

THE IMPACT OF CORPORATE ENTREPRENEURSHIP ON THE PERFORMANCE OF JORDANIAN TELECOM CORPORATES

Mohammad Suleiman Awwad

Professor of Business and Marketing, PhD.

Mutah University. Business School.

awwad@mutah.edu.jo

Abdullah Aref Abu-Karaki

Engineer, Zain Telecom Company

abdullah.abukaraki@gmail.com

ABSTRACT

The Telecom sector in Jordan is highly competitive in a way that affects the performance of firms working in this sector, many solutions were provided to enhance performance, but corporate entrepreneurship as a solution to significantly improve performance still not have fully adopted, that is why this research was carried to highlight the importance of such concept to improve performance. This research was aimed at determining the impact of corporate entrepreneurship dimensions (innovation, risk-taking, proactiveness, competitive aggressiveness, and autonomy) on the performance of Jordanian telecom corporates in Jordan. Data were collected from 39 telecom corporates in Jordan. The questionnaires entail assessing the degree of corporate entrepreneurship in relation to the performance of telecom corporates in Jordan. SmartPLS 2.0 Statistical program was used to conduct descriptive and inferential statistics. The findings of the research indicated that corporate entrepreneurship dimensions (innovation, risk-taking, proactiveness, and competitive aggressiveness) positively affect the performance of Jordanian telecom corporates except for the autonomy dimension.

Key words: Corporate Entrepreneurship, Performance, Balanced Score Card, Jordanian telecom corporates.

Introduction

Human communication wants are constantly changing over time, and the major driving force of this change was the development of communication systems across the world. Mobile telecom has emerged as a crucial tool for driving technological growth, it is truly described how people can communicate and interact on daily basis (Sharma, 2012). The biggest challenge facing telecom corporates is no longer simply to connect people; it became the struggle for survival. Corporates that do not adopt huge technological developments will lose, and those who will not adopt innovation will not be able to provide their customers with what they want. Telecom corporates need extraordinary efforts to renew their operations and services offered to customers (Berkhout and Van Der Duin, 2007).

The Telecom sector is one of the most dynamic industries that keeps evolving, especially with the shift of their customers wants the internet heavily created. In addition to that, the competition is very tense as each corporate want to increase its share of the market, that is why telecom sector corporates considered being among the largest corporates that seek innovation. Organizations need to be unique; they must ensure that their product or services are innovative to achieve sustainable competitive advantage (Plessis, 2007). Nonetheless, the Jordan market is a hot area for competition with 3 operators who are trying to provide 10 million customers with connection service and 45 telecom services providers that also try to provide those three operators and other corporates with innovative distinguished products and services. That is why it is a hot area for

innovation as these operators are adopting corporate entrepreneurship to steer their wheel of innovation and for these exact reasons, we are taking the Jordanian telecom sector as our research sample.

Adopting modern technology in the telecom sector (i.e., 5G) gives a true competitive advantage but requires very high capital investment from preparing the infrastructure and licensing. On the other hand, corporates must focus on their organizations structure so it can create supportive environments with administrative skills and abilities to define, evaluate, and prioritize opportunities and implement ideas that assure improvement (Hornsby, Kuratko and Zahra, 2002). Telecom service corporates are competing to distinguish themselves so customers can adapt their services and products, especially when the three main operators are shifting some of their investments toward creating some of the services the corporates provide to shorten the supply chain, that is why they need to create new products and services, and that is why they need to invest in corporate entrepreneurship.

A broad overview to the Jordanian market indicates that there are challenges due to lack of natural resources, leading the focus on ICT sector (Information and Communication Technology). His Majesty King Abdullah II at the world economic forum 2015 said "Today, Jordan's gateway has become a conductor for innovation", but unfortunately a lot of corporates are depending on individual innovation directions leading to a less effective impactive efforts. Corporates argue that the solution here is to enhance their performance and to use their resources more efficiently through encouraging

corporate entrepreneurship. Although the term of entrepreneurship has been vastly studied in the past two centuries, it is not practically used by many corporates because of no firm evidence that it positively enhances their performance.

Although there are, several studies related to corporate entrepreneurship and its impact on firm performance, most of these studies were conducted in developed countries, where the literature is lacking on corporate entrepreneurship in the context of emerging markets (Demirkan, Yang, and Jiang, 2019). The researchers found, after an extensive review of previous studies, only two studies were conducted in Jordanian telecom companies which aimed to test the impact of entrepreneurship on strategic capabilities (Al-Lozi, 2017) and competitive Advantages (Al-Sakarnah, 2008). This research is among the few who analyzed the effect of corporate entrepreneurship on the corporate's performance using a balanced scorecard as the dependent variable, instead of the financial performance as many studies did, which provides a short term and long-term indicators of how corporate entrepreneurship impact the performance. This research will provide a benchmark for government in Jordan to refer when they need to promote innovation in Jordan by providing our results through other sectors.

Based on the above, the researchers aim to find the effect of corporate entrepreneurship on the performance of telecom corporates. In other words, this research tries to answer the following question: What is the effect of corporate entrepreneurship dimensions (innovation, risk taking, proactiveness, competitive aggressiveness and autonomy) on the

Jordanian telecom corporates' performance?

Theoretical Background

Corporate Entrepreneurship.

Entrepreneurship is the process of designing, launching, and running a startup corporate that offers a product, service, or process. Entrepreneurship can be expressed as the creation of innovative businesses, while when it is related to corporates can mainly focus on entrepreneurial behavior within existing organizations. The most common term used to describe the phenomenon of entrepreneurship in established businesses and corporations is corporate entrepreneurship (Kolaković, Sisek, and Milovanović, 2008; Antoncic and Hisrich, 2004; Zehir, Müceldili and Zehir, 2012; Covin, and Slevin, 1991; Wood and Michalisin, 2010; Zahra and Garvis, 2000). Corporate entrepreneurship is intimately explained by innovation and change. It guides organizations to withstand and cope with sudden events and challenges in a way that might affect the strategy and structure of the whole organization (McFadzean, O'Loughlin, and Shaw, 2005).

Corporate entrepreneurship has many definitions and terms with no universally accepted definition (Antoncic and Hisrich, 2004). Several terms used to represent this concept, for example, corporate venturing, intra-corporate entrepreneurship, internal corporate entrepreneurship (Demirkan *et al.*, 2019; Popowska, 2020). For this research, we will use the most common term, which is corporate entrepreneurship (CE). The entrepreneurship concept can be related to the corporate's resource-based view (Barney, 1991), which refers to

dynamic capabilities as viable tools to enhance existing processes to build long-term competitive advantage. Lumpkin and Dess (2001) also describe corporate entrepreneurship as the process of creating a new organization, or prompt renewal in cooperation with an existing organization. Entrepreneurship in all corporates involves innovative processes in resources, customers, markets, or a new set of resources, customers, and markets, thus being defined as the total effort of corporates in innovation and venturing efforts (Bhardwaj, Sushil and Momaya, 2011).

Corporate entrepreneurship's goal is to enhance profitability and competitive position, through innovative managerial processes by redefining products or services, or by developing markets, whereby the innovative managerial processes and activities could be formal or informal (Zahra and Garvis, 2000). Corporates differ when it has come to corporate entrepreneurship intensity due to internal and external factors (Kuratko, Hornsby, and Goldsby, 2007; Covin and Slevin, 1991). Academically, we can distinguish corporates from highly conservative to highly entrepreneurial (Antoncic and Hisrich, 2004) by observing measurable dimensions of corporate entrepreneurship, namely corporate entrepreneurship influencing factors.

There are many efforts to investigate corporate entrepreneurship and the factors leading to it. However, no agreement has been reached on this concept and its dimensionality, which has been the subject of extensive discussion within entrepreneurship literature (Ziyae and Sadeghi, 2021). Zahra and Covin (1995)

argued that corporate entrepreneurship determining factors are venturing, innovation and self-renewal. Lumpkin and Dess (1996) explained that corporate entrepreneurship could be known by five major factors, which are innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness. Coccia (2016) indicates that a company is considered adopting entrepreneurship when it takes innovative actions and bold risks, seizes opportunities, and operates faster than its competitors. Orobia, Tusiime, Mwesigwa and Sekiziyivu (2020) considered a firm as entrepreneurial when it possesses such characteristics as innovativeness, risk-taking, and proactiveness. Ziyae and Sadeghi (2021) and Eze (2018) adopted innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy as the most well-known dimensions of corporate entrepreneurship. Accordingly, the current study uses innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy to characterize corporate entrepreneurship.

Innovativeness is the ability of the corporate to generating new ideas; it is typically the introduction of new products and services. The introduction of new products and services includes product-line extensions, new platform development, and new business development (Zehir *et al.*, 2012). Innovativeness is the enterprise's ability to generate new supplies, introduce marketplaces, procedures, and techniques (Cakar and Erturk, 2010; Aktan and Bulut, 2008). Innovation contributes to a firm's success and determines the degree to which it is considered creative and innovative (Coccia, 2016; Acs, Audretsch, Lehmann and Licht, 2016).

Proactiveness is the corporate ability to adjust and alter situations, anticipate future implications, and being opportunistic (Sanchez-Gutierrez, Cabanelas, Lampon and Gonzalez-Alvarado, 2019), a continuous search for new market possibilities and opportunities (Gomez el and Rangus, 2018), struggle aggressively by way of instigating audaciousness (Coccia and Watts, 2020). Corporates that are highly proactive typically are constantly seeking new opportunities by correctly predicting and acting on the future needs of their desired segment (Kolaković *et al.*, 2008). The proactiveness dimension can be explained as a corporate's ability to take initiatives and acting ahead of competitors to predict and forecast future events which enable opportunity taking (Covin and Slevin, 1991).

