunity to advance and complement the previous studies by analysing a wider set of data, across three different continents.

We believe studying entrepreneurial intentions and innovativeness in nascent entrepreneurship is always timely and relevant as entrepreneurship really acts as a foundation to well-functioning societies and innovation as a driver for sustainable economic growth. Without innovation and technological advancements, economic growth is unsustainable in the long run (Thiel & Masters, 2014, 9).

1.1 Research Questions

The main research questions of the thesis are outlined as follows:

1. *Does the level of one's perceived Social and Human Capital, independently or together, positively affect entrepreneurial intentions and emergence of opportunity-based nascent entrepreneurship?*
2. *Does the level of one's perceived Social- and Human Capital positively affect innovativeness within opportunity-based early-stage companies?*

The first research problem is limited to Social and Human Capital's effect on entrepreneurial intentions and early-stage entrepreneurial activities. In this case, we are not interested in incumbent entrepreneurs and want to understand opportunity-based nascent entrepreneurship specifically.

The second research question is focused on how Social and Human Capital are linked to innovation in opportunity-based early-stage companies. Hence, it is crucial that our data distinguishes between opportunity and necessity-based entrepreneurship.

2. Theoretical Framework & Concepts

2.1 Social Capital

What exactly is social capital? It is commonly acknowledged that a French sociologist Pierre Bourdieu (1986) and an American theorist James Coleman (1988) were the original founders for the theory of Social Capital, both introducing the concept independently from each other in the late 1980s. Bourdieu conceptualized the term Social Capital as the "actual and potential resources linked to possession of a durable network of mutual acquaintance and recognition". Coleman continued the works of Bourdieu by much more extensive definition, linking Social Capital to three dimensions: 1) Trust, obligations and expectations, 2) Information and social networks and 3) Norms, penalties and relational authority. (Afandi, Kermani, Mammodov, 2016; Häuberer, 2006; Poder, 2011)

Ever since, the concept is widely used among social scientists and have multiple definitions across the literature ranging from the quality created between people (Burt, 1997) and the value distributed within and between social networks (Putnam, 1993) to resources and assets embedded within, and derived from, a network of relationships (Nahapiet & Ghoshal, 1997).

These somewhat elusive definitions all share an important common factor that are the relationships between people and the value created within those relationships, which would not be accessible without the underlying connections between people. Hence, Social Capital takes a relational form as a resource or an asset.

Social Capital is also described as an intangible asset created in social settings and in network structures which are later utilized for extending individual or organizational goals. (Totterman & Widen-Wulf, 2007) Further, it appears to be commonly accepted that Social Capital cannot be acquired alone, without social interaction between people unlike Human Capital, the overall level of knowledge and education, which is discussed in the next chapter (Grootaert and Bastelaer, 2002).

Moran & Ghoshal (1996) argue that the source of value creation lies specifically in the ability to develop Social Capital, which later translates into new value by different forms such as access to social gatherings where valuable information are exchanged, timing of that

information and referrals to new people and opportunities, thus expanding one's network (Burt, 1992).

Although networking activities are difficult to measure, Brüdler & Preisendörfer (1998) compiled a common hypothesis from research papers around the topic of network perspective in the context of entrepreneurship, assuming that networking activities, including the resources and support within social networks, are heavily utilized to establish new businesses. Hence, social networks are seen to have a positive stimulus on the founding process of new firms. The findings presented by Brüdler & Preisendörfer support our first hypothesis, illustrated in the coming chapter, that Social Capital and emergence of nascent entrepreneurship have a positive linear relation, meaning that Social Capital have positive correlation with entrepreneurial intentions, thus improving the likelihood for one becoming an entrepreneur.

Lin (2003) approaches Social Capital by evaluating the processes and mechanisms of turning resources embedded in social relationships into actual investments and monetary returns. Presumption of Social Capital according to Lin is that investments into Social Capital are expected to have returns in the capital marketplace. This angle tries to capitalize the idea of Social Capital which appears to be rather difficult to measure and put to quantitative terms. It will be very interesting to carry the ideas by Lin to try evaluating if one's perceived level of Social and Human Capital positively effect one's entrepreneurial intentions.

To summarize the concept of Social Capital, we recall the idea of assets in network of relationships by both Bourdieu (1986) and Nahapiet & Ghoslah (1997) and extend this to meet our interest in nascent entrepreneurship, concluding Social Capital as the support and confidence derived from social networks that encourage entrepreneurial action and opportunity capturing.

