

Innovation capital, sustainable entrepreneurial orientation, and the moderating role of entrepreneurial resilience

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ABSTRACT

Objective: The objective of the article is to know the nature of the relationship between creative capital as a positive personal touch capable of promoting sustainable entrepreneurial orientation (SEO). To increase the effectiveness of this orientation, I identified entrepreneurial resilience as an interactive variable.

Research Design & Methods: The SPSS macro process program was used to test the study hypotheses by adopting questionnaire forms. These forms were utilised as a tool to collect data from a group of managers of the Southern Oil Company in Iraq. The study distributed 345 forms and received 308 valid forms for analysis.

Findings: By testing a set of main and sub-hypotheses, the results showed the role of innovation capital in promoting sustainable entrepreneurial direction. This influence relationship increases with the presence of entrepreneurial resilience as an interactive variable.

Implications & Recommendations: The results show the importance of personality traits in creating a sustainable entrepreneurial orientation. Nevertheless, it is important to focus on personal traits such as openness and acceptance by others, which enhance social relationships, because these relationships are significant in attracting or marketing ideas related to the environment.

Contribution & Value Added: With the decline in the growth rates of countries and companies, especially with the Covid-19, it is expected that the rate of consumption of natural resources will increase. This increase helps to compensate for the losses and the decrease in profits. Thus, this study is important because it emphasizes the significance of production while maintaining principles of sustainability and requirements of preserving natural resources.

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INTRODUCTION

The global economic crisis of 2008 had a major impact on the financial and environmental system in which we live today. The economic and financial damage inflicted on many countries and organizations affected decision-makers' tendency to fulfill their obligations towards the environment. There was an attempt to compensate for these losses and achieve profits faster by increasing industrialization, which means higher consumption of natural resources that negatively affects environmental sustainability and community cohesion (Kraus, Burtscher, Vallaster, & Angerer, 2018). Now, the Covid-19 crisis is expected to have negative economic consequences on the growth rates of countries and companies. Besides the economic conflict occurring between the two largest economies in the world, China and the United States of America, caused negative consequences on the discourse and performance directed to promoting the concept and principles of sustainability because of pursuing rapid economic gains to offset losses and exploit opportunities instead of competitors (Pushpakumara, Atan, Khatibi,

Azam, & Tham, 2018). On this basis, this study seeks to prevent current and emerging companies from ignoring principles of sustainability – especially now – and to strengthen the discourse of commitment to principles of environmental sustainability. Moreover, the article aims to improve the strategic position of companies by integrating environmental and social goals and preventing ideas that promote costly environmental sustainability projects and reduced profits and expected productivity.

The achievement of financial returns and development of a productive process is not related to investors only. However, entrepreneurs have a major role in the process of development and success. Therefore, studying the value of environmental sustainability for entrepreneurs attracts more attention of researchers, especially with the increasing social awareness about the negative impact of such concepts as globalization, global warming, or soil and water pollution. Furthermore, the increase in the trend towards seizing any opportunity contributes to rapid and profitable production (Criado-Gomis, Cervera-Taulet, & Iniesta-Bonillo, 2018). Therefore, studying the concept of sustainable entrepreneurship has a strategic dimension in how to sustain investment in resources and activities (Habib, Bao, & Ilmudeen, 2020). However, there is still a knowledge gap in understanding how entrepreneurial organizations can develop opportunities that achieve sustainable development so they can be exploited to create new value for the society, the environment, and stakeholders. Calling researchers to study the entrepreneurial trend from an environmental perspective reflects the importance of this topic in achieving interconnection between material and immaterial values of stakeholders of organizations and societies (Pushpakumara *et al.*, 2018). For developing countries that undergo an economic transformation such as Iraq, the entrepreneurial orientation of sustainability can play a big role in shaping economic development in this direction. Therefore, we need more empirical research to confirm the importance of the sustainable entrepreneurial trend in establishing economic, social, and environmental values (Hernández-Perlines & Ibarra Cisneros, 2018).

Environmental complexity and constant change force entrepreneurs to provide innovative solutions capable of dealing with the challenges and requirements of sustainability. Therefore, we should study the causal relationship that enhances the ability of entrepreneurs as key innovators. Wu, Wang, Lee, Lin, and Guo (2019) and Habib *et al.* (2020) analyse the effect of personality traits on sustainable entrepreneurial orientation which represents part of the truth. A more comprehensive framework is required, which is what this study seeks to achieve by studying the effect of personal traits and social relationships in promoting sustainable entrepreneurial ideas. Keeping in mind the importance of this causal relationship, we should realize that adherence to environmental values means facing many obstacles and challenges, so it is vital to have the flexibility to adapt to these challenges (Hayward, Forster, Sarasvathy, & Fredrickson, 2010).

