

Industrial Entrepreneurs' Decisions for Start-up Behavior in the Context of Economic Corridors: A Scale Development & Contextualization Process

Muhammad Arif Professor, Department of Management Sciences, Bahria University, Islamabad, Pakistan.

Zia Ur Rehman Department of Management Sciences, Bahria University, Islamabad, Pakistan. Email: zia.rehman.1987@gmail.com

Saira Batool Assistant Professor, Department of Urdu, International Islamic University, Islamabad, Pakistan.

Abstract

Start-up behaviour is a key resource for entrepreneurial investment decisions. Economic Corridors are a new form of regional and beyond regional entrepreneurial collaborations. The present research aimed at operationalising the measurement scale for industrial entrepreneurs' start-up behaviour in the context of entrepreneurship under economic corridors. Particularly, the present study is committed to developing, contextualising, and statistically pilot testing the measurement scale of start-up behaviour of industrial entrepreneurs. This study applied EFA, validity, and reliability tests on the 6-items constructed for Start-up Behavior. Data was collected from the owners, shareholders, members of the board of directors and Chief level executives of 425 manufacturing organisations (e.g., also known as industrial entrepreneurs) in Pakistan. Results of this scale contextualisation process confirmed that initial developed 7 items were reduced to 6-items, and 1-item was deleted at the stage of face & content validity. The final form of measurement scale for Start-up Behavior consisted of 6-items under 1-factor. Moreover, this study described and presented a systematic process for scale development, scale contextualisation, and statistical pilot testing to ensure the factorisation/extraction of factors, reliability and validity for the newly operationalised scales for start-up behaviour. This study contributed to the body of knowledge for behavioural sciences, entrepreneurship, and economic corridors by providing a 6-item measuring scale of industrial entrepreneurs' start-up behaviour. This study is also an added advantage for the owners of the manufacturing firms and policymakers up to the extent that they were able to analyse the six behavioural factors for investment in the new start-ups.

Key Words:

Industrial entrepreneurship,
start-up Behavior, Star-up
Decisions, Scale Development,
Exploratory Factor Analysis,
Economic Corridors,

Introduction and Literature Review

Behavioural decision-making is a vital resource for entrepreneurial new ventures/start-ups under the new age of economic corridors (Ishizaka & Siraj, 2018; Zeelenberg, 1999). Entrepreneurship is a deep-rooted and longstanding academic discipline. It comes under the academic discussion of humans around five hundred years ago in the name of 'doing business' (Radovic & Salamzadeh, 2012; Jelilov, Chidigo, & Onder, 1869). During these five hundred years, entrepreneurship changes its lens from time to time. A well-known Guru, e.g. (Coase, 1937) started the discussion on entrepreneurship by exploring the concept of the 'nature of the firm'. Coase argued that all firms are established to earn profits. Later on, the concept of firms adopted a new lens as 'Organisations'. Similarly, the concept of firms' profit adopted a new lens in the name of 'organisational growth' (Tong, 2015; Barringer, Jones, & Neubaum, 2005). The evolution of entrepreneurship has adopted a new age lens under the era of economic corridors as "organisational sustainable growth" (Pili, Grigoriadis, Carlucci, Clemente, & Salvati, 2017; Zaman & Moemen, 2017).

In the recent global age of economic corridors, entrepreneurship plays a key role in creating new businesses, industries, business & industrial clusters, regional & beyond regional collaborations, trade agreements, trade arrangements, supply chain functions, joint ventures, mergers, job creation (Neumeyer & Santos, 2018; Juma & Sequeira, 2017; Salimath & Cullen, 2008). All these entrepreneurial activities involved behavioural decision-making (Brunell & Buelow, 2017). At the individual level, both males and females can start new start-ups by utilising the creative & innovative lens of entrepreneurship. At the country level, entrepreneurship is considered a helping instrument to improve the macro & micro-level socioeconomic indicators like GDP, foreign direct investment, employment creation, cultural diversification, people-to-people connections etc. At the regional level, entrepreneurship is providing a new lens for regional collaborations, regional economic cooperation, regional connectivity projects in the name of One-Belt-One-Road (OBOR), and the development of

economic corridors in the name of China Pakistan Economic Corridor (CPEC) (Wolf, 2018; Ahmed, Arshad, Mahmood, & Akhtar, 2017; Lanjian & Wei, 2015).

