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Adoption of Information Communication Technology (ICT) in International Entrepreneurship: *A Way to Promote International Relations Among Business Entities*

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Abstract

Key words:

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Communication
technology (ICT),
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opportunity,
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entrepreneurial

The objective of this study is to examine the role of information communication technology (ICT) and international entrepreneurship in international relations among business entities. The relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance and international relations was examined. A comparative study was carried out between Malaysia and Jordan. Quantitative research approach was used in relation to the cross-sectional research design. Data were collected by using a questionnaire survey from the employees of various organizations involved in international entrepreneurship activities. Structural Equation Modeling (SEM) was applied for data collection. Results of the study shows that international entrepreneurship has important role to promote international relations. Along with the international entrepreneurship, ICT also play an important role in international relations. It is found that; ICT has positive role to promote access to entrepreneurship opportunities and entrepreneurship marketing which further lead to the entrepreneurial performance. Increase in intrapreneurial performance increases the international relations. Finally, no different was found between Malaysia and Jordan. This study has the significant potential for the practitioners to promote international relationships through ICT and international entrepreneurship activities.

Keywords. International relations, information communication technology (ICT), entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance.

Introduction

In the recent economic conditions, the role of international relations has vital importance ([Mendes, 2021](#)). The nations are joining hands in the economic development through international relations. The success of world economy is majorly based on the collaboration between various nations. The collaboration among nations has dual benefits to each other's. Particularly, in the any worldwide recession, the collaboration among the countries can play an important role to help each other which lead to the well-being of both nations. Therefore, globally, the role of international relations has key importance for the nations ([Weldon et al., 2021](#)).

International relations are based on the several aspects; however, the current study is based on the international relations-based om business activities. As the economic development is majorly based on the business activities among various countries. Economic development has important relationship with the business relations between several nations, as the cross-border business activities has vital for the business growth ([Castanho et al., 2019](#); [Zhang et al., 2016](#)). Therefore, in the current economic competition among nations, the role of business relations among various countries is most important to strengthen the economy. Every nation wants to strengthen the economy for the welfare of

the country, therefore, the business collaboration among business entities is most important to manage.

In the current era of competitive business environment, the competition in business activities is increasing day by day. The competition is increasing at all levels including local, national, and international. Particularly, the business competition is increasing at international level, as all the nations are trying to join hands to promote business activities. Because it has direct effect on the economic development. The importance of export business activities is increasing and leading to the international relations. In this direction, the current study is trying to highlighted the influence of international entrepreneurship (Tabares et al., 2021) on international relations. Additionally, this study is also an attempt to examine the role of information communication technology (ICT) (Ahmed et al., 2021) in international relations. In this context, this study considered a comparison between Malaysia and Jordan.

Along with the other countries, Malaysia and Jordan is also trying to enhance the international relations through various business activities. Both the countries have the potential to collaborate through various business activities to strengthen the relationship globally. Both the countries are focusing on the international collaboration (Al-Fawwaz et al., 2019; Bagang, 2019). According to the current study, to promote international collaboration, the role of business activities has key importance. Particularly, international business has major role in this matter. International business can highlight the relations at higher level to enhance the economic growth. In this way, this study considered to examine the role international entrepreneurship to enhance the relations among nations.

In addition to entrepreneurship, the role of ICT also has key importance. The incorporation of ICT in international entrepreneurship can increase the entrepreneurship performance which further lead to strengthen the relationship among nations. As ICT has important relationship with entrepreneurship activities (Ebrahimi et al., 2018) which enhance the entrepreneurship performance. In international entrepreneurship activities, ICT cannot be neglected. It has vital contribution to promote business activities. Particularly, in international entrepreneurship, ICT can help to identify the entrepreneurship opportunities among various countries. The ability of ICT to explore business opportunities can enhance the overall international entrepreneurship performance which further lead to the international relations. Along with this, it is important to promote entrepreneurship marketing activities. Entrepreneurship marketing activities also promote entrepreneurship performance. ICT lead the entrepreneurship marketing which further increases the relations between countries. Therefore, the role of ICT and international entrepreneurship is most important to highlight among the nations to enhance international relations.

Therefore, the objective of this study is to examine the role of ICT and international entrepreneurship in international relations among business entities. The relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance and international relations was examined. Several previous investigations have considered ICT and international relations ([Ryazantsev et al., 2019](#); [Weldon et al., 2021](#); [Wiseman et al., 2018](#)), however, these studies have not considered the combination of ICT and international relations. Furthermore, the previous studies have rarely examined the integration between international entrepreneurship, ICT, and international relations along with the access to entrepreneurship opportunity and entrepreneurship marketing. Hence, the current study has significant contribution to the literature.

Literature Review

International relation is the study of the interaction of nation-states as well as non-governmental organizations in fields such as politics, economics, and security. The current study is dealing international relations in the context of economic activities. Economic activities indicate the business collaboration between nations. It is important for the organizations to collaborate with each other's in relation to the business activities for the economic development. In this direction, business relations can play an important role to accelerate the business activities ([Yu, 2001](#)). According to the current study, international relations can be promoted with the help of entrepreneurship activities. International entrepreneurship activities can enhance the international relations between various business organizations.

Entrepreneurship is the activity of setting up a business venture, taking on financial risks in the hope of profit. These entrepreneurship activities can be started with the business organizations in other nations. As the cross-border entrepreneurship activities are quite famous among the researchers ([Fernandes et al., 2020](#); [Loures et al., 2019](#)) and these cross-border entrepreneurship activities can facilitate international relations. Therefore, this study is an attempt to examine the role of international entrepreneurship in international relations. In addition to this, ICT is also considered in this study which has pivotal role in international business collaboration. ICT enhances the ability of the people to communication for cross-border business activities which may lead to the better relations among business entities. The increase in the collaboration among various businesses can develop the long-term relations. Therefore, this study considered the integration between ICT and international entrepreneurship to promote international relations.

According to the current study, ICT can enhance the identification of entrepreneurship opportunities among different countries. ICT help to collaborate between various nations which can further promote the business collaboration. Entrepreneurship activities also require marketing

efforts. The marketing efforts can be promoted through ICT. ICT provides a suitable platform to enhance the entrepreneurial marketing. Therefore, both the access to opportunity and entrepreneurial marketing can promote international entrepreneurship performance which further lead to the international relations. Therefore, the relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance and international relations was examined in this study. The theoretical framework of the study in [Figure 1](#) shows the relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance, and international relations.