LITERATURE REVIEW

The revolution in awareness and thinking we now experience has a great impact on society and organizations today. Part of this awareness within the administrative context of decision-makers focuses on how to direct activities and events to achieve both profit and non-profit gains. The concept of sustainable entrepreneurial orientation is part of this awareness. Over two decades ago, Wiklund (1999) was the first to use the term sustainable entrepreneurship. However, Wiklund's interpretation of the concept concentrates on sustaining entrepreneurial performance in a way that enhances productivity and profitability, neglecting environmental or social impacts. With the passage of time, the notion of sustainable entrepreneurship was employed to reflect the development of awareness and way of thinking among stakeholders about how to achieve profitability gains and environmental sustainability together. Thus, scholars notice the importance of the role of entrepreneurship in solving environmental and social problems promoting sustainability principles of resources and profits (Kraus *et al.*, 2018; Thelken & de Jong, 2020; Onwe, Ogbo, & Ameh, 2020). With this large area of interest in the topic of sustainable entrepreneurial, researchers try to explain the concept of sustainable entrepreneurship in different terms, such as Green Entrepreneurial Orientation (Jiang, Chai, Shao, & Feng, 2018; Guo, Wang, & Chen, 2020), Eco-preneurship (Schaltegger, 2002), or Sustainopreneurship (Abrahamsson, 2007; Aghelie, Sorooshian, & Azizan, 2016). These discrepancies reveal the absence of an agreed theoretical framework in interpreting

the notion of sustainable entrepreneurship because each study was based on an interpretation of a specific theory according to study variables, sectors, and cultures in which the study was organized. This represents a knowledge gap that calls for deeper research to build a theoretical framework that could receive common recognition (Tilley & Young, 2009; Kraus *et al.*, 2018) based on stakeholder theory in approximating viewpoint as a strategic concept for entrepreneurship. Sustainable entrepreneurship seeks to achieve social and environmental gains. Solaja (2017), Pushpakumara *et al.* (2018), and Teles and Schachtebeck (2019) use ecological modernization theory to explain entrepreneurial sustainability within the structural dimension to create a trend that integrates environmental and economic activity within an integrated framework. They also manipulate other theories – such as game theory – to show how entrepreneurs influence the game of competition through the sustainability of environmental orientation (Pineiro-Chousa, Vizcaíno-González, & López-Cabarcos, 2016).

Most studies try to frame the concept of sustainable entrepreneurship orientation (SEO) on three main axes: environmental, social, and economic (Hernández-Perlines & Ibarra Cisneros, 2018). The concept of SEO was interpreted through the combination of environmental sustainability and entrepreneurial orientation of decision-makers. This combination was conducted in an innovative manner capable of achieving material and environmental gains while simultaneously enhancing the concept of social cohesion for stakeholders inside and outside organizations. This confirms that SEO is based on the commitment of individuals, organizations, and societies towards creating a qualitative shift in the importance of non-material gains alongside profitability and competition (Alfalih & Ragmoun, 2020; Guo *et al.*, 2020).

Creative capital is not analysed as an individual characteristic that explains a person's endeavour to gain support for ideas or successfully promote what they want. However, to the study of creative capital as a process can be developed over time to achieve success in creativity (Mention, 2012; Tanideh, 2013). This process is related to the development of a set of skills for the leadership and management of co-workers by introducing new and more creative ideas that answer the question: "Who are you? A creative person." However, creativity does not suffice unless the ideas are presented to others, who can then benefit from the ideas and experiences to enhance the creative process. This is the essence of human capital linked to success based on innovation (Gökhan & İlhan, 2017). In order to achieve the sustainability of creative orientation, we must have social capital to promote and enhance current and future ideas. The Social Capital Axis tries to answer the major question: "Who do you know?" The answer to this important question is to ensure the sustainability of the major source for the future ideas with the possibility to develop current ideas through knowing what others have in terms of skills and experiences necessary for creativity. To achieve the optimal investment in the concept of creative capital, we must answer another basic question: "What you know?" It is difficult to talk about creativity unless others accept those ideas and have a clear response from others to those innovations of goods or services (Yang & Kang, 2008; Wang, 2011). The ability to promote ideas is important in earning capital as a reputation that enhances one's future investments in attracting more important ideas and building a creative attitude (Aghion & Howitt, 2007; Kaszowska-Mojsa, 2020). This reflects the importance of social capital in creating a positive impression of oneself and ideas in such a way that reflects credibility in dealing with increasing personal success goals (Wu, Chen, & Chen, 2010). Furthermore, creativity capital depends on own ability to develop ideas from personal knowledge and experience. However, social relations have an important role in guiding ideas to serve personal aspirations and others. Moreover, the support that others can provide help to obtain new ideas and experiences, which are what social capital does by trying to answer the basic question: "How to receive support from others?" (Chin, Lee, Kleinman, & Chen, 2006; Chang & Hsieh, 2011).