2.2 Human Capital

The significance of Human Capital was acknowledged well before the twentieth century by Karl Marx, who described Human Capital as the "intellectual capabilities of human beings" and by Adam Smith who defined Human Capital as "The acquisition of talents during education, study or apprenticeship, costs on real expense, which is capital in person" (Smith, 1776 as cited by Palalić, Bičo, Ramadani and Dana, 2020)

The concept, however, took until 1960s to become part of the mainstream conversation and recognition. Aamoucke (2016, 7) captured its development well in his study of distribution of Human Capital in start-ups, concluding that one of the main reasons for Human Capital Theory's popularization was the recognition that labour income was the major driver of personal income inequalities, which incentivized many scholars to research the matter.

One of the early pioneers of Human Capital was an American economist Gary Becker, later awarded by a Nobel prize, who defined Human Capital as "resources in people" which, the more possessed, can be utilized for higher monetary income. (Becker, 1964, 1) Similarly, Coleman (1988) described Human Capital as individual's knowledge and abilities that allow changes in one's economic growth and actions. Education and other formal and informal training are a way to enhance one's Human Capital to gain competitive advantages over others for both individuals and organizations. The early work on Human Capital support the general definition of Human Capital as knowledge and skills embodied in human beings. (Lössmann, 2003)

Later, more broader concepts were introduced, such as by Tomer (2016) who expanded the view of Human Capital and proposed a definition as "the mental, social and physical attributes that are embodied in humans", and by Florin & Schultze (2000) who divided the concept of Human Capital into two components, one as g*eneral Human Capital* and another as *industry or skill specific Human Capital* (Arenius & De Clerq, 2003). The general Human Capital could be understood as general knowledge or formal educational level and set of skills applicable for various areas, where as the skill specific Human Capital is tied to a particular industry, company, or a process.

It is clear now that Human Capital is a very wide concept as well. As a whole, it can mean the general knowledge, education and skillset of a person but at the same time, it can also be broken down into much more deeper definitions and components as presented by Florin & Schultze (2000) for example.

For this thesis and for the purposes of our work in understanding how Human Capital can be linked to entrepreneurial intentions, we will summarize the concept of Human Capital as the confidence and trust in one's own inner abilities and skills, hard and soft, to succeed in the workplace and in the market environment.

3. Previous Research on the Role of Social and Human Capital in Entrepreneurial Intentions

Prior research suggests that even knowing an entrepreneur within one's community, increases the likelihood for launching a venture oneself. Arenius and De Clerq (2003) analysed thousands of data points of Finnish and Belgian individuals' contacts to entrepreneurial communities from the Global Entrepreneurship Monitor data in 2002 and came into conclusion that Social Capital, such as knowing an entrepreneur, does correlate positively with entrepreneurial activity. Their analysis also indicates that Human Capital, in the form of specific knowledge about start-up process, reinforces the likelihood for one becoming an entrepreneur. The above findings are in line with our first hypothesis presented in the coming chapter but at the same time run partially counter against our second hypothesis regarding Human Capital's effect to entrepreneurial activity. They also make the argument that having social ties to other entrepreneurs reduces uncertainties and foster knowledge needed to launch a business. (Arenius & De Clerq, 2003)

On the other hand, a study based on French household survey about entrepreneurship in 1991 by Lafarrere and McEntee (1995) suggests that higher education leads to lower likelihood of becoming self-employed due to higher wage expectation and risk averse behaviour. Similar findings were presented later by Arenius & De Clerq (2003) following the above-mentioned study of Global Entrepreneurship Monitor data that those with post-secondary level degree are only half as likely to become entrepreneurs as compared to those with lower educational level. The problem here, however, is that Arenius & De Clerq does not distinguish between opportunity-based and necessity-based entrepreneurship which may lead to overestimation of the proportion of lower education entrepreneurs who might actually be more likely to be necessity-based entrepreneurs because of a lack of other employment opportunities, more accessible for those with higher level of education.

These findings indicate that having a high level of *general* Human Capital has a negative correlation to entrepreneurial intentions, but the results might be skewed towards necessity-based entrepreneurship. Both the above studies are partially aligned with our second hypothesis.