To survive in a competitive environment, business relations have key importance. In this direction, Malaysia is also trying to enhance the cross-border economic activities by promoting the business relations. As the economic development is heavily based on the business activities among the organizations ([Hongbo et al., 2018](#)). Malaysia is a developing country which require significant efforts to enhance the economic development. Malaysia has good business relations with Pakistan. Both are members of Organization of Islamic Cooperation (OIC) as well as the Commonwealth of Nations. There is a trade along with the cultural pact between Malaysia and Pakistan, under which the import as well as export of numerous goods is done on a very large scale ([Syah, 2007](#))

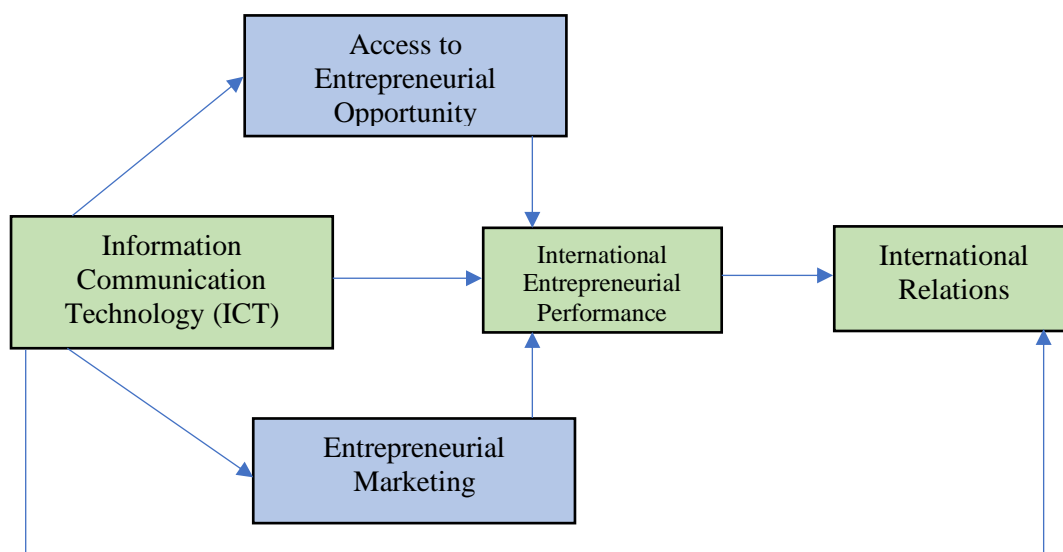


Figure 1. Theoretical framework of the study showing the relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance, and international relations

Additionally, Malaysia also has relations with Thailand, Indonesia, and Singapore. Along with the Malaysia, Jordan is also a country which require significant efforts for the economic development. The foreign relations of Jordan have constantly followed a pro-Western foreign policy.

Furthermore, traditionally Jordan has had close relations with the United States (US). Therefore, business activities among the nations have key importance for relationship development. In this direction, the role of international entrepreneurship and ICT has vital importance.

Hypothesis Development

Information Communication Technology (ICT), Access to Entrepreneurial Opportunity and Entrepreneurial Marketing

ICT is an extensional term for information technology (IT) that highlights the role of combined communications as well as the integration of telecommunications as well as computers. ICT is one of the umbrella terms that comprises any communication device, television, encompassing radio, computer system, cell phones, different network hardware's and satellite systems. According to the literature, ICT play an important part in business activities ([Ugwuogo, 2021](#)). The business success is majorly based on the better communication between various business partners. Therefore, ICT can play an important role to enhance the relationship among business organizations through business dealings across the border.

ICT has important connection with access to the business opportunities. While talking the business activities across the border, the ICT can play their role to explore the business opportunities. Entrepreneurial opportunity assessment is most important for better business dealing. Entrepreneurial opportunities are generally described as various situations where products as well as services could be sold at a suitable price greater as compared to the cost of their production. Therefore, better opportunity assessment can increase the profitability of the business. An 'entrepreneurial opportunity', therefore, is a situation where different entrepreneurs can take important actions to make a profit. According to [McDermott et al. \(2018\)](#), entrepreneurial opportunity has positive role to promote business activities. Additionally, in business activities, marketing has key importance. Entrepreneurial marketing has vital role to promote business activities.

ICT has positive role to explore the entrepreneurial opportunities. Across the border business opportunities can be explored with the help of better ICT system. It enhances the communication between various business partners which further lead to the better opportunity assessment. According to [Barba-Sánchez et al. \(2019\)](#), ICT can play an important role in entrepreneurial opportunity assessment. Therefore, access to the entrepreneurial opportunity can be promoted with the help of ICT. Similarly, ICT can also play an important role in marketing activities. The relationship between ICT and entrepreneurial marketing can play a significant role for business. As highlighted in previous studies that marketing and ICT has key connection ([Aryanto et al., 2021](#); [Muhammad et al., 2018](#)). Therefore, ICT has positive role to access the entrepreneurial

opportunities and entrepreneurial marketing activities. Thus, the following hypotheses are proposed.

Hypothesis 1. ICT has relationship with access to entrepreneurial opportunity.

Hypothesis 2. ICT has relationship with entrepreneurial marketing.

Information Communication Technology (ICT), International Entrepreneurial Performance and International Relations

The term international entrepreneurship was first related to the way various technological advances as well as cultural awareness allowed different new ventures to research available foreign markets. It includes novel as well as innovative actions that crosses borders with the objective of creating value as well as growth in various business firms. In the recent decade, the role of international entrepreneurship is increasing, and nations are dealing across the border ([Glinkowska-Krauze et al., 2020](#); [Tabares et al., 2021](#); [Zahra et al., 2005](#)). ICT playing an important role to promote entrepreneurial performance. Information technology-based communication between various business partners across the border can improve the entrepreneurial performance. Business dealing by using the ICT system can save the time and cost as well which lead to the higher international entrepreneurial performance. As several previous studies highlighted that the importance of entrepreneurship performance cannot be neglected ([Muhammad Auwal et al., 2020](#)). Therefore, ICT has positive effect on international entrepreneurship performance. The positive effect of international entrepreneurship performance further led to the international relations. Increase in international entrepreneurship performance increases the international business.