Innovation capital and entrepreneurial orientation are essential components of successful organizational performance and renewal. This means socialization plays a role in building an organizational culture capable of dealing with entrepreneurship as a process based on seizing and investing in opportunities. This kind of social connection must be creative in order to build a successful entrepreneurial trend, with rapid changes and increasing complexity, getting opportunities and ideas based on cooperative effort besides individual effort (Głodowska, Maciejewski, & Wach, 2019; Nascimento & Salazar, 2020; Wach, Głodowska, & Maciejewski, 2018). This importance increases with

the development of life and the emergence of recent issues that affect reality. The problem of environmental sustainability is one of the most important issues in the twenty-first century that emerged with the increase of social and governmental awareness and their quest for a clean environment – free of pollution – and the sustainability of environmental resources. The entrepreneurs' success in seizing such entrepreneurial opportunities is important to have social relations with stakeholders in a way that enables them to seize sustainable entrepreneurial opportunities and to ensure a major source of ideas related to sustainability in which one may invest. This investment is the focus of creativity capital (Boudreaux & Nikolaev, 2019; Prasetyo & Kistanti, 2020), which means that this effect can improve the ability of entrepreneurs to obtain good opportunities and reduce failure rates when seeking an innovative approach by discovering and exploiting opportunities that address environmental and social issues (Manev, Gyoshev, & Manolova, 2005). Thus, I propose the following hypotheses:

- H1:** Innovation capital has a positive influence on sustainable entrepreneurial orientation.
- H2:** Intellectual property has a positive influence on sustainable entrepreneurial orientation.
- H3:** Intangible assets have a positive influence on sustainable entrepreneurial orientation.

Recent years have seen marked interest in the concept of entrepreneurial resilience. However, until now, there is no commonly agreed concept of entrepreneurial resilience, which reflects the need for a deeper understanding of this topic, especially with the increase in complexity and dynamism of change, which means growing interest in entrepreneurial resilience at three levels: individual, organizational, and social (Fatoki, 2018). Researchers differ in interpretations and analyses of resilience. Some argue that it is a psychological state related to a person who differs from others, and they try to explain this predicament with the theory of traits. Others enhance the understanding of entrepreneurial resilience as a process based on a set of variables present within the economic, social, and even psychological context. This disparity in interpretation results from the contexts in which the subject of flexibility and cultural differences was tested (Leskinen, 2011). This study's viewpoint is that it is difficult to separate entrepreneurial resilience as an attribute or process as the former complements the latter, and vice versa. The reason for this is that we cannot explain the ability of the entrepreneur to respond to pressures and complexities unless people are open to new ideas and capable of overcoming failures and complexity (Sun, Buys, Wang, & Stewart, 2011). Some studies focus on understanding entrepreneurial resilience in how to get out of difficult negative circumstances such as stagnation or organizational disorders. Moreover, they concentrate more on psychological characteristics to explain how to control oneself and face complications, while other studies stress the importance of understanding entrepreneurial resilience as a strategic characteristic that can be relied upon in seizing opportunities, ability to innovate, and direct goals (Bullough & Renko, 2013; Evans & Wall, 2020). Entrepreneurial resilience does not only represent a response to pressures and environmental variables. Rather, it adapts according to a future vision that achieves strategic goals through perseverance and willingness to learn and respond to all risks in a calculated manner. It represents a complex structure that is affected by a set of internal or external variables and personal abilities to face failures (Corner, Singh, & Pavlovich, 2017). These factors are dynamic and develop over time. This type of flexibility explains how to respond to economic and social variables to solve current problems in a manner based on self-confidence with a future vision. The nature of entrepreneurial flexibility may require a change in strategy, meaning that this type of response that does not impose a single course of action for success. According to Hayward *et al.* (2010), this type of resilience is an evolving process linked to the concept of "thought-action repertoires," which has a positive effect by creating a rapid response to changes based on emotional, cognitive, and social resources. Furthermore, entrepreneurial pursuit aims to achieve strategic goals in which personal capabilities and social relationships are the infrastructures to face uncertainty and risk. Entrepreneurial resilience can have a strategic role in promoting long-term commitments to social and environmental issues (Leskinen, 2011; Corner *et al.*, 2017). This is by focusing on stimulating investment in social relations and personal capabilities according to the challenges that can be faced, with a positive view of complexities as opportunities that can be adapted better, especially with