Risk-taking is defined as the degree to which a firm is willing to take actions that have a possibility of risks to pursue opportunities (Kolaković *et al.*, 2008), venturing into unknown projects with little or no guarantee of success (Davidsson, 2015), taking decisions that are characterized by uncertainty, and operating within vague and unsure environments (Cowling and Lee, 2017). Firms that act boldly in relation to the possibility of high risks are described as risk-taker. It is one of the defining factors for the level of entrepreneurship firms have. Uncertainty though can be reduced through the knowledge and the technology the organization has, so it can be ready for any opportunity they face (Ireland, Kuratko and Morris, 2006).

Competitive aggressiveness is behavior by which organizations reacting aggressively to competitive trends and demands

(Lumpkin and Dess, 2001; Kang, Matusik, Kim and Phillips, 2016), successfully penetrate new markets (Barreto and Patient, 2013), willingness to overcome and dominate rivals in the markets (Werthes, Mauer and Brettel, 2018), strategies in response to challenging changes in the marketplace to survive, can be in the form of a price war, producing superior products, exploitation of information (Hussain, Ismail and Akhtar, 2015), or adoption non-conventional methods of competition (Lumpkin and Dess, 1996).

Autonomy refers to the freedom granted to employees or a group of employees to take initiatives to explore and exploit identified opportunities (Lumpkin, Cogliser, and Schneider, 2009). Autonomy can be defined as managers' commitment to tolerate failure, with the ability to give decisions easily (Ireland *et al.*, 2006). It is the self-devotion from employees toward improvement; it is the ability of managers to make fast decisions toward new opportunities (De Winnaar and Scholtz, 2019). Autonomy makes it easy for employees of the organization to come up with innovative ideas with the knowledge that they will be supported for this kind of risk. Lumpkin *et al.* (2009) considered autonomy as the driving character of corporate entrepreneurship.

Corporate Performance

Historically, organizations were measuring their performance depending on financial measures which were valid tools in the short-term, but it excluded an important factor that has the strongest impact on the performance. Kaplan and Norton (2001) presented the balanced scorecard, as a model that can translate the corporate

strategy and vision into a set of performance measures. According to Gumbus and Lussier (2006), the Balance scorecard is not restricted to large corporates, as it can also be used in small businesses depending on the employee's cooperation to reach their organization's goals. The model shows the organizational performance from four perspectives: customer perspective, financial perspective, internal business perspective, and learning and growth perspective.

Customer perspective: Kaplan and Norton (2001) presented this perspective the first time, only from the customer point of view. Michalska (2005) showed that the effectiveness of corporates is related to all on-hand sources of financial success, such as the satisfaction of their customers and their position in the market. In fact, this perspective should respond to the question: "How should the firm be seen by customers?". Customers most of the time concentrate on four things when it comes to products and services offered by corporates which are: time, quality, performance and service, and cost. Thus, Corporates must align their strategies and goals with these four elements and deliver appropriate performance measures from them (Kaplan and Norton, 2001).

The *internal business perspective* concentrates on the processes and activities the corporate used to deliver value for their customers. Improving internal processes means enhancing the provided service and products, which means enhancing the corporate performance. It reflects managers' point of view on the corporate internal processes (Creamer and Freund, 2010), and what processes they should adapt to improve the corporate

performance. Managers need to focus on the corporate processes if they need to reach success (Kaplan and Norton, 2001).

The *learning and growth perspective* can be seen from three dimensions: people, systems, and organizational procedures. It is a corporates' readiness toward new challenges, new market change, and its ability to line new technologies in the market (Kaplan and Norton, 2001).

The *financial perspective* is a broader indicator of performance (Zain and Hassan, 2007; Zahra and Covin, 1995). Financial information is the most obvious and related information among the other measurement dimensions of performance. A firm's performance has different dimensions by nature (Aktan and Bulut, 2008). It is the capability of corporates to gain revenues within a specific time limit. Kaplan and Norton (2001) indicated that we can measure financial performance using the data output from accounting depending on past values which are referred to as traditional measures (return on assets, return on investment, and operating income) and on the measures that are related to market (value-added approaches) which are based on valuation principles.

Hypotheses Development

Antonic and Hisrich (2004) argue that the probability of growth of firms with organizational structures and values favorable to entrepreneurship activities is higher than those with weak characteristics. Several researchers revealed a significant positive relationship between corporate entrepreneurship and business performance (Ziyae and Sadeghi, 2021; Ahmed, Umrani, Zaman, Rajput and Aziz, 2020; Akbari,

Sakhdari and Danesh, 2020; Akbari, Danesh, Dolatshah and Khosravani, 2019; Fis and Cetindamar, 2019; Lee, Chong and Ramayah, 2019; Eze, 2018; Serai, Johl and Marimuthu, 2017; Bierwerth, Schwens, Isidor and Kabst, 2015). They state that entrepreneurship can improve the financial and commercial performance of an organization by creating additional value for shareholders. Entrepreneurs contribute to improving the performance of organization by increasing proactivity and willingness to take risks through innovation in the form of products, processes, and services. Entrepreneurship would thus add another dimension through the creation of knowledge and the development of new skills that help create a sustainable competitive advantage.

Innovativeness and corporate performance

Innovation is one of the most important components for effective firm performance (Zahra, Ireland and Hitt, 2000). Several previous studies indicated to a positive relationship between innovativeness and performance (Knowles, Hansen and Shook, 2008; Crespell and Hansen, 2008). Reinventing products to produce profits are the essence of innovation (Venter, Rwigema and Urban, 2008). Innovativeness allows organizations to constantly evaluate the market for new opportunities, which will generate growth and sustainable business (Lumpkin and Dess, 1996). Although some studies have indicated that there is no relationship between innovativeness and performance (e.g., Hernández-Linares, Kellermanns, López-Fernández and Sarkar, 2020; Lee *et al.*, 2019; Kallmuenzer, Strobl and Peters, 2018), several previous studies have

supported the positive relationship between these two variables (e.g., Ruba, van der Westhuizen and Chiloane-Tsoka, 2021; Sutejo and Silalahi, 2021; Zaidi and Zaidi, 2021; Diaz and Sensini, 2020; George and Elrashid, 2020; Oni, Agbobli and Iwu, 2019; Uchenna, Sanjo and Joseph, 2019; Hossain and Al Asheq, 2019; Rezaei and Ortt, 2018; Jancenelle, Storrud-Barnes and Javalgi, 2017). Based on the above discussion, the researchers propose the following hypothesis:

H1: Innovativeness has a significant positive effect on corporate performance.

Risk-taking and corporate performance

Firms that are risk averse will suffer from a decrease in their market share and their competitive position (Kanter, 2006). Corporates that have the tendency to take risks, have the better probability to generate new revenue streams and to create profits to enhance their financial performance (Keh, Foo and Lim, 2002). Risk tolerant firms eliminate the authority structure to create new services and products which reduce the overall time required, allowing them to improve their performance (Wang, 2008).

Although some studies have indicated that there is no relationship between risk-taking and performance (e.g., Ruba *et al.*, 2021; Hernández-Linares *et al.*, 2020; Lee *et al.*, 2019; Kallmuenzer *et al.*, 2018), or negative relationship (e.g., Rezaei and Ortt, 2018), several previous studies have supported the positive relationship between these two variables (e.g., Sutejo and Silalahi, 2021; Zaidi and Zaidi, 2021; Diaz and Sensini, 2020; George and Elrashid, 2020; Oni *et al.*, 2019; Uchenna *et al.*, 2019; Hossain and Al Asheq, 2019; Akbari *et al.*, 2019; Jancenelle *et al.*, 2017). Based on the above discussion, the

researchers propose the following hypothesis:

H2: Risk-taking has a significant positive effect on corporate performance.

Proactiveness and corporate performance

Corporate entrepreneurship refers to proactiveness moving ideas into an actual concept, its recognizing opportunities and proceeding with the implementation of ideas to make success of that opportunity. Proactive firms usually are the first movers specially when they interact an opportunity or a threat (Ağca, Topal and Kaya, 2012). They are leaders in business world not followers (Lumpkin and Dess, 1996). According to Zahra and Garvis (2000), proactiveness and being first mover can improve the performance for corporates. Entering new markets and being the first mover gives a true strategical advantage against rivals in the market (Zahra and Garvis, 2000). Consequently, proactiveness can be conducive to a corporate's performance improvement. Although some studies have indicated that there is no relationship between proactiveness and performance (e.g., George and Elrashid, 2020; Jancenelle *et al.*, 2017), several previous studies have indicated a positive relationship between proactiveness and performance (e.g., Ruba *et al.*, 2021; Sutejo and Silalahi, 2021; Zaidi and Zaidi, 2021; Hernández-Linares *et al.*, 2020; Diaz and Sensini, 2020; Oni *et al.*, 2019; Uchenna *et al.*, 2019; Hossain and Al Asheq, 2019; Lee *et al.*, 2019; Akbari *et al.*, 2019; Kallmuenzer *et al.*, 2018; Rezaei, and Ortt, 2018). Based on the above discussion, the researchers propose the following hypothesis:

H3: Proactiveness has a significant positive effect on corporate performance.