Along with the positive effect of ICT on international entrepreneurship performance, it also has positive effect on international relations. It has direct and indirect effect on the international relations. It has indirect effect on international relations through international entrepreneurship performance. ICT shows positive role to promote international entrepreneurship performance which lead to the international relations. ICT applications can increase the collaboration between business organizations and increase in the collaboration in business activities increases the relations between various nations. As given in the previous studies that technology has important relationship with the international relations ([Raheem et al., 2019](#)). To fill the communication gap between cross-border business organizations, the role of ICT is most important which increase the relations between various business organizations. The above discussion shows that; ICT has positive role in international entrepreneurship performance and international entrepreneurship performance has positive role in international relations. Furthermore, ICT has direct effect on international relations. Hence, following hypotheses are proposed.

Hypothesis 3. ICT has relationship with international entrepreneurial performance.

Hypothesis 4. International entrepreneurial performance has relationship with international relations.

Hypothesis 5. ICT has relationship with international relations.

Access to Entrepreneurial Opportunity, Entrepreneurial Marketing, and International Entrepreneurial Performance

Access to the entrepreneurial opportunity has strong connection with the international entrepreneurial performance. Entrepreneurial performance required different fruitful business opportunities; therefore, identification of cross border entrepreneurial opportunities can increase the performance of international entrepreneurship activities. Better identification of entrepreneurial opportunities can increase the entrepreneurial performance. Entrepreneurial opportunity has positive role in performance as identified in previous studies ([Hmieleski et al., 2008](#); [Mostafiz et al., 2020](#); [Wu et al., 2020](#)). Furthermore, entrepreneurial marketing also has major role in international entrepreneurial performance. Entrepreneurial marketing is proactive recognition as well as exploitation of various business opportunities for obtaining and retaining different profitable customers with the help of innovative methods to management and value creation. Entrepreneurial marketing has vital role in business performance ([Mugambi et al., 2017](#); [Nuvriasari et al., 2020](#)). Therefore, according to the literature, it is clear that; access to the entrepreneurial opportunity and entrepreneurial marketing has important relationship with international entrepreneurial performance which lead to the following hypotheses.

Hypothesis 6. Access to the entrepreneurial opportunity has relationship with international entrepreneurial performance.

Hypothesis 7. Entrepreneurial marketing has relationship with international entrepreneurial performance.

Additionally, the current study examined the mediation or indirect effect of access to entrepreneurial opportunity, entrepreneurial marketing and international entrepreneurial performance between ICT and international relations. This study followed the instructions of [Baron et al. \(1986\)](#) to consider the indirect effect of access to entrepreneurial opportunity, entrepreneurial marketing and international entrepreneurial performance. The indirect effect leads to the following hypotheses.

Hypothesis 8. Access to the entrepreneurial opportunity mediates the relationship between ICT and international entrepreneurial performance.

Hypothesis 9. Entrepreneurial marketing mediates the relationship between ICT and international entrepreneurial performance.

Hypothesis 10. International entrepreneurial performance mediates the relationship between access to the entrepreneurial opportunity and international relations.

Hypothesis 11. International entrepreneurial performance mediates the relationship between entrepreneurial marketing and international relations.

Hypothesis 12. International entrepreneurial performance mediates the relationship between ICT and international relations.

Research Methodology

The current study designed a survey instrument to examine the relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance, and international relations. This relationship was examined to examine the role of ICT and international entrepreneurship in international relations among business entities. A survey questionnaire was designed based on the measures available in the previous studies. Literature was followed to develop survey questionnaires. Survey questionnaires is important instrument to check the relationship between variables after collecting first hand data from the respondents (Bowling et al., 1999). This study followed a quantitative research approach. In addition to this, the current study used cross-sectional research design.

This study is based on the comparative analysis between Malaysia and Jordan; therefore, population of the study is based on both the countries. Population of the study is the business organizations involved in international entrepreneurship activities. Therefore, data were collected by using a questionnaire survey from the employees of various organizations involved in international entrepreneurship activities from both Malaysian and Jordan. Hence, two data sets were managed, one from Malaysia and one from Jordan.

Sample size of the study is 500 from each country. Therefore, 500 questionnaires were distributed among the employees of business organization in Malaysian and Jordan. For data collection, the current study utilized area cluster sampling which is quite suitable in the nature of the current study. As this sampling technique is suitable to cover the widespread population. From total 500 distributed questionnaires in Malaysia, 270 were returned, however, eight questionnaires were not completed. Thus, total 262 valid responses were used. In case of Jordan, 229 questionnaires were received and four were incomplete, thus, excluded from the study. Finally, 225 questionnaires were used in data analysis. Finally, the collected data were examined to check the errors in the data.

Errors including the missing value, outlier in the data and missing values were examined. Various errors in the data such as missing value may alter the original results (Yang et al., 2020). Therefore, this study attempted to remove all these errors. The initial data screening was carried out for the both the data related to Malaysia as well as Jordan. Data statistics for Malaysia and Jordan is given in appendix (Table 1). Data statistics shows that data has no missing value. Furthermore, it also shows that data is free from any case of outlier. Hence, data is accurate to proceed for the further analysis.

Data Analysis

The current study carried out data analysis by using Partial Least Square (PLS). PLS is the appropriate tool to analyze the data collected through survey questionnaire. Several previous studies on statistical applications recommended PLS for data analysis to examine the relationship among variables (J. Hair et al., 2017; J. F Hair, 2010; Joseph F. Hair et al., 2012; Hameed et al., 2021). PLS work based on Structural Equation Modeling (SEM). Before to examine the relationship among variables, the reliability and validity was examined through the assessment of measurement model as shown in Figure 2 and Figure 3. Figure 2 shows the measurement model for Malaysia and Figure 3 is the measurement model for Jordan.