environmental problems and their complexities (Wu *et al.*, 2019; Santoro, Messeni-Petruzzelli, & Del Giudice, 2020). Thus, I propose the following hypotheses:

- H2:** Entrepreneurial resilience acts as a moderating variable between innovation capital and SEO.
- Ha2:** Entrepreneurial resilience acts as a moderating variable between intellectual property and SEO.
- Hb2:** Entrepreneurial resilience acts as a moderating variable between intangible assets and SEO.

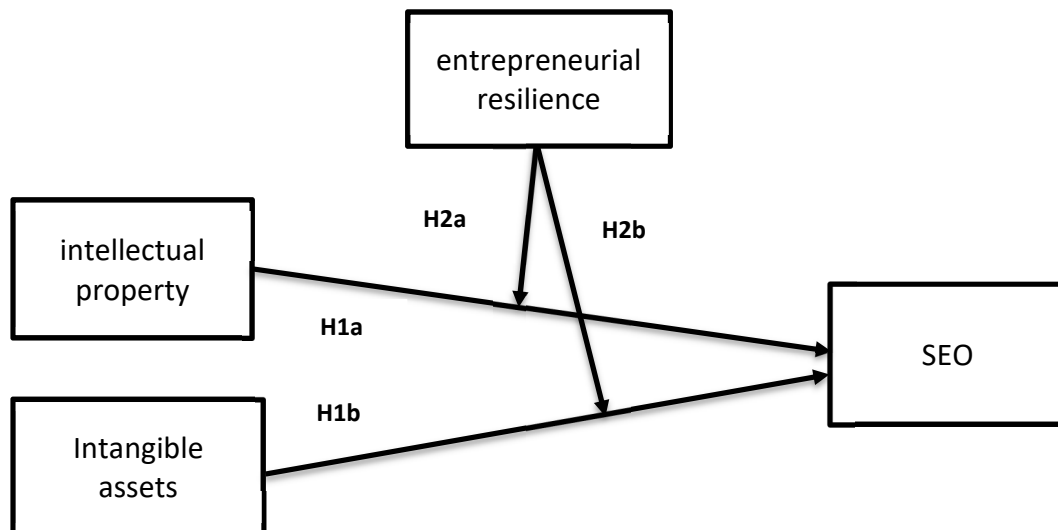


Figure 1. The hypothesized model of processes linking sustainable entrepreneurial orientation and innovation capital, moderated by entrepreneurial resilience

Source: own elaboration.

RESEARCH METHODOLOGY

Measurement

SEO. There are several metrics used to measure the sustainable entrepreneurial variable such as the Bacq and Janssen (2011) scale, the Avery and Bergsteiner (2011) scale, and finally, the Parrish and Tilley's (2010) SEO scale. The current study employed the Bacq and Janssen as it is more common and provides more comprehensive dimensions in relation to the environment and society. This scale comprises nine items and the responses are categorized into five levels.

Innovation Capital. Several measures are designed to explain the variable of creative capital, most notably the Andersson and Åstrand (2011) scale or the Furr, Dyer, and Lefrandt (2019) scale. Most of the adopted standards attempt to explain the innovation capital variable through two sub-dimensions: intellectual property and intangible assets, according to McElroy's (2002) classification for interpreting innovation capital. In this work, we used the Furr *et al.* (2019) scale, because it is the most recent and comprehensive measure of the innovation capital variable. The intellectual property sub-dimension was measured with four items and – after intangible assets – with four items as well.