Competitive aggressiveness and corporate performance

Competitive aggressiveness is the intensity level of corporates to overcome competitors by producing better products and services which will create new revenue streams and create sustainability of the corporate's financial performance and enables them to survive and to expand their markets (Birkinshaw, Hood and Young, 2005).

Although some studies have indicated that there is no relationship between competitive aggressiveness and performance (e.g., Diaz and Sensini, 2020; George and Elrashid, 2020; Uchenna *et al.*, 2019; Hossain and Al Asheq, 2019; Kallmuenzer *et al.*, 2018), or negative relationship (e.g., Jancenelle *et al.*, 2017), several previous studies have indicated a positive relationship between competitive aggressiveness and performance (e.g., Ruba *et al.*, 2021; Sutejo and Silalahi, 2021; Zaidi and Zaidi, 2021; Hernández-Linares *et al.*, 2020; Lee *et al.*, 2019). Based on the above discussion, the researchers propose the following hypothesis:

H4: Competitive aggressiveness has a significant positive effect on corporate performance.

Autonomy and corporate performance

The freedom granted to employees by the organization to enable them to create new idea and making decisions is the definition of autonomy, thus entrepreneurs have the autonomy to make strong decisions and guide the direction of the venture (Yu, Lumpkin, Praveen, and Stambaugh, 2019).

With the new ideas and the right decisions, corporates can improve their performance. Although some studies have indicated that there is no relationship between autonomy and performance (e.g., Ruba *et al.*, 2021; Diaz and Sensini, 2020; George and Elrashid, 2020; Oni *et al.*, 2019), several previous studies have indicated a positive relationship between autonomy and performance (e.g., Zaidi and Zaidi, 2021; Hernández-Linares *et al.*, 2020; Uchenna *et al.*, 2019; Hossain and Al Asheq, 2019; Lee *et al.*, 2019; Kallmuenzer *et al.*, 2018; Jancenelle *et al.*, 2017). Based on the above discussion, the researchers propose the following hypothesis:

H5: Autonomy has a significant positive effect on corporate performance.

Based on the above discussion, the conceptual model of this research consists of five independent variables as shown in figure (1).

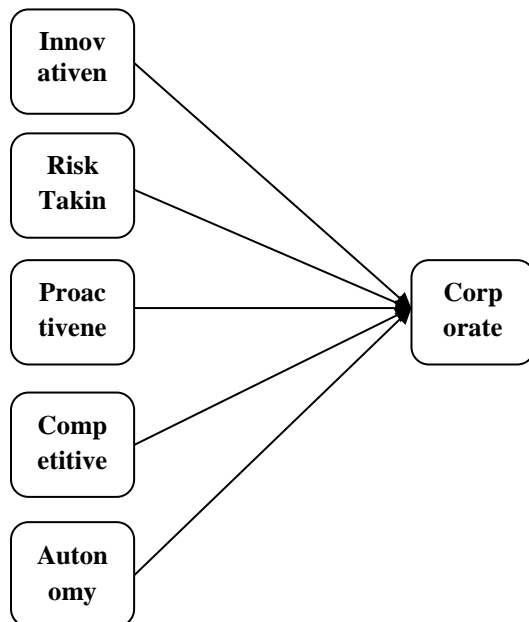


Figure 1: Conceptual Model

Research Methodology

Population and Sampling Design

The population of this research is consisted of 45 licensed corporates working in telecom sector in Jordan (Telecommunications Regulatory Commission, 2019), and the unit of analysis was the top management as they have the appropriate and accurate information required in this research. Since this research population is relatively small, the researchers considered a census technique in this research. Therefore, the sample size is equivalent to the population size, which is 45 corporates. About 86.7% (39 out of 45) of distributed questionnaires returned, which represents a good response rate. According to Hair, Anderson, and Black (2014), the sample size is considered acceptable, as they indicated that the minimum required sample size for PLS-SEM is between “30-100”.

As shown in table (1), most of the respondents who participated in this study were male (78.1%), while 21.9% were female. Half of respondents had experience less than 5 years (51.0%) and the other half had 5 or more years of experience (49%). For corporate size, most of corporates (59%) were small and medium size with less than 100 employees, followed by large corporates (41%) with more than 100 employees (Jordan Chamber of Industry, 2020).

Table 1: Sample Description

Measure	Categories	Frequency	Percent %
Gender	Male	29	78.1
	Female	10	21.9
Experience	< 5 years	20	51.0
	> = 5 years	19	49.0
Corporate Size	SMEs (< 100 employees)	23	59.0
	Large (\geq 100 Employees)	16	41.0

Measures

The researchers borrowed and modified operational definitions of variables from literatures (table 2). The questionnaire used to measure these constructs (Appendix 1) include a five-point scale (strongly disagree, agree, neutral, disagree, and strongly agree) and from (very high, high, moderate, low, very low).

Data Analysis

This study utilized partial least square (PLS) path modeling with SmartPLS 2.0 to test the theoretical model. PLS has advantages over other techniques for predictive models using small sample size and data with non-normal distributions (Hair et al., 2014). There are three steps in analyzing the data with PLS, namely measurement (outer) model assessment, structural (inner) model assessment, and hypotheses testing (Hair et al., 2014).

Table 2: Operational Definitions of research Variables

Variable	Operational Definition	Source	Items
Proactiveness	Developing new markets, products, technologies, and techniques, improving products quality, and foresees potential environmental changes and future demands ahead of the competitors.	Lumpkin and Dess (1996); Morgan and Strong (2003)	1-7
Risk-taking	The level to which decision makers are willing to take decisions and large commitment that are uncertain and high probability of failure.	Zahra, Ireland and Hitt, (2000); Morgan and Strong (2003)	8-13
Innovativeness	The firm's willingness to create and support new ideas and to carry novel experiments and processes that might introduce new products and services.	Lumpkin and Dess, (1996)	14-19
Competitive aggressiveness	Organization desire to outperform others by implementing bold, wide ranging and aggressive competitive strategies.	Lumpkin and Dess (1996)	20-25
Autonomy	The level of freedom employees is provided when they explore and take initiative without being stopped by bureaucratic processes.	Lumpkin and Dess, (1996); Hornsby <i>et al.</i> , (2002)	26-31

Corporate performance	The outcomes and results of corporate activities related to:		
	• Customer Perspective: How do we look in the customer's eyes?		32-37
	• Internal Business Perspective: What area should we excel in?	Kaplan and Norton (2001)	38-44
	• Innovation and Learning Perspective: The corporate is ability to improve and create value continuously.		45-50
	• Financial Perspective: How Do We Look to Shareholders?		51-53

Measurement (Outer) Model Assessment

Hair et al. (2014) state that to assess the measurement model, it is necessary to verify its reliability (examining the indicator loadings and internal consistency reliability) and its validity (examining convergent and discriminant validity). The results of measurement (outer) model assessment were shown in table 3 and figure 2.

Indicator loadings should be at least 0.5., which indicate that the construct reliability is acceptable (Hair *et al.*, 2014). The results of factor loading analysis indicated that the loadings of INN1(innovation construct), RIS2 (risk-taking construct), PRO5 (proactiveness construct) and AGG1, AGG6 (aggressiveness construct) were less than the minimum suggested value of 0.5. These items were dropped from subsequent analysis. Table 3 shown the outer loadings for remaining items, where the loadings of all items on related constructs were greater

than the minimum suggested threshold of 0.5.

Internal consistency reliability assessed using composite reliability and Cronbach’s alpha. Composite reliability value between 0.70 and 0.90 is good, but value of 0.95 and higher is problematic, which indicate that the items are redundant (Hair et al., 2014). Another measure of internal consistency reliability is Cronbach’s alpha. The minimum acceptable value of Cronbach’s alpha is 0.70 (Hair *et al.*, 2014). Table 3 indicate that the results met these criterions, which means that the measures of this study have adequate internal consistency reliability ranging from 0.801 to 0.929.

Average variance extracted (AVE) was used to assess convergent validity for all items on each construct. AVE should be higher than the cut point of 0.5 (Hair et al., 2014). As shown in table 3, the minimum value of AVE was 0.567, which means that the measures of this study demonstrated adequate convergent validity (Hair et al., 2014).

Table 3: Measurement (Outer) Model Assessment

Construct	Items	Factor Loading	AVE	CR	Cronbach’s Alpha
Aggressiveness (AGG)	AGG2	0.863	0.630	0.870	0.801
	AGG3	0.846			
	AGG4	0.833			

	AGG5	0.604			
Autonomy (AUT)	AUT1	0.901			
	AUT2	0.908			
	AUT3	0.897	0.727	0.941	0.929
	AUT4	0.882			
	AUT5	0.780			
	AUT6	0.729			
Innovation (INN)	INN1	0.784			
	INN3	0.612			
	INN4	0.925	0.624	0.891	0.845
	INN5	0.736			
	INN6	0.855			
Proactiveness (PRO)	PRO1	0.815			
	PRO2	0.842			
	PRO3	0.724	0.707	0.906	0.860
	PRO4	0.621			
	PRO6	0.608			
	PRO7	0.866			
Risk-Taking (RIS)	RIS1	0.836			
	RIS3	0.756			
	RIS4	0.939	0.567	0.885	0.855
	RIS5	0.844			
	RIS6	0.728			
Performance (PER)	Learning	0.896			
	Business	0.876			
	Customer	0.714	0.678	0.913	0.891
	Financial	0.865			

To assess discriminant validity, Fornell and Larcker (1981) suggested that the square root of the AVE should be higher than the correlations among the latent variables. As shown in table 4, the square roots of AVE (diagonal values) were higher than the

correlations among the latent variables, which means that the measures used in the present study have adequate level of discriminant validity.