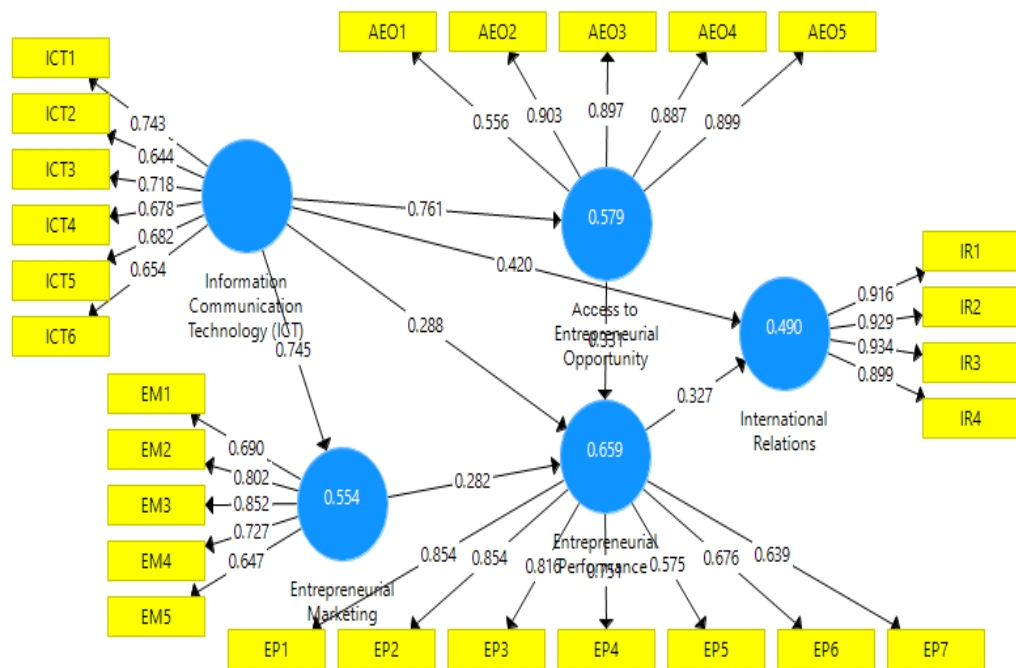


Figure 2. Measurement Model (Malaysia)

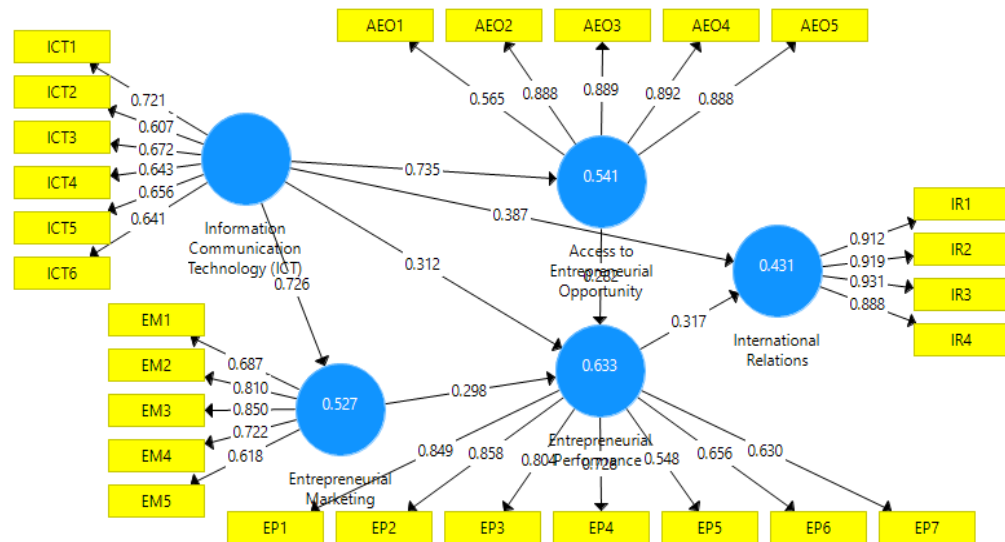


Figure 3. Measurement Model (*Jordan*)

Figure 2 and Figure 3 shows the factor loadings. Factor loading is also given in appendix (Table 2). ICT is measured by using six scale items and all the items have factor loadings above 0.6. Access to entrepreneurial opportunity is measured by using five scale items and all the items have factor loadings above 0.5. Furthermore, entrepreneurial marketing is measured through five scale items with factor loadings above 0.6. Entrepreneurial performance is measured by using seven scale items and all the items achieved minimum threshold criteria of 0.5. Finally, international relations are measured by using four scale items and all the items are above 0.8. Table 1 shows the reliability and Validity for both the Malaysia and Jordan.

Table 1. Reliability and Convergent Validity

Malaysia

	Alpha	rho_A	CR	AVE
Assess to Entrepreneurial Opportunity	0.886	0.897	0.921	0.705
Entrepreneurial Marketing	0.802	0.804	0.862	0.559
Entrepreneurial Performance	0.866	0.887	0.895	0.555
Information Communication Technology (ICT)	0.778	0.788	0.843	0.503
International Relations	0.939	0.94	0.956	0.846

Jordan

	Alpha	rho_A	CR	AVE
Access to Entrepreneurial Opportunity	0.882	0.889	0.918	0.696
Entrepreneurial Marketing	0.793	0.794	0.858	0.551
Entrepreneurial Performance	0.855	0.879	0.888	0.537
Information Communication Technology (ICT)	0.74	0.748	0.82	0.632
International Relations	0.933	0.934	0.952	0.833

Table 1 shows that CR is above 0.7 for ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance, and international relations. According to previous studies, CR must be above 0.7 (J. Hair et al., 2017). Furthermore, convergent validity was assessed through average variance extracted (AVE) which must be above 0.5. It is found that AVE is above 0.5 for all the variables, ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance, and international relations. Finally, this study examined discriminant validity (Henseler et al., 2015) which is given in Table 2 both for Malaysia and Jordan. Discriminant validity is achieved with the help of heterotrait–monotrait ratio of correlations (HTMT.85). Confirmation of reliability and validity lead to the structural model to test the hypotheses by examining the relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance, and international relations. Structural model is most recommended in PLS-SEM to analyze the data (F. Hair Jr et al., 2014; J. F Hair, 2010; J.F. Hair et al., 2021; Joseph F Hair et al., 2013; Hameed et al., 2018). Direct hypotheses are tested by examining the effect of ICT on access to the entrepreneurial opportunity and entrepreneurial marketing. The direct effect of ICT was examined on international entrepreneurship performance. Furthermore, direct effect of access to the entrepreneurial opportunity and entrepreneurial marketing was examined on international entrepreneurship performance. Finally, the direct effect of entrepreneurial performance was examined on international relations. Figure 4 shows the structural model of Malaysia and Figure 5 shows the structural model of Jordan. The results are given in Table 3.