Entrepreneurial Resilience. Among the most popular measures of entrepreneurial resilience is the Connor-Davidson's scale. Its main purpose is to verify the ability to deal with stress during a change process. Connor-Davidson developed this scale in 2003 to be more comprehensive in measuring individual characteristics of optimism and belief in goals. I adopted this scale in this study to measure entrepreneurial flexibility with a five-point scale comprising 10 items.

Sampling and data collection

The population of the current study was the oil extraction sector. The reason for that was that this sector causes major environmental problems due to gas emissions and soil pollution (Wach, Głodowska, Maciejewski, & Sieja, 2021). The sample of the study was the department and divisional managers

in the Southern Oil Company in Iraq, which used quantitative approach. The data were collected through a questionnaire, whose forms (350) were distributed to department managers. The number of retrieved forms was 321 at a rate of (91.7%) of the total distributed forms. Furthermore, 13 forms were not valid for analysis (14.1%) and were excluded. The final number of valid forms for analysis was 308 which made 95.9% of the original forms retrieved. Table 1 below shows information about the study sample.

Table 1. Demographic information and response rate

Category	Characteristic	Frequency	Percentage (%)
Gender	Male	222	72.1
	Female	86	27.9
Age	Below 30	61	19.8
	31-40 years	96	31.2
	41-50 years	93	30.2
	More than 50 years	58	18.8
Tenure of respondents	<5 years	48	16
	6-10 years	63	20
	11-15 years	83	27
	16-20 years	74	24
	More than 20 years	40	13
Educational level	Diploma	57	19
	Bachelor's degree	179	58
	Master's or PhD	72	23

Source: own study.

Assessment of the study measurement model

It is important to verify the reliability of each component of the scale as a first step towards testing the study hypotheses. Table 2 shows the results of the reliability tests with Cronbach's alpha and McDonald's omega. The tests were within acceptable limits (α ; Omega: $p > 0.70$). Moreover, the average variance extracted (AVE) had to be greater than (0.5; Fornell & Larcker, 1981; Hair, Black, Babin, & Anderson, 2010). Table 2 shows the high reliability of the results of the analysis.

Table 2. Confirmatory factor analysis and reliability

Variable	Items	Factor Loading	McDonald's Omega	Cronbach's α	AVE
Sustainable Entrepreneurship Orientation (SEO)	SEO1	0.901***	0.943	0.801	0.650
	SEO2	0.791***			
	SEO3	0.821***			
	SEO4	0.838***			
	SEO5	0.784***			
	SEO6	0.766***			
	SEO7	0.807***			
	SEO8	0.759***			
	SEO9	0.781***			
Intellectual Property (IPP)	IP1	0.823***	0.871	0.863	0.630
	IP2	0.861***			
	IP3	0.698***			
	IP4	0.784***			
Intangible Assets (IAA)	IA1	0.892***	0.883	0.847	0.657
	IA2	0.867***			
	IA3	0.781***			
	IA4	0.688***			

Variable	Items	Factor Loading	McDonald's Omega	Cronbach's α	AVE
Entrepreneurial Resilience (ERR)	ER1	0.752***	0.944	0.869	0.633
	ER2	0.803***			
	ER3	0.834***			
	ER4	0.672***			
	ER5	0.879***			
	ER6	0.854***			
	ER7	0.733***			
	ER8	0.874***			
	ER9	0.658***			
	ER10	0.859***			

Note: n= 308 *** = $p \leq 0.001$; ** = $p \leq 0.01$; * = $p \leq 0.05$. Abbreviations: AVE – average variance extracted; SEO – Sustainable Entrepreneurship Orientation; IPP – intellectual property; IAA – intangible assets; ERR – entrepreneurial resilience. Source: own study.

The discriminant validity test was performed as shown in Table 3. This test revealed that there was a discriminant validity between the combinations of the hypothesis model and the sub-dimensions. This showed the reliability of the entire study scale to test the hypotheses. Moreover, the correlation matrix shows the existence of a positive and significant correlation ($p < 0.01$) between the study variables (entrepreneurial resilience, SEO and innovation capital).

Table 3. Correlations matrix and discriminant validity

Variable	Minimum	Maximum	Mean	Std. Deviation	1	2	3	4	5
IPP	1.00	5.00	2.302	1.174	0.793				
IAA	1.00	5.00	1.948	1.207	0.156**	0.810			
SEO	1.00	5.00	2.227	1.002	0.199**	0.603**	0.806		
ERR	1.00	5.00	2.575	1.112	0.009	0.510**	0.505**	0.795	
ICC	1.00	4.88	2.332	0.858	0.504**	0.531**	0.452**	0.288**	0.801

Note: n = 308; *** = $p \leq 0.01$. Abbreviations: ERR – entrepreneurial resilience; SEO – sustainable entrepreneurship orientation; ICC – innovation capital; IAA – intangible assets; IPP – intellectual property; **in bold** – square root of AVE value. Source: own study.