Entrepreneurship discipline is discussed and significantly connected with almost all types of disciplines. Economic corridors are global age emerging discipline in which entrepreneurship is strengthening its position. The debate on economic corridors was started in the 1990s through the Greater Mekong Subregion project (Subregion, 1998). Economic corridors are known to integrate the infrastructure connectivity between the corridors' member countries and regions for inter-connected trade activities (Baruah & Mohan, 2018; Anderson, Blackhurst, & Secretariat, 1993). Global trade arrangements earlier from the economic corridors in the name of NAFTA, OECD, WTO, and GATT etc., were used as regional powers against less developed countries, specifically the Asian countries (Buthe & Milner, 2008; Nicoletti & Scarpetta, 2003). The rich countries become richer and poor countries become poorer. To counter this adverse situation between rich and poor countries, China introduced a new concept OBOR (Hongdao, Azam, & Mukhtar, 2018; Lanjian & Wei, 2015). Different economic corridors between sixty-five countries exist on OBOR, including China Pakistan Economic Corridor between China and Pakistan.

Economic corridors have connected the countries and regions through infrastructure development (Baruah & Mohan, 2018). Under CPEC, infrastructures development included by not limited to energy infrastructure in which mega projects of electric power generation have been injected into economic corridors of partner countries. Road infrastructure, in which long-size 'inter-country' and 'intra-country' motorways are now developed. Industrial Infrastructure, in which an enormous number of special economic zones (SEZ) and special technological zones (STZ) are now developed on the new road infrastructure between interconnected countries (Ali et al., 2018; Mehar, 2017; Shoukat, Ahmad, & Abdullah, 2017). On one side, these SEZ & STZ would become the hub for entrepreneurial new start-ups among the economic corridors of partner countries. On the other side, these SEZ & STZ would become a tool to reduce the development inequality within the country. Entrepreneurial infrastructure, the new start-up opportunities in the shape of technology transfer, technology sharing, mutual & co-sharing businesses, protection & engagement of local entrepreneurs, jobs creation for local and foreign skilled force, starting of intra-country technical skills learning programs, and mutual sharing of entrepreneurial benefits have been finalised between Pakistan and China (Ali & Faisal, 2017).

China is investing multi-trillion USD in around sixty-five member countries of OBOR. China is investing around 62 billion \$ in Pakistan in the above referred socioeconomic sectors under CPEC initiatives (Ali & Faisal, 2017; Sultan, Ahmed, & Zafar, 2017). Chinese 62 Billion \$ investment in Pakistan under CPEC is reported as China's highest overseas investment in a single country (Babar & Zeeshan, 2018). Precisely, China is investing in Pakistan, including but not limited to energy, power, defence products, defence cooperation, communication lines, people-to-people exchange, education & training, roads, seaports, airports, hospitals, special economic zones, technological zones, water dams and so on (Malik, 2018; Maqsood, 2018). China is also building nine Special Economic Zones in Pakistan under CPEC projects. These SEZs are under development in different parts of the Country like Islamabad, Lahore, Karachi, Faisalabad, Dhabegi, Rashakai etc. (Ali, Rasheed, Muhammad, & Yousaf, 2018; Singh & Magray, 2017). These SEZs are designed in such a way to create entrepreneurial opportunities for both local and foreign entrepreneurs and to develop those areas of Pakistan which are remained as backwards. China is committed to transferring the latest industrial technology to Pakistan. Most of the Chinese top leading organisations would start their productions in these SEZs. Pakistani firms would also emerge their business practices as per Chinese standards, and overall entrepreneurial activities are expected to be enhanced in Pakistan (Ali & Chaudhri, 2018; Rahman & Shurong, 2017).