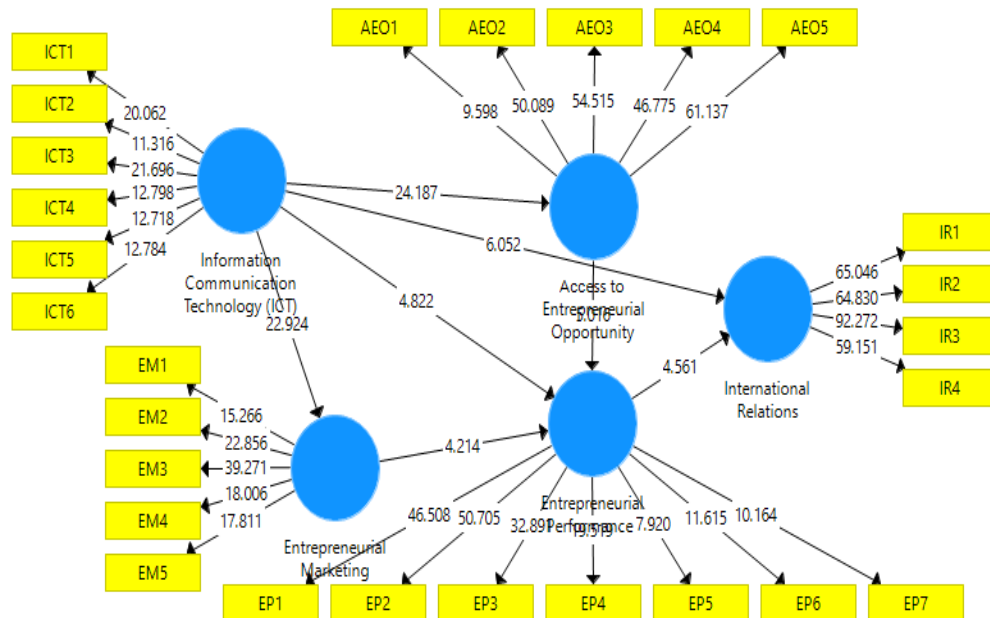


Figure 4. Structural Model (Malaysia)

Table 2. HTMT *Malaysia Jordan*

	Assess to Entrepreneurial Opportunity	Entrepreneurial Marketing	Entrepreneurial Performance	ICT	International Relations
Assess to Entrepreneurial Opportunity					
Entrepreneurial Marketing	0.743				
Entrepreneurial Performance	0.811	0.809			
Information Communication Technology (ICT)	0.793	0.716	0.809		
International Relations	0.747	0.709	0.687	0.759	

	Access to Entrepreneurial Opportunity	Entrepreneurial Marketing	Entrepreneurial Performance	ICT	International Relations
Access to Entrepreneurial Opportunity					
Entrepreneurial Marketing	0.511				
Entrepreneurial Performance	0.573	0.508			
Information Communication Technology (ICT)	0.674	0.817	0.704		
International Relations	0.706	0.666	0.644	0.521	

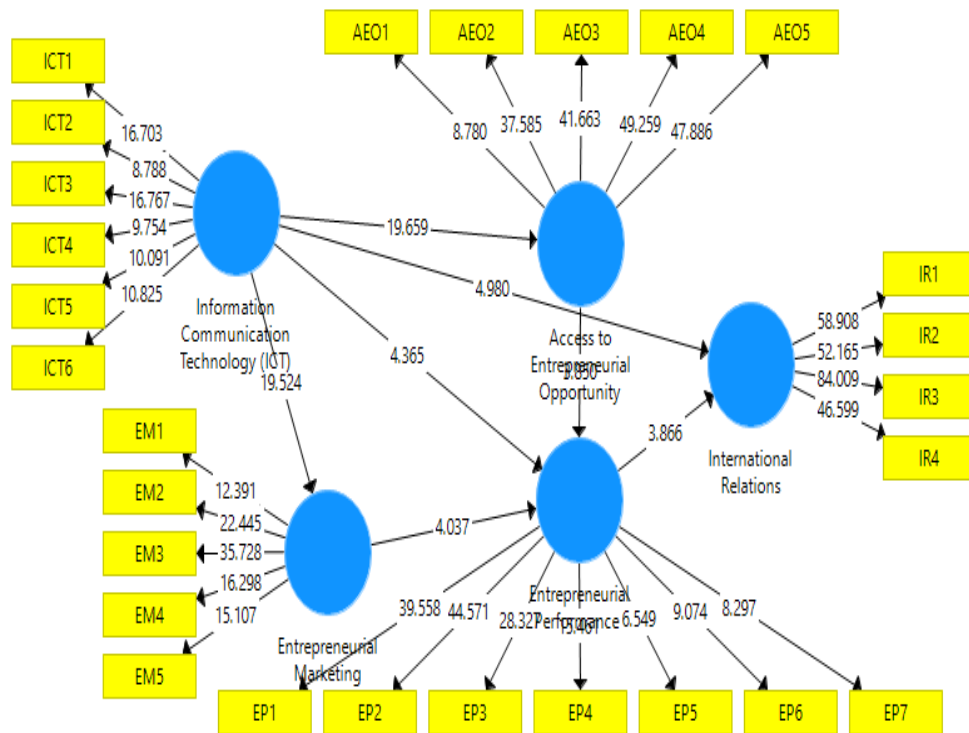


Figure 5. Structural Model (Jordan)

Results are assessed by examining the beta value and t-value. 1.96 minimum level of t-value was considered. Results of the study shows that ICT has positive effect on access to the entrepreneurship opportunity and entrepreneurship marketing. Implementation of ICT increases the access to the entrepreneurship opportunity and entrepreneurship marketing. ICT also has positive effect on entrepreneurship performance and international relations. Furthermore, both the access to the entrepreneurship opportunity and entrepreneurship marketing shows positive effect on international entrepreneurship performance. Thus, increase in access to the entrepreneurship opportunity and entrepreneurship marketing increases the international entrepreneurship performance which further lead to the international relations. Finally, international entrepreneurship performance has positive effect on international relations. In both case, Malaysia and Jordan, all direct hypotheses are supported.

Furthermore, this study examined the indirect effect of access to the entrepreneurship opportunity, entrepreneurship marketing and international entrepreneurship performance. Five indirect effect was examined in this study.