Empirical findings based on the Spanish Global Entrepreneurship Monitor data from 2008 also suggest that general Human Capital such as the level of formal education is not a strong indicator of entrepreneurial intentions, but they argue that work experience and entrepreneurial training, e.g. skill specific Human Capital, have great positive correlation to entrepreneurial intentions. (Aliaga-Isla, 2015)

Afandi, Kermani & Mammadov (2016) came public with their paper on Social Capital and entrepreneurial process in 2016 questioning the scope of earlier studies, Arenius & De Clerq 2013 included, and presented interesting findings that a membership in professional organization increases one's likelihood for entrepreneurial activity by 5.3, 10.9, and 10.3 percent across three different stages of entrepreneurial process: preference – trial – success. To their best understanding, they carried out the most comprehensive empirical study until then on how Social Capitals three dimensions, discussed in the theoretical part of this thesis, effect entrepreneurial activity in different stages of early entrepreneurial process. Their conclusion was that all three components differ in their impact to entrepreneurial process and that individual's social networks play a key role in the overall entrepreneurial process.

This positive correlation in Social Capital and entrepreneurial activity is also supported by Arenius' and De Clerq's (2003) findings stating that even knowing a person who has started a business during the past two years was a notable predictor to starting a business oneself. Casson & Casson (2013) point out that an entrepreneur who can leverage one's social contacts for information and market making can better identify rising business opportunities.

Later research by Linán & Santos (2007) distinguished between *Bonding* Social Capital, such as having an entrepreneur parent, and *Bridging* Social Capital such as knowing a non-family entrepreneur, and made the argument that having a non-family entrepreneur contact had significantly higher positive influence on actually launching one's own venture, relative to knowing a family entrepreneur, which nearly boosted the desire to become an entrepreneur without actually pushing one to take the actual steps towards entrepreneurship. According to Putnam (2003), bridging ties are the most difficult kind of social capital to acquire.

Lafarrere (1995) also argued that having an entrepreneur parent can increase the likelihood of the reference person becoming an entrepreneur as well. An assumption can be made that

an entrepreneur parent is an especially strong tie within one's social network and thus an important part of one's Social Capital.

Another interesting conclusion was made in a French study of chosen entry modes of start-ups that people with high level of Social Capital were more likely to build new companies from a scratch, rather than to take over an established business with capital, compared to those people with less Social Capital (Bastié, Cieply and Cussy, 2011). Furthermore, it is empirically proven that Social Capital helps entrepreneurial newcomers to acquire resources needed in the beginning of new venture launch and overcome the knowledge and resource constraints (Lee, 2017). Karlsson and Wigren (2010) arrived at a similar conclusion by studying university employees in Sweden, that people with more Social Capital, for instance contact with external product development teams, are more likely to start new businesses than those without ties to such teams.

Drawing a conclusion on all previous research attempts, Hindle, Klyver & Jennings (2009) point out that the big question is not if Social and Human Capital effect entrepreneurial intentions, but *how* they affect them. While their literature review establishes strong evidence of positive relation in Social and Human Capital with entrepreneurial intentions, they seek to appeal on educators to teach and stimulate students about the importance of developing social connections e.g. Social Capital.

4. Previous Research on the Role of Social and Human Capital in Innovativeness

It is debated that the management of Social Capital in an international domain is the likely explanation to innovativeness in so called born global companies that seek competitive business edge specifically by the means of innovation (Freeman, 2006 as cited by Presutti, Cappiello & Johanson, 2020). Presutti et. al, 2020 made a compelling proposal that Social Capital, if managed correctly, can have the capacity to be utilized in international relationships for expanding business into foreign markets. Moreover, they argue that Social Capital is likely to lower international business transactional costs, enabling higher level of innovation.

Li, Wang & Liu (2012) established a similar argument on the relationship between technological innovation capabilities and Social Capital, concluding that Social Capital is a key factor to preserving competitive edge in the ever-increasing competition in science and technology. Li et al. (2012) found empirical evidence that Social Capital have significant, positive correlation with technological innovation.

Challenging the above points of view on positive correlation between Social Capital and innovation, Wang, Guidice, Zhou & Wang (2016) recognize that Social Capital may also discourage action taking and limit performance. Furthermore, there are also scientific research that Social Capital negatively affect innovation and performance goals (Maurer & Ebers, 2006 as cited by Wang et al., 2016). In the empirical part of their research paper, Wang et al. (2016) were able to show support on their hypothesis that Social Capital have curvilinear relation with innovation. In later discussion, they also suggest keeping situational context in mind when considering investments into Social Capital.