The government of Pakistan is facing some problems, besides the above referred heavy China investments in Pakistan. The government of Pakistan is inadequate to control the prices of household commodities like sugar, cooking oil, vegetables, and medicines (Durrani & Forbes, 2018). The Pakistani government is also failed to start initiatives for the creation of new start-up behaviours in local entrepreneurs to compete with low-cost Chinese products (Ramay, 2016). Pakistani entrepreneurs fear the competition with low-cost Chinese products. Pakistani entrepreneurs also think that the local Pakistani market will be occupied by Chinese investors, and Pakistani foreign trade may also be reduced (Garlick, 2018; Callahan, 2016). All these adverse scenarios encourage the authors of this research to develop a measurement scale for the start-up behaviours of entrepreneurs.

The development of economic corridors increased the importance of entrepreneurship. A huge number of articles on entrepreneurship under economic corridors have been witnessed in the last five years (Ijaz, 2018; Rasheed et al., 2018; Ali, Gang, & Raza, 2016). Entrepreneurship is also witnessed a huge significance in CPEC also. Considering these studies, the authors decided to prepare a measurement scale for 'industrial entrepreneurs' start-up behaviours'. The authors found limited literature support for the measurement of start-up behaviours of entrepreneurs. The authors target industrial entrepreneurs for this study (Sperber & Linder, 2018; Jin, 2017). Industrial entrepreneurs are the owners of manufacturing organisations. The authors decided on manufacturing

concerns reason that a lot of entrepreneurial opportunities can be available for manufacturing concerns in the Special Economic Zones under CPEC, and manufacturing uplift would make Pakistan's economy stronger.

This study contributed to the literature in such a way that a valid and reliable scale is available for the researchers. The researchers are able to analyse the positive and negative start-up behaviour of the entrepreneurs (Baluku, Kikooma, & Kibanja, 2016). The entrepreneurs' behaviour factors have been added in literature, such as putting efforts into early-stage entrepreneurial activities, talking with some for new start-ups, searching for new start-ups, thinking about investing in start-ups, preferring to invest new start-ups, and finding someone who is willing to invest in new start-ups (Kofanov & Zozulov, 2018; Nabi & Liñán, 2013). The scale for entrepreneurs' start-up behaviour is also helpful for both Government of Pakistan and industrial entrepreneurs. This scale provides support to the government as a way to increase the positive behaviour of new start-ups in Pakistan. Industrial entrepreneurs are also able to know about the factors which increase their start-up behaviour to compete in Special Economic Zones with low-cost Chinese products. The sixty-five OBOR member countries may also get benefit from this research in such a way that they can also statistically analyse the behavioural factors of their indigenous entrepreneurs to compete with the Chinese entrepreneurs (Hongdao et al., 2018). This research recommended that future research may be conducted to test this scale for cross-national studies. This scale may be tested for the variables under the entrepreneurship discipline, like entrepreneurs' trust, entrepreneurial education, and entrepreneurial ecosystem.