Table 3. Direct Effect Results**Malaysia**

	β	M	SD	T Statistics	P Values
Assess to Entrepreneurial Opportunity -> Entrepreneurial Performance	0.331	0.334	0.066	5.016	0
Entrepreneurial Marketing -> Entrepreneurial Performance	0.282	0.281	0.067	4.214	0
Entrepreneurial Performance -> International Relations	0.327	0.327	0.072	4.561	0
Information Communication Technology (ICT) -> Assess to Entrepreneurial Opportunity	0.761	0.762	0.031	24.187	0
Information Communication Technology (ICT) -> Entrepreneurial Marketing	0.745	0.743	0.032	22.924	0
Information Communication Technology (ICT) -> Entrepreneurial Performance	0.288	0.286	0.06	4.822	0
Information Communication Technology (ICT) -> International Relations	0.42	0.421	0.069	6.052	0

Jordan

	β	M	SD	T Statistics	P Values
Access to Entrepreneurial Opportunity -> Entrepreneurial Performance	0.282	0.279	0.073	3.85	0
Entrepreneurial Marketing -> Entrepreneurial Performance	0.298	0.303	0.074	4.037	0
Entrepreneurial Performance -> International Relations	0.317	0.324	0.082	3.866	0
Information Communication Technology (ICT) -> Access to Entrepreneurial Opportunity	0.735	0.739	0.037	19.659	0
Information Communication Technology (ICT) -> Entrepreneurial Marketing	0.726	0.729	0.037	19.524	0
Information Communication Technology (ICT) -> Entrepreneurial Performance	0.312	0.314	0.072	4.365	0
Information Communication Technology (ICT) -> International Relations	0.387	0.386	0.078	4.98	0

The instructions of (Preacher et al., 2004, 2008) was followed in this study. The first indirect effect of access to the entrepreneurship opportunity was examined between ICT and international entrepreneurship performance. The second indirect effect of entrepreneurship marketing was examined between ICT and international entrepreneurship performance. The third indirect effect international entrepreneurship performance was examined between access to the entrepreneurship opportunity and international relations. The fourth indirect effect of international entrepreneurship performance was examined between entrepreneurship marketing and international relations. Finally, fifth indirect effect of international entrepreneurship performance was examined between ICT and international relations. Results of the study shows that indirect effect of access to the entrepreneurship opportunity is significant which shows that access to the entrepreneurship opportunity reflect the positive effect of ICT on international entrepreneurship performance. The second indirect effect of entrepreneurship marketing was examined between ICT and international entrepreneurship performance. Thus, entrepreneurial marketing shows positive role to transfer the positive effect of ICT on performance of entrepreneurship internationally. Similarly, the indirect effect of international entrepreneurship performance is also significant in both cases. Thus, international entrepreneurship performance reflects the positive effect of access to the entrepreneurship opportunity and entrepreneurship marketing on international relations. Finally, international entrepreneurship performance also transfers the positive effect of ICT on international relations as the mediation effect of international entrepreneurship performance between ICT and international relations is significant. All the indirect effect results are given in Table 4. The r-square value (R^2) for international relations is 0.49 for Malaysia. It shows that; ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance and international relations are expected to bring 49% change in international relations. The r-square value (R^2) for international relations is 0.431 for Jordan. It shows that; ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance and international relations are expected to bring 43.1% change in international relations.

In case of Malaysia, all the direct and indirect hypotheses are supported. Similarly, in case of Jordan, all the direct and indirect hypotheses are supported. Hence, there is no such difference between Malaysia and Jordan. However, there is a difference in variance explained in international relations. In case of Malaysia, the variance explained is 49%, however, in case of Jordan, it is 43.1%.

Table 4. Indirect Effect Results
Malaysia

	β	M	SD	T Statistics	P Values
Information Communication Technology (ICT) -> Assess to Entrepreneurial Opportunity -> Entrepreneurial Performance	0.252	0.255	0.052	4.83	0
Information Communication Technology (ICT) -> Entrepreneurial Marketing -> Entrepreneurial Performance	0.21	0.208	0.049	4.301	0
Assess to Entrepreneurial Opportunity -> Entrepreneurial Performance -> International Relations	0.108	0.109	0.032	3.387	0.001
Information Communication Technology (ICT) -> Assess to Entrepreneurial Opportunity -> Entrepreneurial Performance -> International Relations	0.082	0.083	0.025	3.341	0.001
Entrepreneurial Marketing -> Entrepreneurial Performance -> International Relations	0.092	0.092	0.03	3.03	0.003
Information Communication Technology (ICT) -> Entrepreneurial Marketing -> Entrepreneurial Performance -> International Relations	0.069	0.068	0.022	3.093	0.002
Information Communication Technology (ICT) -> Entrepreneurial Performance -> International Relations	0.094	0.094	0.03	3.162	0.002

Jordan

	β	M	SD	T Statistics	P Values
Information Communication Technology (ICT) -> Access to Entrepreneurial Opportunity -> Entrepreneurial Performance	0.207	0.206	0.055	3.75	0
Information Communication Technology (ICT) -> Entrepreneurial Marketing -> Entrepreneurial Performance	0.216	0.221	0.054	3.984	0
Access to Entrepreneurial Opportunity -> Entrepreneurial Performance -> International Relations	0.089	0.09	0.033	2.706	0.007
Information Communication Technology (ICT) -> Access to Entrepreneurial Opportunity -> Entrepreneurial Performance -> International Relations	0.066	0.066	0.024	2.691	0.007
Entrepreneurial Marketing -> Entrepreneurial Performance -> International Relations	0.095	0.098	0.035	2.741	0.006
Information Communication Technology (ICT) -> Entrepreneurial Marketing -> Entrepreneurial Performance -> International Relations	0.069	0.072	0.025	2.726	0.007
Information Communication Technology (ICT) -> Entrepreneurial Performance -> International Relations	0.099	0.103	0.038	2.636	0.009

Discussion

The objective of this study was to examine the role ICT and international entrepreneurship in international relations among business entities. In this direction, the relationship between ICT, access to the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance and international relations was examined. By using a questionnaire, data were collected from Malaysia and Jordan, and analyzed through statistical tool. Results of the study fulfilled the objective of the study. To approach the results, this study proposed 12 hypotheses. Seven hypotheses were proposed based on the direct effect and five hypotheses were proposed based on the indirect effect. There is no such difference was found between Malaysia and Jordan.