All the while Social Capital's relationship to innovation is further studied, there are also a lot of evidence supporting a positive connection in Human Capital to innovation. For example, Munjal & Kundu (2017) point out how the investment volume in the development of Human Capital have grown in the last decade, especially by multinational companies in the attempt to gain an innovative edge. They argue that Human Capital is the backbone in core organizational functions adding value.

5. Hypothesis

Supported by the findings by Brüdler & Preisendörfer (1998) discussed in our second chapter under the Social Capital concept, we believe that Social Capital and entrepreneurial intentions have a positive linear relationship, meaning that the higher one's perceived level of Social Capital is, the more likely one is to start entrepreneurial activities. Hence, we formulate our first hypothesis as follows:

H1. Social Capital positively affect the likelihood for starting opportunity-based entrepreneurial activity

Subsequently, guided by the findings presented by Lafarrere & McEntee (1995) and Arenius & De Clerq (2003) discussed in the theoretical framework part of the thesis, we expect Human Capital and entrepreneurial intentions to follow an inverted U-curve shaped relation, meaning that until some point, higher level of Human Capital will result to increased likelihood for one starting a business, but the likelihood will start to diminish after a certain level of Human Capital is acquired. We can thus formulate our second hypothesis to our first main research problem as follows:

H2. Human Capital positively affect starting opportunity-based entrepreneurial activity until a tipping point whereafter it starts to negatively affect it

With regards to the second main research question, we expect that both Social and Human Capital have positive stimuli on innovation in opportunity-based early-stage companies. Hence our third hypothesis is formulated as follows:

H3. Social and Human Capital positively affect innovation in opportunity-based early-stage companies

We expect there to be minor differences in the findings across Europe and especially between European countries to North America and Middle East because of different entrepreneurial cultures between the regions however, the continental differences are excluded in our thesis.

6. Empirical Study

6.1 Data and Variables

As a source of data for entrepreneurial activity and Social and Human Capital, we will use comprehensive, country level data across Europe, Middle East and North America presented by World Bank and Global Entrepreneurship Monitor (GEM).

GEM are described as the "one-stop shop for everything you need to know about entrepreneurship" and is recognized as the largest entrepreneurship research initiatives in the world. (Global Entrepreneurship Monitor, 2020; Mrożewski & Kratzer, 2016) The data by World Bank are collected as part of World Economic Forum's Global Competitiveness Index; CGI. (World Bank, 2020).

Our variables are presented in table 1 below.

Table 1 Variables

Variable	*Abbreviation*	*Type*	*Source*
Social Capital (0-100)	*Soc.Cap*	*Independent*	*World Bank*
Human Capital (0-100)	*Hum.Cap*	*Independent*	*World Bank*
Opportunity Entrepreneurship (-% of TEA)	*Opport.-%*	*Dependent*	*GEM*
Country Level Innovation	*Innov.*	*Dependent*	*GEM*
Number of New Businesses Registered	*No.NB.Reg*	*Control*	*World Bank*
Total Early Stage Entrepreneurial Activity; TEA (-% of population between age 18-64)	*TEA-%*	*Control*	*GEM*

The first two measured variables, Social Capital and Human Capital, are both given a numerical score between 0 and 100, 0 indicating a low level of Social or Human Capital and 100 indicating a high level of Social or Human Capital. They are both our independent variables.

The total early-stage entrepreneurial activity variable shows a percentage of population, aged between 18 to 64, who are either nascent entrepreneurs or an owner-managers of a new business. As the TEA measures the percentage of all types of nascent entrepreneurship, and not just opportunity-based entrepreneurs, we need another variable that distinguishes between opportunity- and necessity-based entrepreneurship. The motivational index by GEM accomplishes just that by measuring a percentage involved in TEA that are motivated by opportunity.

The country level innovation variable shows a percentage point of those involved in total early-stage entrepreneurial activity that have informed that their product/solution is new to their customers or that there are no or only few companies offering a similar product or a solution. (Global Entrepreneurship Monitor, 2020)

To avoid variable bias, we have added complementary control variable, number of new businesses registered, into the mix. Table two below shows our compiled data across the previously mentioned data sources.