Overall Fit of the Model

To verify the quality of conformity to the scale, exploratory factor analysis was performed through three main models. The first was loaded: entrepreneurial resilience, SEO, and innovation capital within one latent variable. In the second model, entrepreneurial resilience and innovation capital were placed within a single measurement model, and the results show a better fit than the individual model. Finally, the results of the third model comprise three factors that have a better fit compared to the other models ($\chi^2/df = 0.981$; GFI = 0.889; RMSEA = 0.067; NFI = 0.972; TLI = 0.983; SRMR = 0.043). This means all the indicators are within the limits of acceptability (Miles & Shevlin, 1998; Hu & Bentler, 1999; Hoyle, 2000; Kline, 2011), as presented in Table 4 below:

Table 4. Confirmatory Factor Analysis for model fit indices

Models	χ^2/df	RMSEA	TLI	SRMR	CFI	GFI	NFI
Model 1	51.08	0.073	0.452	0.091	0.487	0.531	0.711
Model 2	4.79	0.381	0.760	0.150	0.613	0.764	0.838
Model 3	1.982	0.067	0.983	0.043	0.954	0.889	0.972
Thresholds	≤ 3	< 0.08	$0.95 >$	≤ 0.08	$0.95 >$	$0.95 >$	$0.95 >$

Abbreviations: NFI – normed fit index; SRMR – standardised root mean square residual; TLI – Tucker-Lewis index; RMSEA – root mean square error of approximation; CFI – Comparative fit index; χ^2/df – normed chi-square statistic; GFI – goodness-of-fit statistic. Source: own elaboration in Amos.

Hypothesis Testing

Table 5 below indicates that there is a significant effect of the independent variable of innovation capital and its sub-variables on SEO (H1; H1a; H1b: $p < .01$).

Table 5. Test of H1, H1a, and H1b

H1	β	S.E	t (p)	Supported
SEO <--- ICC	0.452	0.060	8.853***	yes
Model summary	R²	mse	F	p
	0.203	0.802	78.38	***
H1a	β	S.E	t (p)	Supported
<--- IPP SEO	0.199	0.048	3.554***	yes
Model summary	R²	mse	F	p
	0.040	0.967	12.629	***
H1b	β	S.E	t (p)	Supported
SEO <--- IAA	0.603	0.038	13.206***	yes
Model summary	R²	mse	F	p
	0.363	0.641	174.394	***

Note: n = 308; *** = $p \leq 0.01$; ** = $p \leq 0.05$. Abbreviations: ERR – entrepreneurial resilience; t – calculated value of t; β – standardized regression coefficient; SEO – sustainable entrepreneurship orientation; ICC – innovation capital; IAA – intangible assets; MSE – mean squared error; IPP – intellectual property; R² = R – squared or coefficient of determination. Source: own elaboration in SPSS.

Using the Johnson-Neyman technique, the hypothesis H2 about the effect of entrepreneurial resilience is tested as an interactive variable between innovation capital and SEO, as shown in Table 6. According to the results, there is a significant effect of the relationship (H2: $p < 0.01$). Moreover, regarding the testing of sub-hypotheses, the results showed the significance of the positive effect entrepreneurial resilience acts as a moderating variable (H2a: $p < 0.01$; H2b: $p < 0.05$) using SPSS macro process.