While examining the direct effect, the effect of ICT was examined on the entrepreneurship performance, access to entrepreneurship opportunity and marketing performance. It is found that ICT has positive effect on access to entrepreneurship opportunity. Incorporation of ICT in international entrepreneurship can create opportunities. As given in previous studies that ICT has relationship with entrepreneurship opportunity (Yuldinawati et al., 2018). ICT can identify new opportunities for the business growth internationally. Furthermore, ICT as direct effect on the marketing of entrepreneurship activities. As the entrepreneurial marketing has key importance, therefore, ICT can be used as potential tool to enhance the entrepreneurial marketing. As this study also shows that ICT has positive effect on entrepreneurial marketing. The results of the current study are also consistent with the previous studies which shows the relationship between marketing and ICT (Kim et al., 2021; Lashgarara et al., 2011). In addition to this, this study found a direct and positive relationship between ICT and entrepreneurship performance. According to the results of this study, ICT can increase the entrepreneurial performance directly.

Moreover, by examining the direct relationship, this study analyzed the effect of ICT on international relations. This study proved that ICT has positive effect on international relations directly. Increase in ICT activities among the business organizations can increase the international relations globally. In the current era of technology, the role of ICT is increasing among all the activities globally. As the communication is most important in any business activity or to the success of any business contract globally. ICT enables the better communication among business entities internationally which further lead to the international relations. Additionally, access to the entrepreneurial opportunity effect positively on entrepreneurial performance. As given in the previous studies that entrepreneurship opportunity has positive effect on entrepreneurship performance (Wu et al., 2020; Xie et al., 2021). Thus, the results of the study also consistent with literature. Similarly, marketing performance has positive effect on international entrepreneurial performance.

Improvement in the marketing activities in relation to the entrepreneurship increases the international entrepreneurial performance which is consistent with literature as reported in [Barrett et al. \(2000\)](#). Finally, while examining the direct effect, this study reported the relationship between entrepreneurial performance and international relations. Results proved that; entrepreneurial performance has positive effect on international relations. In the similar way, the direct relationship between entrepreneurship and international relations is already reported in previous studies ([Awang et al., 2009](#); [Azam et al., 2021](#)).

To report the indirect effect, this study tested five hypotheses based on the mediation effect of access to the entrepreneurial opportunity, entrepreneurial marketing and entrepreneurial performance between ICT and international relations. The indirect effect of access to the entrepreneurial opportunity between ICT and entrepreneurial performance was found supported. The indirect effect of entrepreneurial marketing between ICT and entrepreneurial performance was also supported. It shows that both the entrepreneurial opportunity and entrepreneurial marketing reflect the positive effect of ICT on entrepreneurial performance. Furthermore, entrepreneurial performance mediates the relationship between ICT and international relations. It shows that international entrepreneurial performance has key importance to create a relationship between ICT and international relations. Furthermore, the indirect effect of entrepreneurship performance was examined between entrepreneurship opportunity and international relations. Another mediation effect of entrepreneurship performance was examined between entrepreneurship opportunity and international relations. Both the indirect effect for Malaysia and Jordan is significant and shows that; entrepreneurship performance reflects the positive effect of entrepreneurship opportunity and entrepreneurial marketing on international relations.

Hence, the above discussion shows that; ICT has vital role to promote international entrepreneurship. As ICT can increase the identification of international opportunities for entrepreneurship and has the ability to enhance entrepreneurship marketing globally which increase the international entrepreneurial performance. Ability of ICT to promote international entrepreneurial performance improves the international relations. Hence, both the ICT and international entrepreneurship can promote international relations among business interties both in Malaysia and Jordan.

Conclusion

Findings of the study highlighted no difference between Malaysia and Jordan. It is revealed that; international entrepreneurship has important role to promote international relations. The activities of international entrepreneurship among various business organizations can promote relations among the nations. Therefore, increase in international

entrepreneurship activities increase the international relations both in Malaysia and Jordan. In line with the international entrepreneurship, ICT also play an important role in international relations. The role of ICT has vital contribution to promote international relations with the help of international entrepreneurship. As findings of the study shows that ICT has positive role to promote access to entrepreneurship opportunities and entrepreneurship marketing which further lead to the entrepreneurial performance. Access to entrepreneurial opportunity is required to perform entrepreneurship activity internationally. Therefore, ICT has the vital role to find out the entrepreneurship activities internationally which further lead to the better performance of entrepreneurship. Furthermore, marketing also play an important role to enhance the entrepreneurship performance. ICT provide the access internationally to market the entrepreneurship activity. Finally, increase in intrapreneurial performance increases the international relations.

Implications of the Study

The current study has several implications for the literature as well as practice as this study examined the relationship between ICT, access the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance, and international relations. This relationship is not identified in previous studies in comparison between Malaysia and Jordan. As several studies have reported the relationship between ICT and entrepreneurship, however, this relationship is rarely discussed in relation to the international relations. The integration between ICT and international entrepreneurship has vital implications for the literature. The integration between ICT and international entrepreneurship is not identified in previous studies. Furthermore, the indirect effect of access to the entrepreneurial opportunity, entrepreneurial marketing and entrepreneurial performance between ICT and international relations is identified by the current study. Additionally, the comparative analysis between Jordan and Malaysia is also first time considered in relation to the international relations, ICT and international entrepreneurship. These theoretical implications have vital role for the practitioners to enhance international relations. As this study proved that the integration between ICT and international entrepreneurship can promote international relations, therefore, the management of business entities should promote the key relationship between ICT and international entrepreneurship. The integration of ICT in international entrepreneurship activities can enhance relations between business organizations.

Limitations and Future Directions

The current study has significant contribution to the field of international relations by considering the ICT and international entrepreneurship. However, despite the key contribution, the current study has few

limitations which could be the future directions. For instance, the current study incorporated ICT in international relations, however, whole mechanism of ICT is treated as one variable; the future studies may take various elements of ICT to examine the effect. It may provide better results and shows the effectiveness or ineffectiveness of various ICT elements for international relations. In addition to this, this study reported that ICT promote international entrepreneurship through opportunity identification and marketing performance, however, there are several other elements which may promote international entrepreneurship through ICT, therefore, the future studies should explore the other elements. Furthermore, this study used a survey method to examine the relationship between ICT, access the entrepreneurship opportunity, entrepreneurship marketing, entrepreneurial performance and international relations, the future studies should include the interviews to various business owners dealing internationally. This will provide the better outlook for ICT and international entrepreneurship to promote international relations.