Table 2 Compiled Data

Region	***Country***	***Year***	***Opport - %***	***Innova-tion***	***Social Capital***	***Human Capi-tal***	***TEA -%***	***No.NB. Reg***
Europe	*Poland*	2018	0,66 %	12,17 %	50,09	36,85	5,24 %	36 880
Europe	*France*	2018	2,85 %	28,07 %	54,44	56,84	6,13 %	201 090
Europe	*Germany*	2018	3,17 %	30,53 %	61,07	58,71	4,97 %	72 840
Europe	*Italy*	2018	2,73 %	24,27 %	53,28	44,91	4,18 %	114 360
Europe	*UK*	2018	3,74 %	21,63 %	61,28	61,33	8,24 %	664 970
Europe	*Spain*	2018	1,94 %	22,33 %	56,90	47,47	6,39 %	94 680
Middle East	*Turkey*	2018	1,73 %	30,80 %	48,20	35,76	14,24 %	85 800
Middle East	*KSA*	2018	1,49 %	23,26 %	53,64	47,68	12,09 %	12 120
Middle East	*Egypt*	2018	0,55 %	27,52 %	44,43	22,95	9,84 %	-
North America	*Canada*	2018	3,26 %	41,30 %	63,97	53,71	18,71 %	4 070
North America	*US*	2018	6,94 %	33,99 %	63,34	51,32	15,59 %	-

6.2 Empirical Methods

In the proceedings, our quantitative study will move forward with a correlation analysis to find out how much our independent variables, Social and Human Capital, explain our dependent variables, opportunity entrepreneurship and innovativeness. We present correlation on scatter plots as well to better illustrate how our hypothesis are formulated.

Then after, we will proceed to a regression analysis to provide answers for our raised research problems and to concur or reject our three set hypotheses if Social Capital and/or Human Capital positively effect entrepreneurial intentions and innovativeness in early-stage opportunity driven companies.

7. Research Results

Our correlation analysis, presented in table 3 below, shows a strong positive correlation between the dependent variable, opportunity entrepreneurship, and predictor variables, Social and Human Capital. An increase in motivational index or percentage of opportunity motivated entrepreneurs predict a corresponding increase in perceived Social Capital by a factor of 0,79 and 0,62 in Human Capital respectively. Simultaneously, our two independent predictor variables, Social and Human Capital, appear to be highly correlated (0,86) together.

Table 3 Correlation Analysis

	Opport-%	*Social Capital*	*Human Capital*	*TEA-%*	*No.NB.Reg*
Opport-%	1				
Social Capital	0,79	1			
Human Capital	0,62	0,86	1		
TEA-%	0,34	0,27	-0,04	1	
No.NB.Reg	0,56	0,30	0,53	-0,20	1

	Innovation	*Social Capital*	*Human Capital*	*Opport-%*	*No.NB.Reg*
Innovation	1				
Social Capital	0,44	1			
Human Capital	0,23	0,86	1		
Opport-%	0,50	0,79	0,62	1	
No.NB.Reg	-0,21	0,30	0,53	0,56	1

On country level innovation, correlation with Social and Human Capital are positive but does not show very strong correlation. Amongst all variables, innovation appears to be most determined by opportunity entrepreneurship or also known as the motivational index.

The results of our correlation analysis support our first hypothesis that Social Capital positively effect opportunity-based entrepreneurial intentions.

Furthermore, a trendline drawn in figure 1 simulate the strong positive correlation between Social Capital and opportunity entrepreneurship.