Table 6. Test of H2, H2a, and H2b

Moderation model summary	R	R ²	mse	F (p)	R ² -chang	Result
	0.6281	0.3945	0.6137	66.0183***	0.0369	Supported
Hypotheses 2	β	Se	t(p)	LLCI	ULCI	
SEO <--- ICC	0.3266	0.0563	5.7962***	0.2157	0.4375	
SEO <--- REE	0.3681	0.0420	8.7625***	0.2854	0.4507	
SEO <--- REE*ICC	0.1955	0.0454	4.3049***	0.1061	0.2848	
Moderation model summary	R	R²	mse	F (p)	R²-chang	Result
	0.5494	0.3018	0.7076	43.8014***	0.0085	Supported
Hypotheses 2a	β	Se	t(p)	LLCI	ULCI	
SEO <--- IPP	0.1609	0.0410	3.9250***	0.0802	0.2416	
SEO <--- REE	0.4504	0.0432	10.4174***	0.3653	0.5355	
SEO <--- REE*IPP	0.0718	0.0364	1.9725**	0.0017	0.1414	
Moderation model summary	R	R²	mse	F (p)	R²-chang	Result
	0.6747	0.4552	0.5522	84.6553***	0.0392	Supported
Hypotheses 2b	β	se	t(p)	LLCI	ULCI	
SEO <--- IAA	0.2756	0.0473	5.8284***	0.1825	0.3686	
SEO <--- REE	0.2625	0.0446	5.8858***	0.1748	0.3503	
SEO <--- REE*IAA	0.1585	0.0339	4.6755***	0.0918	0.2252	

Note: n = 308; *** = $p \leq 0.01$; ** = $p \leq 0.05$. Abbreviations: ERR – entrepreneurial resilience; IPP – intellectual property; t – calculated value of t; β – standardized regression coefficient; ICC – innovation capital; IAA – intangible assets; MSE – mean squared error; R² = R – squared or coefficient of determination; SEO – sustainable entrepreneurship orientation. Source: own elaboration in SPSS software.

CONCLUSIONS

The study allowed me to build a conceptual model that tests the relationship between innovation capital and sustainable entrepreneurship orientation, with entrepreneurial resilience as an interactive variable, within the oil sector in the Iraqi environment. The results of Table 5 indicate the significant effect of the creative capital variable on sustainable entrepreneurial orientation ($\beta = .452$; $t = 8.853$; $p\text{-value} \leq .01$). Moreover, the results of the H1 test agree with those of previous studies (Santoro *et al.*, 2020; Nascimento & Salazar, 2020; Guo *et al.*, 2020) in terms of the influence of some personality traits on entrepreneurial orientation. Jonason and Webster (2010) find that results show the effect of some negative personality traits on self-abilities when adopting a long-term commitment. The current study is a continuation of Jonason's and Webster's (2010) study, as it identifies the effect of some positive personality traits on the possibility of creating a long-term positive trend towards the environment and society. The state of uncertainty and the probability of failure motivates the entrepreneur to adopt more complex and long-term goals. Thus, there is a need for a degree of flexibility that achieves a faster response to environmental conditions and variables. In the field of entrepreneurship, it is difficult for an entrepreneur to fulfil the requirements of renewal so as to move from traditional economy to an economy based on environmental sustainability, unless there is sufficient resilience to help entrepreneurs to realize the value of creative ideas that contribute to achieving the optimal exploitation of environmental opportunities (Duchek, 2018). Table 6 above tests the impact hypothesis of entrepreneurial resilience as an interactive variable between creative capital and sustainable entrepreneurial orientation (H2: $R^2 = .3945$; $F = 66.0183$; $p\text{-value} \leq .01$). Investing in innovation has become part of the culture of senior management to achieve success and is an important capital to promote a sustainable entrepreneurial trend, as shown by the results of the hypothesis test (H1; H1a; h1b). Innovation is an important approach to creating value through searching for new ideas and influential social relations for entrepreneurial activity, especially environmental sustainability requirements. These environmental, economic, and social challenges must have psychological resilience capable of the problems and complexities solved by responding in an appropriate and rapid manner. The essence of entrepreneurial activity is innovation. The focus still lies in achieving material gains and searching for the shortest way to achieve profits. This focus has negative consequences on the economic environment. This might be a cause for future studies to search for a more comprehensive indicator that considers both financial and environmental performances when studying the sustainable entrepreneurial orientation. This approach agrees with Hernandez-Perlines and Cisneros (2018), who call for focus on improving financial performance by reducing operational costs and the consumption of resources. Thus, I recommend that future studies conduct longitudinal studies to measure the effectiveness of the sustainable entrepreneurial orientation before and after Covid-19 so as to learn the impact of this crisis on the Iraqi environmental reality.

The limitation of this study lies in approaching sustainable entrepreneurship from the viewpoint of senior management. Future studies should search for a more comprehensive multi-level framework from the perspective of senior management, employees, and beneficiaries of the product or service provided. This study focused on the quantitative approach, while future studies could adopt the mixed methods approach in analysing and interpreting the creative capital and entrepreneurship.

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Conflict of Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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