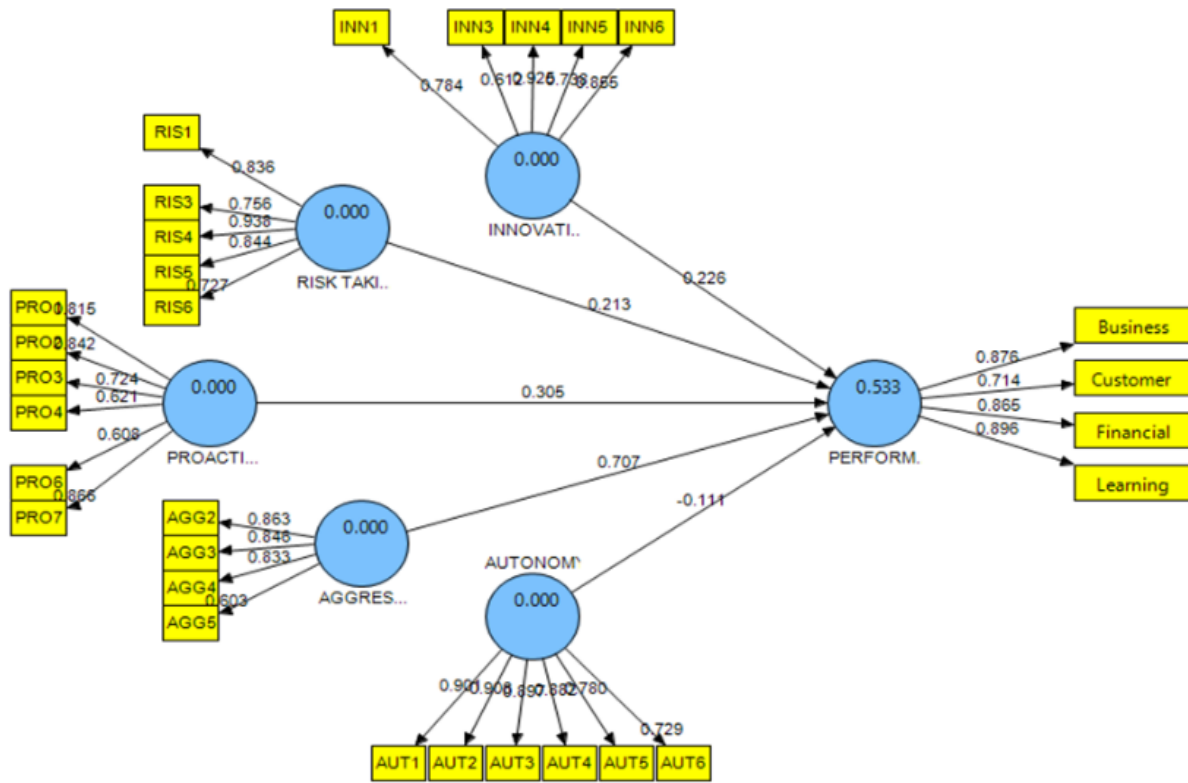


Figure 2: Measurement Model Results

Table 4: Square Roots of AVE

	AGG	AUT	INN	PER	PRO	RIS
AGG	0.793					
AUT	0.421	0.852				
INN	0.433	0.640	0.790			
PER	0.671	0.281	0.402	0.841		
PRO	-0.573	-0.543	-0.566	-0.282	0.753	
RIS	0.406	0.536	0.529	0.398	-0.532	0.824

Structural (Inner) Model Assessment

Structural model assessment involves examining the coefficient of determination (R^2), the predictive relevance (Q^2), the effect size (f^2), and the statistical

significance and relevance of the path coefficients (Hair et al., 2014).

Before evaluating the structural model, multi-collinearity must be examined to make sure it does not bias the regression results (Hair et al., 2014). Variance inflation factor (VIF) values above 3.3

because a multi-collinearity problem among the predictor constructs (Kock, 2017). Results in table 5 indicates that VIF values for all constructs are less than 3.3, therefore, there is no multi-collinearity problem, and the study model is free of common method bias.

Next, R^2 value of the endogenous (dependent) construct was examined. The R^2 measures the explained variance in the endogenous construct and, therefore, it represents the model's explanatory power or predictive power. The R^2 values of 0.75, 0.50 and 0.25 can be considered substantial, moderate, and weak (Hair et al., 2014). As shown in table 5 The predictive power of our model was 0.53 which can be considered moderate and acceptable.

The effect size (f^2) represents the influence of each independent variable on the dependent variable. It assesses how the removal of a certain independent variable affects (R^2) value. Cohen (1988) suggested

that values higher than 0.02, 0.15 and 0.35 depict small, medium, and large effect size, respectively. When the effect size (f^2) is less than 0.02, it means that the independent variable has no effect on the dependent variable. The results of our study show that aggressiveness has the largest effect on performance ($f^2 = 0.636$), where proactiveness, risk taking, and innovation has small effect ($f^2 = 0.099$; 0.058; 0.054 respectively) on performance, whereas autonomy has no effect on performance ($f^2 = 0.013 < 0.02$).

The predictive relevance (Q^2) represents the model's predictive ability in measuring dependent variable. Hair et al., (2014) recommend that for a model to have a good predictive power, the (Q^2) should be greater than 0. Using the Blindfolding method, we found that the $Q^2 = 0.376$ for the dependent variable "performance". This means that our model has a good predictive power (table 5).

Table 5: Effect Size and Predictive Accuracy

	VIF	Effect Size (f^2)	Predictive Accuracy (Q^2)
Aggressiveness	2.75	0.636	-----
Proactiveness	1.12	0.099	-----
Risk taking	1.06	0.058	-----
Innovation	1.05	0.054	-----
Autonomy	1.01	0.013	-----
Performance	-----	-----	0.376

The Goodness-of-fit (GoF) index is an index measuring the predictive performance of the measurement model. Daryanto, de Ruyter and Wetzels (2009) proposed that GoF values of 0.1, 0.25, 0.36 depict small, medium, and large Goodness of Fit respectively. The results in table 6 indicate that GoF exceeds 0.36 (GoF = 0.591) which means that the proposed model in this study should be considered robust.

Table 6: GoF Index Estimation

Construct	AVE	R^2
Aggressiveness	0.630	
Autonomy	0.727	
Innovation	0.624	0.533
Performance	0.707	
Proactiveness	0.567	
Risk taking	0.678	
Average	0.65545	0.533
Goodness of Fit (GoF)		0.591

However, as the scores of R^2 , Q^2 , f^2 and the GoF index were acceptable, the hypotheses test could be conducted.

Hypotheses Testing

The final step in structural model assessment is to assess the statistical

significance and relevance of the model paths coefficients. Bootstrapping technique was utilized to test the significance of path coefficients (Daryanto *et al.*, 2009) to generate the standard error of the estimate, t-values, and p-values (table 7 and figure 3).

Table 7: Results of Hypotheses Testing

Path	Coefficients	S. E.	T	P-value	Result
INN ---> PER	0.226	0.091	2.48	0.014**	Approved
RIS ---> PER	0.213	0.069	3.09	0.002**	Approved
PRO ---> PER	0.305	0.088	3.47	0.001**	Approved
AGG ---> PER	0.707	0.069	10.33	0.000***	Approved
AUT ---> PER	-0.111	0.085	1.31	0.193	Not Approved

*Significant at $p < 0.05$; **Significant at $p < 0.01$; ***Significant at $p < 0.001$

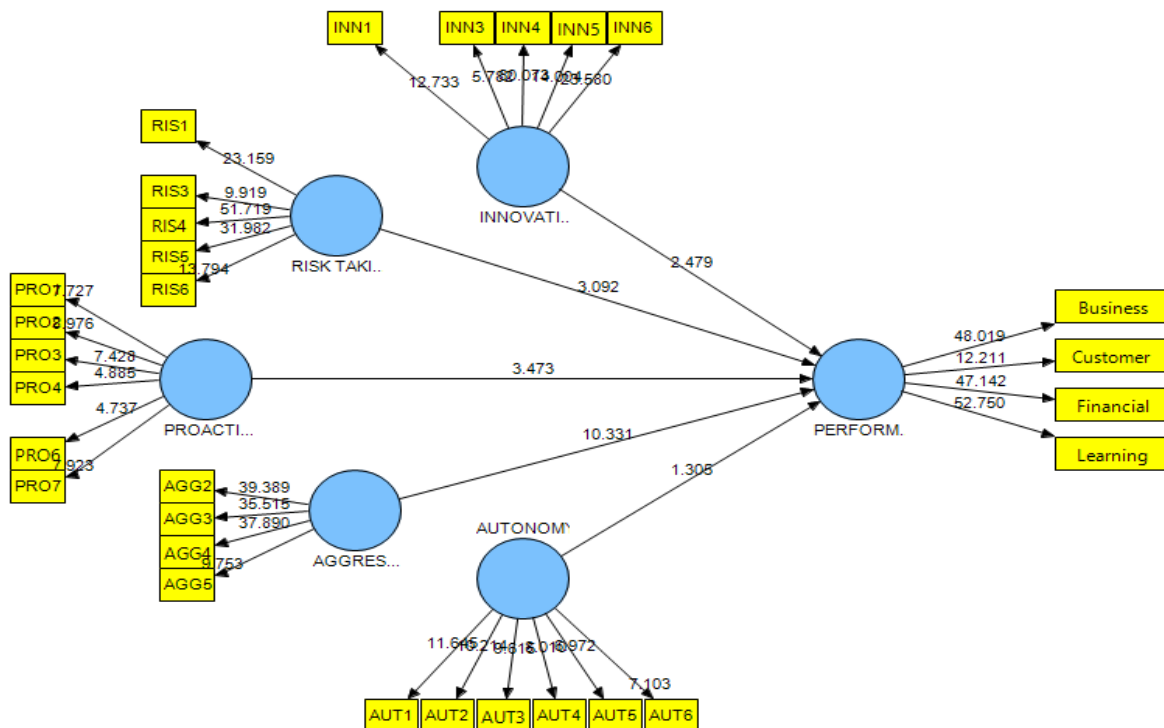


Figure 3: Structural Model Results

As shown in table (7) and figure (3), four dimensions of corporate entrepreneurship that are competitive aggressiveness, risk taking, proactiveness, and innovativeness, respectively, have a positive impact on performance, except for autonomy that had no impact on performance. Overall, these