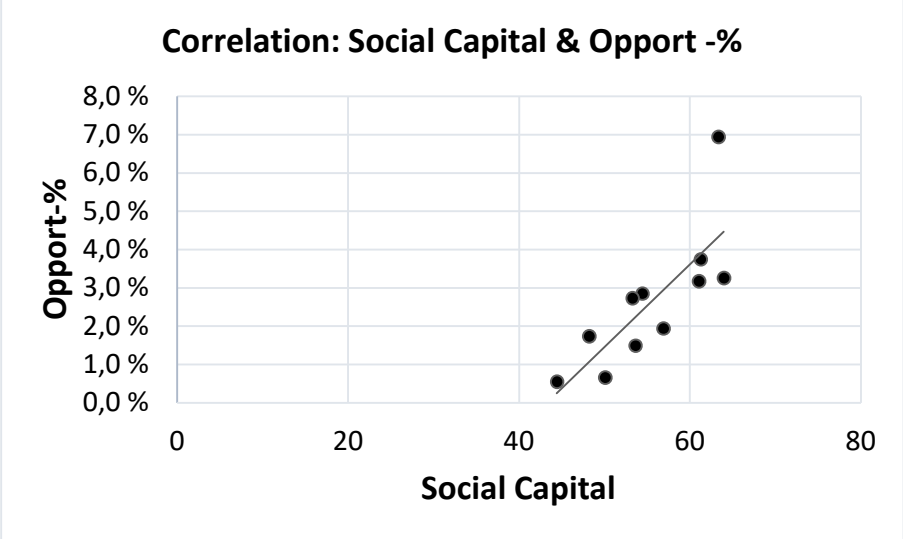

Figure 1 Opportunity entrepreneurship as a function of Social Capital

The second figure below illustrates correlation between opportunity-based entrepreneurship and Human Capital with a polynominal trendline showing a curved pattern in support of our second hypothesis of inverted U-shaped or curvilinear relationship of Human Capital and opportunity entrepreneurship.

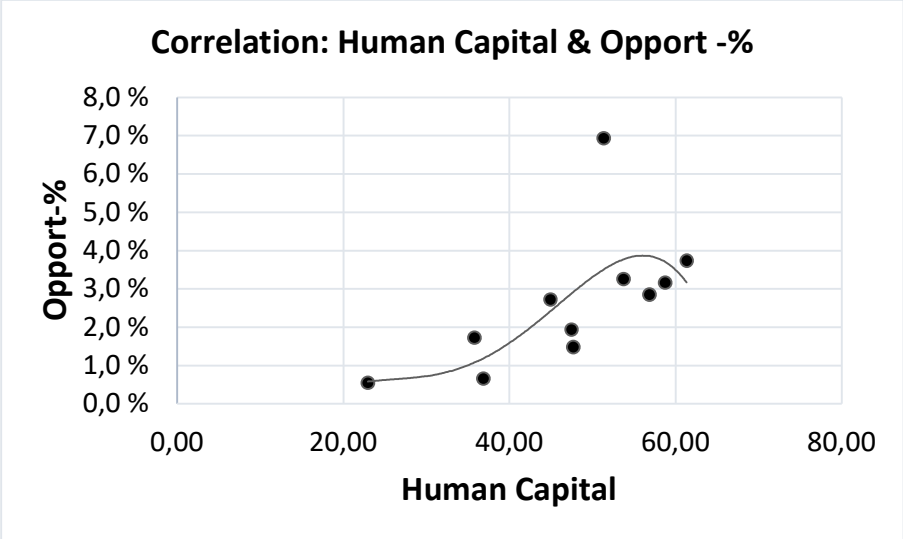

Figure 2 Opportunity entrepreneurship as a function of Human Capital

Proceeding to our second research question, correlation between innovativeness and Social and Human Capital are illustrated in figures 4 and 5. Based on our correlation analysis and when plotted in a scatter chart, Social & Human Capital does not seem to predict innovation at all.