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Appendix

Table 1. Data Statistics

Malaysia

	No.	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
ICT1	1	0	2.955	4	1	5	1.055	0.538	-0.382
ICT2	2	0	3.679	4	1	5	0.985	-0.296	-0.931
ICT3	3	0	2.579	4	1	5	0.953	-0.56	-0.533
ICT4	4	0	4.081	4	1	5	0.967	0.801	-1.072
ICT5	5	0	3.163	4	1	5	1.057	1.51	-1.103
ICT6	6	0	3.842	4	1	5	1.088	-0.241	-0.764
AE01	7	0	4.796	4	1	5	0.888	-0.515	-0.708
AE02	8	0	3.643	4	1	5	1.139	-0.552	-0.522
AE03	9	0	3.683	4	1	5	1.173	-0.504	-0.6
AE04	10	0	3.756	4	1	5	1.107	-0.316	-0.612
AE05	11	0	3.715	4	1	5	1.078	0.025	-0.676
EM1	12	0	4	4	1	5	1.002	-0.151	-0.76
EM2	13	0	4.131	4	1	5	0.954	0.399	-0.958
EM3	14	0	3.977	4	1	5	0.968	0.067	-0.769
EM4	15	0	4	4	1	5	0.97	0.617	-0.928
EM5	16	0	3.57	4	1	5	1.06	-0.21	-0.541
EP1	17	0	3.715	4	1	5	1.049	-0.085	-0.64
EP2	18	0	3.733	4	1	5	1.096	-0.532	-0.576
EP3	19	0	3.67	4	1	5	1.135	-0.479	-0.575
EP4	20	0	3.873	4	1	5	1.008	0.795	-0.945
EP5	21	0	3.873	4	1	5	0.976	0.433	-0.861
EP6	22	0	3.887	4	1	5	0.883	0.233	-0.651

EP7	23	0	3.9	4	1	5	0.856	0.581	-0.636
IR1	24	0	3.593	4	1	5	1.232	-0.768	-0.457
IR2	25	0	3.557	4	1	5	1.23	-0.97	-0.322
IR3	26	0	3.729	4	1	5	1.165	-0.464	-0.633
IR4	27	0	3.715	4	1	5	1.186	-0.844	-0.496

Jorden

	No.	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
ICT1	1	0	3.909	4	1	5	0.966	0.709	-0.899
ICT2	2	0	3.608	4	1	5	1.068	-0.378	-0.47
ICT3	3	0	3.559	4	1	5	1.107	-0.539	-0.475
ICT4	4	0	4.032	4	1	5	0.978	0.694	-1.004
ICT5	5	0	4.102	4	1	5	0.877	1.418	-1.069
ICT6	6	0	3.747	4	1	5	1.105	-0.398	-0.666
AE01	7	0	3.688	4	1	5	1.191	-0.676	-0.569
AE02	8	0	3.613	4	1	5	1.127	-0.578	-0.466
AE03	9	0	3.667	4	1	5	1.167	-0.408	-0.633
AE04	10	0	3.731	4	1	5	1.094	-0.351	-0.567
AE05	11	0	3.71	4	1	5	1.043	0.102	-0.656
EM1	12	0	3.925	4	1	5	0.992	-0.374	-0.615
EM2	13	0	4.059	4	1	5	0.963	0.26	-0.848
EM3	14	0	3.914	4	1	5	0.98	-0.038	-0.69
EM4	15	0	3.952	4	1	5	0.991	0.557	-0.906
EM5	16	0	3.543	4	1	5	1.063	-0.102	-0.574
EP1	17	0	3.72	4	1	5	1.036	0.205	-0.706
EP2	18	0	3.731	4	1	5	1.084	-0.348	-0.622
EP3	19	0	3.651	4	1	5	1.132	-0.336	-0.603

EP4	20	0	3.844	4	1	5	0.99	1.21	-1.02
EP5	21	0	3.876	4	1	5	0.956	0.484	-0.827
EP6	22	0	3.887	4	1	5	0.87	0.336	-0.619
EP7	23	0	3.898	4	1	5	0.852	0.297	-0.538
IR1	24	0	3.532	4	1	5	1.232	-0.76	-0.423
IR2	25	0	3.5	3	1	5	1.228	-0.959	-0.272
IR3	26	0	3.694	4	1	5	1.154	-0.387	-0.629
IR4	27	0	3.694	4	1	5	1.177	-0.71	-0.522

Note: ICT = Information Communication Technology; AEO = Access to the Entrepreneurship Opportunity; EM = Entrepreneurship Marketing; EP = Entrepreneurial Performance, IR = International Relations

Table 2. Factor Loadings
Malaysia

	Assess to Entrepreneurial Opportunity	Entrepreneurial Marketing	Entrepreneurial Performance	Information Communication Technology (ICT)	International Relations
AEO1	0.556				
AEO2	0.903				
AEO3	0.897				
AEO4	0.887				
AEO5	0.899				
EM1		0.69			
EM2		0.802			
EM3		0.852			
EM4		0.727			
EM5		0.647			
EP1			0.854		
EP2			0.854		

EP3			0.816		
EP4			0.751		
EP5			0.575		
EP6			0.676		
EP7			0.639		
ICT1				0.743	
ICT2				0.644	
ICT3				0.718	
ICT4				0.678	
ICT5				0.682	
ICT6				0.654	
IR1					0.916
IR2					0.929
IR3					0.934
IR4					0.899

Jordan

	Access to Entrepreneurial Opportunity	Entrepreneuria l Marketing	Entrepreneuria l Performance	Information Communication Technology (ICT)	Internationa l Relations
AE01	0.565				
AE02	0.888				
AE03	0.889				
AE04	0.892				
AE05	0.888				
EM1		0.687			
EM2		0.81			
EM3		0.85			

EM4		0.722			
EM5		0.618			
EP1			0.849		
EP2			0.858		
EP3			0.804		
EP4			0.728		
EP5			0.548		
EP6			0.656		
EP7			0.63		
ICT1				0.721	
ICT2				0.607	
ICT3				0.672	
ICT4				0.643	
ICT5				0.656	
ICT6				0.641	
IR1					0.912
IR2					0.919
IR3					0.931
IR4					0.888

Note: ICT = Information Communication Technology; AEO = Access to the Entrepreneurship Opportunity;
EM = Entrepreneurship Marketing; EP = Entrepreneurial Performance, IR = International Relations