results support the findings of several recent previous studies, which argue that corporate entrepreneurship dimensions are not as important in improving business performance at different stages of a company's growth (Arisi-Nwugbala, Elom and Onyeizugbe, 2016; Rezaei and Ortt, 2018; Lee *et al.*, 2019; Serai *et al.*, 2017; Oni *et al.*, 2019). These differences provide

evidence for the environmental impact of entrepreneurship in business improvement (Lumpkin and Dess 2001).

Discussion of the Findings

The results indicated that innovativeness has a positive impact on the performance. This result means that Jordanian telecom corporates, which embraced innovation within their strategies and created innovation centers, had the better performance. In other words, the higher the innovativeness of Jordanian telecom corporates, in terms of support new ideas, novelty, experimentation, and creative processes, the higher would be their performance level in terms of customers' satisfaction, uniqueness of its internal processes, continuous improvement and value creation, and value provided for Shareholders. This result is aligned with several previous studies (Lumpkin and Dess, 1996; Ireland *et al.*, 2006; Lassen Gertsen, and Riis, 2006; Hughes and Morgan, 2007; Aktan and Bulut, 2008; Bhardwaj *et al.*, 2011; Hameed and Ali, 2011; Olakitan and Charles, 2012; Karacaoglu, Bayrakdaroglu, and San, 2013; Odumeru, 2013; Wales, Parida and Patel, 2013; Lechner and Gudmundsson, 2014; Matchaba-Hove, Farrington and Sharp, 2015; Arisi-Nwugballa *et al.*, 2016; Rezaei and Ortt, 2018; Oni *et al.*, 2019).

The results showed that indeed risk taking can positively improve the performance of telecom corporates in Jordan. This means that corporates which practiced risk taking and encouraged their employees to take risks and rewarded them for doing so, had a better performance than the firms which blamed their managers for taking bold aggressive decisions and avoided actions that were accompanied with risks and uncertainty. In other words, the higher the risk-taking of Jordanian telecom corporates, in terms of managers willingness to make decisions which have a reasonable chance of costly failures, the higher would be their performance level in

terms of customers' satisfaction, uniqueness of its internal processes, continuous improvement and value creation, and value provided for shareholders. This result is aligned with several previous studies (Lumpkin and Dess, 1996; Ireland *et al.*, 2006; Lassen *et al.*, 2006; Aktan and Bulut, 2008; Bhardwaj *et al.*, 2011; Hameed and Ali, 2011; Olakitan and Charles, 2012; Karacaoglu *et al.*, 2013; Odumeru, 2013; Wales *et al.*, 2013; Lwamba, Bwisa and Sakwa, 2014; Lechner and Gudmundsson, 2014; Matchaba-Hove *et al.*, 2015; Oni *et al.*, 2019).

The results showed that proactiveness significantly and positively affects corporates' performance, meaning that the higher the proactiveness of Jordanian telecom corporates in terms of initiating actions to be ahead of other competitors (e.g., developing new markets, products, technologies, administrative techniques, and improving products quality ahead of the competitors), the higher would be their performance level in terms of customers' satisfaction, uniqueness of its internal processes, continuous improvement and value creation, and value provided for shareholders. This implies that firms who initiated actions (like entering new markets, introducing creative ideas for the forecasted demand) before their competitors had a better performance action. This result is aligned with several previous studies (Lumpkin and Dess, 1996; Ireland *et al.*, 2006; Lassen *et al.*, 2006; Hughes and Morgan, 2007; Aktan and Bulut, 2008; Bhardwaj *et al.*, 2011; Hameed and Ali, 2011; Olakitan and Charles, 2012; Wales *et al.*, 2013; Odumeru, 2013; Karacaoglu *et al.*, 2013; Lechner and Gudmundsson, 2014; Matchaba-Hove *et al.*, 2015; Arisi-Nwugballa *et al.*, 2016; Rezaei and Ortt, 2018; Lee *et al.*, 2019; Oni *et al.*, 2019).

The results indicated that the competitive aggressiveness has the largest and most important positive impact on the

performance of corporates, implying that corporates which follow competitive marketing strategies, and spend more amount on sales activities with the strongest attempts to maintain their competitive advantages and create new ones have the higher performance and higher possibility to improve it in the long run. It shows that the higher the competitive aggressiveness of Jordanian telecom corporates, in terms of its desire to outperform others by implementing bold, wide ranging, and aggressive competitive strategies or techniques (e.g., sales, promotion, competitive prices and distributive channels, the higher would be their performance level in terms of customers' satisfaction, uniqueness of its internal processes, continuous improvement and value creation, and value provided for shareholders. This result is aligned with several previous studies (Lumpkin and Dess, 1996; Ireland *et al.*, 2006; Lassen *et al.*, 2006; Aktan and Bulut, 2008; Bhardwaj *et al.*, 2011; Hameed and Ali, 2011; Olakitan and Charles, 2012; Odumeru, 2013; Wales, Parida and Patel, 2013; Lechner and Gudmundsson, 2014; Lwamba *et al.*, 2014; Matchaba-Hove *et al.*, 2015; Arisi-Nwugballa *et al.*, 2016; Lee *et al.*, 2019).

The results showed that autonomy had no significant effect on corporate performance. This means that the higher the autonomy of Jordanian telecom corporates, in terms of giving employees freedom to exploring, exploit and identify opportunities without being obstructed by bureaucratic processes, will not affect the corporate performance level in terms of customers' satisfaction, uniqueness of its internal processes, continuous improvement, value creation, and value provided for shareholders. Although this finding may not necessarily hold true in all cases, this finding is consistent with some previous studies (e.g., Oni *et al.*, 2019; Arisi-Nwugballa *et al.*, 2016; Lwamba *et al.*, 2014; Hughes and Morgan, 2007;

Karacaoglu *et al.*, 2013) who reported no association between autonomy and business performance. This result could be attributed to several reasons. First, autonomy is a reason for initiative behavior rather than necessary parts of it (Lumpkin *et al.*, 2009). It is not one of the original dimensions of corporate entrepreneurship classified by Covin and Slevin (1991). Second, the sizes and nature of telecom corporates' businesses do not support the use of teams and other independent work groups, as the results indicated that more than half of these companies (53%) were small and medium-sized. Third, autonomy in such medium and small business tends to generate negligence, recklessness, and waste of organizational resources. Besides, the poor behavioral propensity of some employees, which often discourages management from delegating the required authority for autonomy (Arisi-Nwugballa *et al.*, 2016). Finally, most of these corporates are newly established and thus the lack of sufficient experience with employees, which does not encourage management to grant sufficient independence to employees to make decisions individually.

Conclusions and Recommendations

The findings of this study showed that corporate entrepreneurship within Jordanian context plays a critical role in improving telecom corporate performance. These findings support the argument that organizational entrepreneurship can be used to enhance or undermine the performance of Jordanian telecom corporate. However, corporate entrepreneurship dimensions do not have the same level of impact on corporate performance, as the results indicated that competitive aggressiveness, risk taking, proactiveness, and innovativeness, respectively, were relevant to corporate performance, while autonomy was irrelevant to performance. These results are consistent with the results of previous studies conducted in many countries and confirm that corporate entrepreneurship

dimensions are not as important in improving business performance at different stages of a company's growth (Arisi-Nwugballa *et al.*, 2016; Rezaei and Ortt, 2018; Lee *et al.*, 2019; Oni *et al.*, 2019), and the environmental impact of entrepreneurship in business improvement (Lumpkin and Dess 2001).

Based on these results, the researchers provided some recommendations to decision makers at Jordanian telecom corporates. Telecom corporates are recommended to adopt entrepreneurship to improve their performance in every aspect, whether they are seeking an improvement in their financial performance, their internal processes performance, their learning and growth capabilities or their performance from customer perspectives. This will be through creating an environment that encourage employees to act entrepreneurially. Therefore, management must ensure that all employees are involved in corporate entrepreneurship to ensure that all employees work to achieve the same goal. To create such environment, telecom corporates should improve the different aspects of entrepreneurship as follows:

First, telecom corporates should adopt an entrepreneurial culture in their operations and encourage employees to innovate and think out of the box. They should continue to pursue initiatives that foster entrepreneurship by making organizations more stable, less formal, and less centralized. This type of organizational structure provides an ideal environment for creativity and innovation processes, autonomous teams, and other business activities. In addition, they should frequently try out new ideas, creative methods of operation, new ways to do things, and spends more on new product development activities.