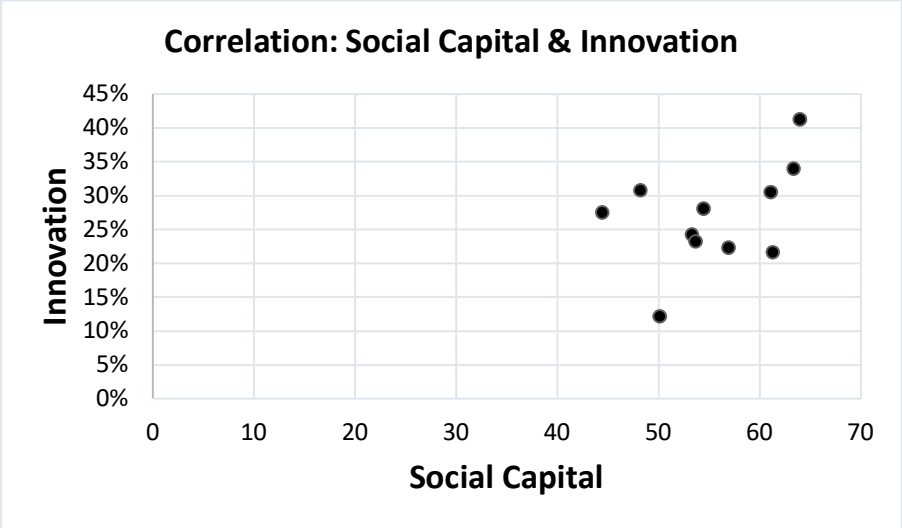

Figure 3 Innovation as a function of Social Capital

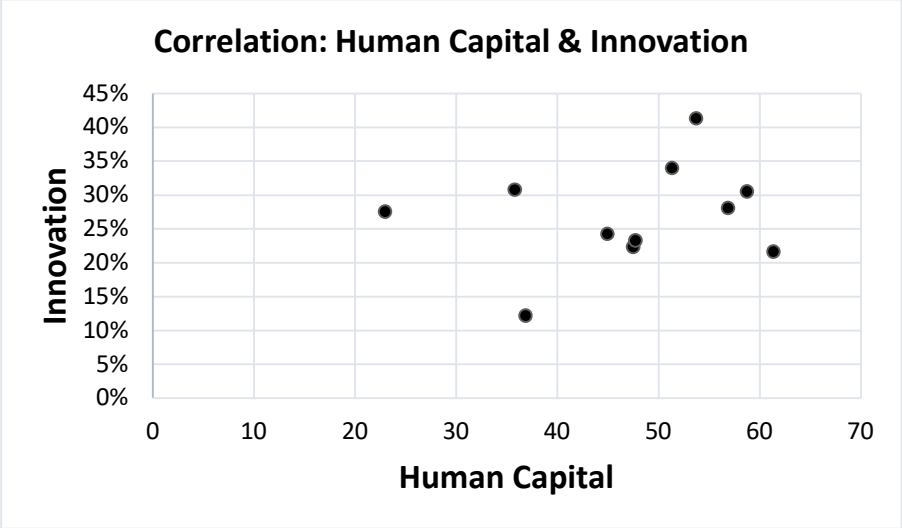

Figure 4 Innovation as a function of Human Capital

Supported by our correlation analysis, showing strong positive correlation between opportunity-based entrepreneurship and Social Capital, we can proceed to regression analysis shown on table 4 below.

Table 4 Regression analysis

Regression Statistics	
Multiple R	0,7930
R Square	0,6288
Adjusted R Square	0,5360
Standard Error	0,0121
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0,0020	0,0010	6,7765	**0,0190**
Residual	8	0,0012	0,0001		
Total	10	0,0031			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	**-0,1061**	0,0414	-2,5622	**0,0335**	-0,2017	-0,0106
Social Capital	**0,0027**	0,0012	2,2910	**0,0512**	0,0000	0,0054
Human Capital	**-0,0003**	0,0007	-0,5061	**0,6264**	-0,0018	0,0012

Our regression statistics show that 62,8% of the variation in opportunity-based entrepreneurship is explained by Social & Human Capital but the results are not statistically significant with P-values above 0,05 on both independent variables, Social and Human Capital.

As our correlation with opportunity entrepreneurship and Human Capital showed a curvilinear relationship, we ran the regression again without the Human Capital variable, enabling us to show statistically significant results in table 5 between opportunity-based entrepreneurship and Social Capital.

Table 5 Regression analysis, opportunity entrepreneurship & Social Capital

Regression Statistics	
Multiple R	0,7855
R Square	**0,6169**
Adjusted R Square	0,5744
Standard Error	0,0116
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0,0019	0,0019	14,4949	**0,0042**
Residual	9	0,0012	0,0001		
Total	10	0,0031			

	Coeffi-cients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	**-0,0935**	0,0317	-2,9507	**0,0162**	-0,1652	-0,0218
Social Capital	**0,0022**	0,0006	3,8072	**0,0042**	0,0009	0,0034

Based on our correlation and regression analysis above, our first hypothesis that Social Capital positively effect opportunity-based entrepreneurial intentions, is supported. For every unit increase in perceived Social Capital, opportunity-based entrepreneurial intentions increase by 0,0022, which is not a very high increase though.

Interpreting the regression analysis on Human Capital and opportunity-based entrepreneurship, our P-value test does not have sufficient significance level to confirm linear relationship between these two variables. Furthermore, when we ran a regression analysis between innovativeness and Social and Human Capital, we failed to achieve statistically significant results. Both significance F and P-value tests indicated that the regression were not strong. Hence, we must reject our third hypotheses and conclude that within the scope of our analysis, Social and Human Capital does not positively correlate with innovation.

Results are summarized in table 6 as follows.

Table 6 Results Summary

Hypothesis	*Result*	*Explanation*
H1: Social Capital positively affect the likelihood for starting opportunity-based entrepreneurial activity	*Supported*	*Statistically significant regression results*
H2: Human Capital positively affect starting opportunity-based entrepreneurial activity until a tipping point whereafter it starts to negatively affect it	*Rejected*	*Insignificant regression results.*
H3: Social and Human Capital positively affect innovation in opportunity-based early-stage companies	*Rejected*	*Insignificant regression results*

8. Findings Summary, Limitations and Discussion

In the concepts part, we concluded Social Capital as the support and confidence derived from social networks that encourage entrepreneurial action and opportunity capturing. The final conceptualization for Human Capital was described as the confidence and trust in one's own inner abilities and skills, hard and soft, to succeed in the workplace and in the market environment. These concepts carried us to through the literature review part on previous studies where we found numerous research evidence supporting our hypothesis that Social Capital positively effect entrepreneurial intentions. The evidence seemed to be unanimous on this, as no studies were found that Social Capital would discourage entrepreneurial intentions. Simultaneously, we discovered that Human Capital is such a wide concept that there are studies both in support of and against our suggested curvilinear or inverted U-curved relationship between Human Capital and entrepreneurial intentions.

In the empirical part of our thesis, we gathered data by World Bank and Global Entrepreneurship Monitor on Social and Human Capital across three continents; Europe, Middle East and North America, and run a correlation and a regression analysis to determine how these factors explain opportunity-based entrepreneurship and innovativeness in the same regions.

In search for answers on if Social and Human Capital positively effect entrepreneurial intentions and level of innovation in early-stage opportunity-based companies, we were able to find statistically significant evidence supporting our first hypothesis that Social Capital does positively affect entrepreneurial intentions. The evidence for Human Capital were not statistically significant, though our correlation analysis indicated that Human Capital could have a curvilinear relationship with entrepreneurial intentions. Moreover, we did not find statistically significant correlation between the level of innovation and Social or Human Capital in our set of data, so our third hypothesis that Social and Human Capital positively effect innovation was not supported.

Based on the findings of our thesis, we can answer to the set research problems as follows. Firstly, the level of one's Social Capital does positively affect entrepreneurial intentions and emergence of opportunity-based nascent entrepreneurship. Secondly, the level of one's Social

and Human Capital does not positively affect innovativeness within opportunity-based early-stage companies in our scope of study.

Our findings appear to be well aligned with previous studies with no disruptive results to the field of Social and Human Capital studies. In the proceedings, we will discuss limitations of our thesis and brainstorm further research topics on Social and Human Capital's implications on entrepreneurial activities.

The impacts of our thesis for a wider community are limited to the awareness level of Social and Human Capital concepts however, we do recognize the importance of the implications that especially Social Capital mark for entrepreneurial intentions and to entrepreneurship in general. For our readers, we hope to spark an interest for further studies on Social and Human Capital's effect on entrepreneurial intentions and on innovativeness.

Of course, there are no studies without limitations. We recognize a major limitation on our data which are from 2018 alone, notwithstanding timely differences in the perceived level of Social and Human Capital nor in the percentage of opportunity-based entrepreneurship levels. Therefore, the results driven from our thesis can be skewed in unexplained ways due to the possible differences in the market environment between 2018 and previous or later years. Additionally, the amount of data from The Middle East and North American regions are not sufficient to generalize findings on these continents.

Furthermore, our data did not properly distinguish different forms of Social Capital such as bonding or bridging Social Capital nor Human Capital as general or skill specific. Also, our thesis nor the data we used were tied to any specific industry and perhaps covered a too wide range of companies and industries that may skew our results to an unknown direction.

In addition, the level of innovation in our data did not distinguish between different forms of innovation such as combinatorial innovation, combining old products in a new way, and real innovation that are completely new solutions with potential for changing the whole market landscape and offsetting the current market balance.

For further research, it could be interesting to study if the level of Social and Human Capital have differences across industries and even within one industry across different markets.

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