Second, telecom corporates should take the lead before competitors to improve the quality of current products and services to be able to outperform competition, study

the market to determine the future needs and desires of consumers and the changes that may affect them to respond quickly to these changes, and search for new markets for their current products, or provide new products to current markets.

Third, telecom corporates can enhance employees' behavior to be risk-takers by expanding tolerance for failure and offering rewards for successful new ideas, train employees how to adopt a bold posture to maximize the probability of exploiting opportunities when confronted with uncertain decisions and provide employees with necessary support from top management for new ideas despite the potential for failure.

Fourth, telecom corporates need to challenge competitors intensely and directly rather than trying to avoid them. Aggressive moves can include lowering prices and increasing spending on marketing, improve quality of its services, enhance production capacity, and bold promotion strategies focusing on sales promotion tools.

Limitations and Future Research

The current study has several limitations. First, the research targeted performance of telecom corporates, which is a sensitive information to declare especially to the status of competition and the nature of respondent's jobs and social status made the questionnaire distribution and data collection much harder. Future researchers who will carry similar research must include another research instrument (interviews, focus groups and observation) to validate the results of this research. Second, conducting this study in one sector, which is the telecom sector, limits the possibility of generalizing its results. Therefore, future research should consider several different sectors for the results to be generalized. Further studies also need to be carried out on the telecom sector in different countries in the region especially

Arabic region, as there is high level of similarities between them. Third, the research was limited to 45 companies, therefore, other similar studies need to be carried out with larger sample size to include regular rather than just the decision makers to validate the findings and eliminate any possible bias. Fourth, this study investigates the direct impact of corporate entrepreneurship dimensions on firm performance, future studies could investigate the role of mediating variables

(e.g., organizational culture, organizational learning, employee engagement) and the moderating variables (e.g., government, economic condition, and environmental) (Trang, 2018; Ahmed *et al.*, 2020; Ziyae and Sadeghi, 2021). Fifth, this study used a cross-sectional sampling method, which limits our understanding of the exact relationship between entrepreneurship and performance, therefore, further research with longitudinal study needed to understand the nature of these relations.

References

- Acs, Z.J., Audretsch, D.B., Lehmann, E.E. and Licht, G. (2016). National Systems of Entrepreneurship. *Small Business Economics*, 46(4), 527-535.
- Ağca, V., Topal, Y. and Kaya, H. (2012). Linking Intrapreneurship Activities to Multidimensional Firm Performance in Turkish Manufacturing Firms: An Empirical Study. *International Entrepreneurship and Management Journal*, 8(1), 15-33.
- Ahmed, U., Umrani, W. A., Zaman, U., Rajput, S. M. and Aziz, T. (2020). Corporate Entrepreneurship and Business Performance: The Mediating Role of Employee Engagement. *SAGE Open*, 10(4), 1-10. <https://doi.org/10.1177/2158244020962779>
- Akbari, M., Danesh, M., Dolatshah, P. and Khosravani, A. (2019). Moderating International Environment Hostility between International Corporate Entrepreneurship and Halal Food Industry. *Journal of Agricultural Science and Technology*, 21(3), 545-560.
- Akbari, M., Sakhdari, K. and Danesh, M. (2020). Organizational Preparedness for Corporate Entrepreneurship and Performance in Iranian Food Industry. *Journal of Agricultural Science and Technology*, 22(2), 361-375.
- Aktan, B. and Bulut, C. (2008). Financial Performance Impacts of Corporate Entrepreneurship in Emerging Markets: A Case of Turkey. *European Journal of Economics, Finance and Administrative Sciences*, 12(8), 1530-2275.
- Al-Lozi, Kholoud Sudqi Abdullah (2017). The Effect of Entrepreneur Characteristics on Enforcing Strategic Capabilities: An Empirical Study at Jordan Telecommunication Sector. *Journal of Social Sciences (COESandRJ-JSS)*, 6(1): 70-93.
- Al-Sakarnah, Bilal Khalaf (2008). Entrepreneurship Strategies and Their Role in Achieving Competitive Advantage's Communication Companies in Jordan. *Journal of Baghdad College of Economic sciences University*, 17: 77-112.
- Antonic, B. and Hisrich, R. D. (2004). Corporate Entrepreneurship Contingencies and Organizational Wealth Creation. *Journal of Management Development*, 23(6): 518-550.
- Arisi-Nwugballa, E. A., Elom, M. E. and Onyeizugbe, C. U. (2016). Evaluating the Relevance of Entrepreneurial Orientation to the Performance of Micro, Small and Medium Enterprises in Ebonyi State, Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(3), 221-230.
- Barney, J. (1991). Looking Inside for Competitive Advantage. *Academy of Management Executive*, 9(4): 49-51.
- Barreto, I. and Patient, D. (2013). Toward a Theory Of Intra-Organizational Attention Based on Desirability and Feasibility Factors. *Strategic Management Journal*, 34(6), 687-703.
- Berkhout, A. J. and Van Der Duin, P. A. (2007). New Ways of Innovation: An Application of the Cyclic Innovation Model to the Mobile Telecom Industry. *International Journal of Technology Management*, 40(4), 294-309.

- Bhardwaj, B., Sushil, R. and Momaya K. (2011). Drivers and Enablers of Corporate Entrepreneurship. *Journal of Management Development*, 30(2), 187-206.
- Bierwerth, M., Schwens, C., Isidor, R. and Kabst, R. (2015). Corporate Entrepreneurship and Performance: A Meta-Analysis. *Small Business Economics*, 45(2), 255-278.
- Birkinshaw, J., Hood, N. and Young, S. (2005). Subsidiary Entrepreneurship, Internal and External Competitive Forces and Subsidiary Performance. *International Business Review*, 14(2), 47-248.
- Cakar, N.D. and Erturk, A. (2010). Comparing Innovation Capability of Small and Medium-Sized Enterprises: Examining the Effects of Organizational Culture and Empowerment. *Journal of Small Business Management*, 48(3), 325-359.
- Coccia, M. (2016). Radical Innovations as Drivers of Breakthroughs: Characteristics and Properties of the Management of Technology Leading to Superior Organizational Performance in the Discovery Process of R&D Labs. *Technology Analysis and Strategic Management*, 28(4), 381-395.
- Coccia, M. and Watts, J. (2020). A Theory of the Evolution of Technology: Technological Parasitism and the Implications for Innovation Management. *Journal of Engineering and Technology Management*, 55(1), 1-18.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*, second Edition, Lawrence Erlbaum Associates.
- Covin, J. G. and Slevin, D. P. (1991). A Conceptual Model of Entrepreneurship as Firm Behavior. *Entrepreneurship Theory and Practice*, 16(1), 7-26.
- Cowling, M. and Lee, N. (2017). How Entrepreneurship, Culture and Universities Influence the Geographical Distribution of UK Talent And City Growth. *Journal of Management Development*, 36(2), 178-195.
- Creamer G., and Freund Y., (2010). Learning a board Balanced Scorecard to improve corporate performance. *Decision Support Systems*, 49(4), 365–385.
- Crespell, P. and Hansen, E. (2008). Work Climate, Innovativeness and Firm Performance: In Search of a Conceptual Framework. *Canadian Journal of Forest Research*, 38(7), 1703–1715.
- Daryanto, A., de Ruyter, K. and Wetzels, M. (2009). Getting a Discount or Sharing the Cost: The Influence of Regulatory Fit on Consumer Response to Service Pricing Schemes. *Journal of Service Research*, 13(2), 153–167.
- Davidsson, P. (2015). Entrepreneurial Opportunities and the Entrepreneurship Nexus: A Re-Conceptualization. *Journal of Business Venturing*, 30(5), 674-695.
- De Winnaar, K. and Scholtz, F. (2019). Entrepreneurial Decision-Making: New Conceptual Perspectives. *Management Decision*, 58(7), 1283-1300.

- Demirkan, I., Yang, Q. and Jiang, C.X. (2019). Corporate Entrepreneurship of Emerging Market Firms: Current Research and Future Directions. *New England Journal of Entrepreneurship*, 22(1), 5-30. <https://doi.org/10.1108/NEJE-04-2019-0024>
- Diaz, E., and Sensini, L. (2020). Entrepreneurial Orientation and Firm Performance: Evidence from Argentina. *International Business Research*, 13(8), 47-55.
- Eze, B.U. (2018). Corporate Entrepreneurship and Manufacturing Firms' Performance. *Emerging Markets Journal*, 8(1), 12-17.
- Fis, A. M. and Cetindamar, D. (2021). Unlocking the Relationship between Corporate Entrepreneurship and Firm Performance. *Entrepreneurship Research Journal*, 11(1). <https://doi.org/10.1515/erj-2018-0213>
- Fornell, C. and Larcker, D. F. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, 18(3), 382-388.
- George, S., and Elrashid, S. (2020). Entrepreneurial orientation and business performance in retail pharmacies: evidence from Bahrain. *Humanities and Social Sciences Reviews*, 8(5), 178-187.
- Gomezal, A. and Rangus, K. (2018). An Exploration of an Entrepreneur's Open Innovation Mindset in an Emerging Country. *Management Decision*, 56(9), 1869-1882.
- Gumbus, A. and Lussier, R. N. (2006). Entrepreneurs Use a Balanced Scorecard to Translate Strategy into Performance Measures. *Journal of Small Business Management*, 44(3), 407-425.
- Hair, Joseph F., Anderson, Rolph E. and Black, William C. (2014). *Multivariate Data Analysis* (Ed. 7th). Harlow: Pearson.
- Hameed, I. and Ali, B. (2011). Impact of Entrepreneurial Orientation, Entrepreneurial Management and Environmental Dynamism on Firm's Financial Performance. *Journal of Economics and Behavioral Studies*, 3(2), 101-114.
- Hernández-Linares, R., Kellermanns, F. W., López-Fernández, M. C. and Sarkar, S. (2020). The Effect of Socioemotional Wealth on the Relationship between Entrepreneurial Orientation and Family Business Performance. *BRQ Business Research Quarterly*, 23(3), 174-192.
- Hornsby, J. S., Kuratko, D. F., and Zahra, S. A. (2002). Middle Managers' Perception of the Internal Environment for Corporate Entrepreneurship: Assessing a Measurement Scale. *Journal of Business Venturing*, 17(3), 253-273.
- Hossain, M. U. and Al Asheq, A. (2019). The Role of Entrepreneurial Orientation to SME Performance in Bangladesh. *International Journal of Entrepreneurship*, 23(1), 1-6.

- Hughes, M. and Morgan, R. E. (2007). Deconstructing the Relationship between Entrepreneurial Orientation and Business Performance at the Embryonic Stage of Firm Growth. *Industrial Marketing Management*, 36(5), 651-661.
- Hussain, J., Ismail K. and Akhtar, C. S. (2015). Linking Entrepreneurial Orientation with Organizational Performance of Small and Medium Sized Enterprises: A Conceptual Approach. *Asian Social Science*, 11(7), 1- 10.
- Ireland, R. D., Kuratko, D. F. and Morris, M. H. (2006). A Health Audit for Corporate Entrepreneurship: Innovation at all Levels: Part II. *Journal of Business Strategy*, 27(2), 21-31.
- Jancenelle, V. E., Storrud-Barnes, S., and Javalgi, R. R. G. (2017). Corporate Entrepreneurship and Market Performance: A Content Analysis of Earnings Conference Calls. *Management Research Review*, 40(3), 352-367.
- Jordan Chamber of Industry (2020). Small and Medium Enterprise Services. Available at: <https://www.jci.org.jo/Chamber/Services/Sectors/80095>
- Kallmuenzer, A., Strobl, A. and Peters, M. (2018). Tweaking the Entrepreneurial Orientation-Performance Relationship in Family Firms: The Effect of Control Mechanisms and Family-Related Goals. *Review of Managerial Science*, 12 (4), 855-883.
- Kang, J.H., Matusik, J.G., Kim, T.Y. and Phillips, J.M. (2016). Interactive Effects of Multiple Organizational Climates on Employee Innovative Behavior in Entrepreneurial Firms: A Cross-Level Investigation. *Journal of Business Venturing*, 31(6), 628-642.
- Kanter, R. M. (2006). Innovation: The Classic Traps. *Harvard Business Review*, 84(11), 72-83.
- Kaplan, R.S. and Norton, D.P. (2001). Transforming the Balanced Scorecard from Performance Measurement to Strategic Management: Part 1. *Accounting Horizons*, 15(1), 87-104.
- Karacaoglu, K., Bayrakdaroglu, A. and San, F. B. (2013). The Impact of Corporate Entrepreneurship on Firms' Financial Performance: Evidence from Istanbul Stock Exchange Firms. *International Business Research*, 6(1), 163-175.
- Keh H.T., Foo M.D. and Lim B.C. (2002). Opportunity Evaluation under Risky Conditions: The Cognitive Processes of Entrepreneurs. *Entrepreneurship Theory and Practice*, 27(2), 125-148.
- Knowles, C. Hansen, E. and Shook, S. (2008). Assessing Innovativeness in the North American Softwood Sawmilling Industry Using Three Methods. *Canadian Journal for Research*, 38(2), 363–375.
- Kock, N. (2017). Going Beyond Composites: Conducting a Factor-Based PLS-SEM Analysis. *Partial Least Squares Path Modeling*, pp. 41–53.

- Kolaković, M., Sisek, B. and Milovanović, B. M. (2008). Influence of Corporate Entrepreneurship on the Performance of Croatian Large Corporates. *In Business and Economics Society International Conference*.
- Kuratko, D. F., Hornsby, J. S., and Goldsby, M. G. (2007). The Relationship of Stakeholder Salience, Organizational Posture, and Entrepreneurial Intensity to Corporate Entrepreneurship. *Journal of Leadership and Organizational Studies*, 13(4), 56-72.
- Lassen, A. H., Gertsen, F. and Riis, J. O. (2006). The Nexus of Corporate Entrepreneurship and Radical Innovation. *Creativity and Innovation Management*, 15(4), 359–372.
- Lechner, C. and Gudmundsson, S. (2014). Entrepreneurial Orientation, Firm Strategy and Small Firm Performance. *International Small Business Journal*. 32(1), 36-60.
- Lee, W. L., Chong, A. L. and Ramayah, T. (2019). The Effects of Entrepreneurial Orientation on the Performance of the Malaysian Manufacturing Sector. *Asia-Pacific Journal of Business Administration*, 11(1), 30-45.
- Lumpkin, G. T. Cogliser, C. C. and Schneider, D. R (2009). Understanding and Measuring Autonomy: An Entrepreneurial Orientation Perspective. *Entrepreneurship and Theory in Practice*, 33(1), 47-69
- Lumpkin, G. T., and Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance. The moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16(5), 429-451.
- Lumpkin, G.T., Dess, G.G. (1996). Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance. *Academy of Management Review*, 21(1), 135-172.
- Lwamba, N. M., Bwisa, H. and Sakwa, M. (2014). Exploring the Effect of Corporate Entrepreneurship on Financial Performance of Firms: Evidence from Kenya's Manufacturing Firms. *International Journal of Academic Research in Business and Social Sciences*, 4(1), 352-370.
- Matchaba-Hove, T., Farrington, S., and Sharp, G. (2015). The Entrepreneurial Orientation-Performance Relationship: A South African Small Business Perspective. *The Southern African Journal of Entrepreneurship and Small Business Management*, 7(1), 36-68.
- McFadzean, E., O'Loughlin, A. and Shaw, E. (2005). Corporate entrepreneurship and innovation part 1: the missing link. *European Journal of Innovation Management*, 8(3), 350-372.
- Michalska, J. (2005). The usage of the Balanced Scorecard for the Estimation of the Enterprise's Effectiveness. *Journal of Materials Processing Technology*, 16(2), 751–758.
- Morgan, R. E. and Strong, C. A. (2003). Business Performance and Dimensions of Strategic Orientation. *Journal of Business Research*, 56(3), 163-176.
- Odumeru, J. A. (2013). Innovation and organizational performance. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 2(12), 18–22.

- Olakitan, O. and Charles, T. (2012). The Role of Entrepreneurial Orientations on the Perceived Performance of Small and Medium-Scale Enterprises (SMEs) in Nigeria. *International Business and Management*, 5(2), 148–154.
- Oni, O., Agbobli, E. K. and Iwu, C. G. (2019). Entrepreneurial Orientation and Performance of Small Business in Vryburg Region Northwest Province South Africa. *Journal of Reviews on Global Economics*, 8, 63–71.
- Orobia, L.A., Tusiime, I., Mwesigwa, R. and Sekiziyivu, B. (2020). Entrepreneurial Framework Conditions and Business Sustainability among the Youth and Women Entrepreneurs. *Asia Pacific Journal of Innovation and Entrepreneurship*, 14(1), 60-75.
- Plessis, M. (2007). The Role of Knowledge Management in Innovation. *Journal of Knowledge Management*, 11(4): 20–29.
- Popowska, M. (2020). Corporate Entrepreneurship: A Literature Review and Future Research Perspectives. *International Journal of Contemporary Management*, 19(1), 61-87.
- Rezaei, J., and Ortt, R. (2018). Entrepreneurial Orientation and Firm Performance: The Mediating Role of Functional Performances. *Management Research Review*, 41(7), 878-900. <https://doi.org/10.1108/MRR-03-2017-0092>
- Ruba, R. M., van der Westhuizen, T. and Chiloane-Tsoka, G. E. (2021). Influence of Entrepreneurial Orientation on Organisational Performance: Evidence from Congolese Higher Education Institutions. *Journal of Contemporary Management*, 18(1), 243-269.
- Sanchez-Gutierrez, J., Cabanelas, P., Lampon, J. and Gonzalez-Alvarado, T. (2019). The Impact on Competitiveness of Customer Value Creation through Relationship Capabilities and Marketing Innovation. *Journal of Business and Industrial Marketing*, 34(3), 618-627.
- Serai, M., Johl, S. and Marimuthu, M. (2017). An Overview on Relationship between Corporate Entrepreneurship and Firm Performance. *Global Business and Management Research*, 9(Special issue), 428-438.
- Sharma, C. (2012). Operator’s dilemma (and opportunity): the 4th wave. *Mobile Future Forward*.
- Sutejo, B. S., and Silalahi, M. A. R. (2021). Correlation Analysis among Innovation, Risk-taking, Competitive Aggressiveness, and Proactiveness on Company Performance in the Covid-19 Situation. In *18th International Symposium on Management (INSYMA 2021)* (pp. 16-20). Atlantis Press.
- Telecommunications Regulatory Commission (2019). Communications Current Licensees: Public telecommunications class license. Available at: <https://trc.gov.jo/Pages/viewpage?pageID=230>. Retrieved on April 2019
- Trang, N. (2018). Review Paper: Corporate Entrepreneurship and Firm Performance. *Advances in Management*, 11(1), 28-34.

- Uchenna, E. B., Sanjo, O. M. and Joseph, F. (2019). Entrepreneurial Orientation and Micro, Small and Medium Enterprises (Msmes) Performance in Abia State, Nigeria. *Covenant Journal of Entrepreneurship* (Special Edition), 3(1), 19-35.
- Venter, A., Rwigema, H. and Urban, B. (2008). *Entrepreneurship: theory in practice*, 2nd edition, Cape Town: Oxford University Press Southern Africa (Pty) Ltd.
- Wales, W. J., Parida, V. and Patel, P. C. (2013). Too Much of a Good Thing? Absorptive Capacity, Firm Performance, and the Moderating Role of Entrepreneurial Orientation. *Strategic Management Journal*, 34(5), 622–633.
- Wang, C. L. (2008). Entrepreneurial Orientation, Learning Orientation, and Firm Performance. *Entrepreneurship and Theory in Practice*, 32(4), 635-654.
- Werthes, D., Mauer, R. and Brettel, M. (2018). Cultural and Creative Entrepreneurs: Understanding the Role of Entrepreneurial Identity. *International Journal of Entrepreneurial Behavior and Research*, 24(1), 290-314.
- Wood, M.S., Michalisin, M.D. (2010). Entrepreneurial Drive in the Top Management Team: Effects on Strategic Choice and Firm Performance. *Journal of Leadership and Organizational Studies*, 17(3), 222–239.
- Yu, A., Lumpkin, G. T., Praveen Parboteeah, K. and Stambaugh, J. E. (2019). Autonomy and Family Business Performance: The Joint Effect of Environmental Dynamism and National Culture. *International Small Business Journal*, 37(2), 153-185.
- Zahra, S. A. and Garvis, D. M. (2000). International Corporate Entrepreneurship and Firm Performance: The Moderating Effect of International Environment Hostility. *Journal of Business Venturing*, 15(5-6), 469-492.
- Zahra, S. A., Ireland, R. D., and Hitt, M. A. (2000). International Expansion by New Venture Firms: International Diversity, Mode of Market Entry, Learning and Performance. *Academy of Management Journal*, 43(5), 925–950.
- Zahra, S.A. and Covin, J.G. (1995). Contextual Influences on Corporate Entrepreneurship – Performance Relationship: A Longitudinal Analysis. *Journal of Business Venturing*, 10(1), 43-58.
- Zaidi, S. S. A. and Zaidi, S. S. Z. (2021). Linking Entrepreneurial Orientation and Innovation Intensity: Moderating Role of Environmental Turbulence. *Journal of Entrepreneurship, Management and Innovation*, 3(2), 202-236.
- Zain, M. and Hassan, A.E. (2007). The Impact of Corporate Entrepreneurship on Company Growth in a Hostile Business Environment in Proceedings of 7th Global Conference on Business and Economics.
- Zehir, C., Müceldili, B., and Zehir, S. (2012). The impact of corporate entrepreneurship on organizational citizenship behavior and organizational commitment: Evidence from Turkey SMEs. *Procedia-Social and Behavioral Sciences*, 58, 924-933.

Ziyae, B. and Sadeghi, H. (2021). Exploring the Relationship between Corporate Entrepreneurship and Firm Performance: The Mediating Effect of Strategic Entrepreneurship. *Baltic Journal of Management*, 16(1), 113-133. <https://doi.org/10.1108/BJM-04-2020-0124>

Appendix 1 Questionnaire

PART A

General /Demographic Data

1. Kindly indicate your gender
 - a) Male
 - b) Female
2. How many years have your worked in the firm?
 - a) Less than 3 years
 - b) 3 to 5 years
 - c) Over 5 years
3. What is the organization size (firm size)?
 - a) Small (Less than 100 employees)
 - b) Medium (100 to 500 employees)
 - c) Large (Over 500 employees)

Part B

Scale Items:

1) Corporate Entrepreneurship

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
Proactiveness				
Our corporate initiates actions to which competitors then respond.				
1	2	3	4	5
In dealing with its competitors, my firm tends to be ahead of other competitors in introducing novel idea or products.				
1	2	3	4	5
My corporate strives in identifying new markets to sale products.				
1	2	3	4	5
Our firm shapes the environment by introducing new products, technologies, administrative techniques than merely react.				
1	2	3	4	5
Our corporate continuously improves the quality of the product and services to be competitive.				
1	2	3	4	5
Our corporate always foresees potential environmental changes ahead of the competitors.				
1	2	3	4	5
Our corporate always foresees future demands ahead of the competitors.				
1	2	3	4	5
Risk Taking				
Relative to our competitors, our corporate has higher propensity to take risks.				
1	2	3	4	5
Our corporate has shown a great deal of tolerance for high-risk projects.				
1	2	3	4	5
When confronted with uncertain decisions, our business typically adopts a bold posture to maximize the probability of exploiting opportunities.				
1	2	3	4	5
Most people in this organization are willing to take risks.				
1	2	3	4	5
This organization supports many small and experimental projects realizing that some will undoubtedly fail.				
1	2	3	4	5
The term "risk taker" is considered a positive attribute for people.				
1	2	3	4	5
Innovativeness				
Our corporate frequently tries out new ideas.				
1	2	3	4	5
Our corporate is creative in its methods of operation				
1	2	3	4	5
Our corporate seeks out new ways to do things.				
1	2	3	4	5
Corporate's emphasis on developing new products.				
1	2	3	4	5
Our Corporate spends on new product development activities.				
1	2	3	4	5
Our corporate Invests in developing proprietary technologies.				
1	2	3	4	5
Competitive Aggressiveness				
Owing to the nature of the environment, bold, wide ranging acts are necessary to achieve the firm's objectives				
1	2	3	4	5
The corporate stimulates new demand on existing products in the current market through aggressive advertisement				
1	2	3	4	5

The corporate takes bold and wide-ranging acts (e.g. sales, promotion, competitive prices and distributive channels) to market products.	1	2	3	4	5
Our corporate has a strong tendency to increase the market share by reducing competitors through competitive marketing strategies.	1	2	3	4	5
Our corporate spends substantial amount of financial resources in sales promotion.	1	2	3	4	5
Our corporate actively searches for significant opportunities to improve market share.	1	2	3	4	5
Autonomy					
My corporate Facilitates free flow and captures of new ideas from employees.	1	2	3	4	5
our corporate is Rewarding employees who come up with new products	1	2	3	4	5
Risk taking in our corporate is a positive attribute to employees to work freely.	1	2	3	4	5
My corporate Allows employees to practice their skills freely without supervision to produce more.	1	2	3	4	5
Employees in our business are encouraged to manage their own work and have flexibility to resolve problems.	1	2	3	4	5
My corporate Recognizing individual risk takers for willingness to champion new projects, successful or not.	1	2	3	4	5

2) Performance (Balanced Scorecard)

Very Low	Low	Moderate	high	Very High	
1	2	3	4	5	
Customer Perspective					
Customer satisfaction as measured by survey results	1	2	3	4	5
Number of customer complaints	1	2	3	4	5
Market share	1	2	3	4	5
Product returns as a percentage of sales	1	2	3	4	5
Percentage of customers retained from last period	1	2	3	4	5
Number of new customers	1	2	3	4	5
Internal Process					
Time to introduce new products to market	1	2	3	4	5
Percentage of customer calls answered within 20 seconds	1	2	3	4	5
On-time deliveries as a percentage of all deliveries	1	2	3	4	5
Defect-free units as a percentage of completed units	1	2	3	4	5
Delivery cycle time	1	2	3	4	5
Percent of customer complaints settled on first contact	1	2	3	4	5
Time to settle a customer claim	1	2	3	4	5
Learning and Growth					
Suggestions per employee +	1	2	3	4	5
Employee turnover –	1	2	3	4	5
Hours of in-house training per employee	1	2	3	4	5
Employee satisfaction	1	2	3	4	5
Number of new product launches	1	2	3	4	5
Time-to-market new products	1	2	3	4	5
Financial Performance					
firm profitability	1	2	3	4	5
Firm total revenue	1	2	3	4	5
Firm ROI	1	2	3	4	5

Mohammad Suleiman Awwad (Ph. D., Mutah University) is a full professor of Business and Marketing. He received a B.A. in Business and statistics (1990) and MBA (1994) from Jordan University (JU), and a Ph.D. in Business/Marketing from Amman Al-Arabia University in 2004. His research interests include marketing and business. He published several studies in local, regional, and international scientific journals (e.g., The Electronic Library, Jordan Journal of Business Administration, Total Quality Management, Journal of Research in Marketing and Entrepreneurship, International Journal of Bank Marketing, Studies in Business and Economics). For more detailed, visit his website at:

<https://academic.mutah.edu.jo/awwad/sitepages/Home.aspx>

Abdullah Abu-Karaki was born in Amman, Jordan, in 1987. He received his BSc degree in electrical engineering from Jordan University of science and technology in 2010, his MBA degree in 2019 from Mutah Uni (Dean's list). He is a novel writer and innovator who created variety of ideas and programs that had a huge impact on the company he is currently working in. His technical experience as an enterprise solution engineer and projects manager along with his studies helped him to shape his vision of changing the society; he lives in by influencing others through different kinds of means like the training sessions and lectures he provides.