Research Method

Participants and Data Collection Process

We applied simple random sampling for the selection of 525 owners of manufacturing concerns all over Pakistan (Etikan & Bala, 2017; Sekaran, 2006). We picked only those manufacturing units which are working as a Company, registered in the Securities & Exchange Commission of Pakistan, Federal Board of Revenue, and authorised Chamber of Commerce. The participants of this research are individuals, i.e., members of the board of directors, owners, shareholders, and chief-level executives. We applied the online survey technique for data collection from manufacturing concerns (Suskie, 1992; Hyman, 1957). The individual identity of the participants was kept secret, as per research ethics (Punch & Oancea, 2014). We circulated the questionnaire in the English language as the participants are highly educated, well-known personalities, and elite/upper-class/rich families. Moreover, around 65% of respondents aged between 41-50 years with more than 25 years of industrial experience. We also ensure the confidentiality of information provided by industrial entrepreneurs (Sekaran & Bougie, 2016; Punch & Oancea, 2014). The respondents participated in this research on a voluntary basis as this research is about economic corridors, and participants expected a 'big push' for 'high-tech industrialisation' in Pakistan under CPEC and OBOR initiatives, e.g., technology transfer, technical skills development, and so on (Tehsin, Khan, & Sargana, 2017; Tong, 2015). We received 425 valid responses from the respondents, which were used for statistical analysis. The male respondents filled 93%, and the remaining 7% of responses were filled by females. The high ratio of male responses is justified due to a prevailing social & cultural system in Pakistan. Pakistani society is more 'patriarchy' rather than 'matriarchy'.

Scale Development Process

We considered the valuable suggestions of, e.g., (Churchill Jr, 1979) for scale development. Churchill suggested a three-phase process. Phase-I is about conceptualisation for qualitative inquiry. Phase II is about scale purification. Phase III is about scale validation. Later on, (Hinkin, 1995) critically reviewed the scale development process. He found that the existing process of scale development could be revised for 'academic best ethical practices'. Hinkin suggested that item generation and scale construction are the two major steps for scale development. Hinkin also suggested that scale development is highly dependent on the design of the study, phenomena of the study, and already know-how about the concept. He suggested that the phenomena of the study are self-explanatory to determine the process for scale development. In recent five years, well-known scholars suggested a range of different inputs for scale development. For example, (Hantrais, 1999) suggested that for the variables in which the population is represented more than one country, scale contextualising is important. Similarly, (Morgado, Meireles, Neves, Amaral, & Ferreira, 2017) pointed out ten limitations in the scale development process. (Carpenter, 2018) suggested ten other steps for scale development. (Kyriazos & Stalikas, 2018) suggested that scale development must include a scale standardisation process.

Considering the said suggestions by the well-known guru's on the scale development process, we applied the following three-step processes. Firstly, the instrument items development process. Secondly, the instrument contextualising process. Thirdly is the instrument testing process. Given hereunder is a detail of our three-process as the scale development process.

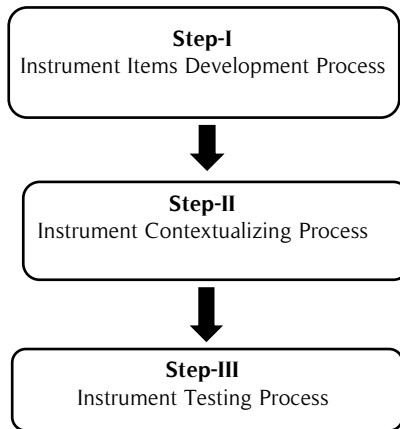


Figure 1: Scale Development Process

Instrument Items Development Process

Descriptive research is recommended where subjective concepts have already emerged into variables and knowledge of the research problem is available in literature but in limited quantity (Nassaji, 2015; Lambert & Lambert, 2012). The current study is an empirical attempt to develop the measurement scale for entrepreneurs' start-up behaviour in the context of economic corridors. We started with the literature review. The concept of start-up behaviour was discussed in both entrepreneurship and behavioural sciences literature. A person who starts a new business in a way that was not already existed is called an entrepreneur (Gartner, 1985). Entrepreneurs perform some behavioural activities to start some new business; these activities are start-up behaviour (Zanger & Geissler, 2018). The behavioural activities for new start-ups are included but are not limited to efforts for new business, talking with someone for a new start-up, search new start-ups, thinking about some investments in new start-ups, analysing the next 12 months for new start-ups, and so on. While analysing the availability of measurement scales, we found that (Carter, Gartner, & Reynolds, 1996) suggested some sequence of events for new start-ups. Global Entrepreneurship Monitor (GEM) suggests a valuable input for item generation for new start-ups (Reynolds et al., 2005; Harding, Hart, Jones-Evans, & Levie, 2002). GEM used the following items to determine the new start-ups for time-series financial analysis from 1998-2003:

- i. Number of start-up activities past year
- ii. Will own part/all new firm
- iii. Number of own the firm
- iv. In my country, you will often see stories in the public media about successful entrepreneurs
- v. In the next six months, do you think good opportunities will develop where you live for starting a new business
- vi. In the next six months, there will be good opportunities for starting a business in the area where you live

Later on, these new start-up activities were strengthened through their correlation with prior entrepreneurial knowledge (Clercq & Arenius, 2006). Considering the findings of e.g., (Clercq & Arenius, 2006; Carter et al., 1996), a 7-item measurement scale of 'entrepreneurial behaviour' for university students was proposed by (Zanger & Geissler, 2018). While a detail analysing of this scale, it was revealed that this scale was proposed for university students. These students may or may not be entrepreneurs for whom this scale was prepared.

We found that the measurement scale for the entrepreneurs' start-up behaviour was not available in the existing literature. For the development of a measurement scale for entrepreneurs' start-up behaviour, we considered 6-items suggested by GEM for new start-ups (Reynolds et al., 2005; Harding et al., 2002) and the 7-item scale proposed by (Zanger & Geissler, 2018) for scale development of entrepreneurial behaviour in university students. The authors prepared and contextualised 7-items for entrepreneurs' start-up behaviours with respect to industrial entrepreneurship and economic corridors.

Instrument Contextualizing Process

For the instrument contextualisation process, we start with face & content validation.

Face Validity

The face validity was performed by the authors of this study. The authors prepared the 7-items for entrepreneurs' start-up behaviour. For an in-depth understanding of the context of 'industrial entrepreneurs' and 'start-up behaviour' for economic corridors, the authors consulted relevant literature (Sperber & Linder, 2018; Jin, 2017; Nicholson et al., 2006). After the face validity, the authors started the process for content validity.

Content Validity

The content validation was performed through a systematic process as suggested by well-known scholars, e.g. (Aydin et al., 2014; Churchill Jr, 1979; Hinkin, 1995). The title for the content validation was mentioned as 'entrepreneurs start-up behaviour – scale content validation sheet'. After the title, the authors mentioned three demographic questions for the respondents, i.e., name of the respondent, name of the organisation, and designation. The authors ensure the individual identity is kept secret. The authors also used the following 7-column sheet for content validation.

Table 1. Content Validation Sheet

Sr. No	Item description	Perfect	Modification Required	Delete This Item	Merge This Item	New Item Required
1	Item no. 1 to item no.7					

The valuable input of the thirteen experts of this content validation sheet was invited under these five headings.

The above-referred content validation was consulted with four academic experts, two Government officials, two policymakers, one banker, two CEOs of manufacturing concerns, one PhD scholar, and one MPhil degree holder. These thirteen experts from different corridors of the economy had suggested, according to their line of expertise, either entrepreneur's start-up behaviour scale is perfect, modification required in the items, the item is not required, an item required to be merged with the other similar item, or a new item is required which is not mentioned in the proposed items. The proposed 7-items were examined by the thirteen different experts for their need, suitability and perfection for the construct 'entrepreneurs start-up behaviour' up to the extent that these items represent the construct, ensure clarity in the items, and specificity to differentiate the items from each other. The thirteen content validation sheets were analysed by the authors as per the opinion of the experts. The authors used a score of 3 out of 13 to accept the recommendation of the experts. According to the recommendations of experts, 1-item was deleted as it was a replicated stance. The authors also modified 3 of the items, whereas 3 items were retained as it is. Therefore, the 6-items scale consisting of 1-factor for 'entrepreneurs' start-up behaviour' was finalised to perform the scale reliability and validity tests.

Instrument Testing Process

Data Collection

Data was collected from the owners, shareholders, members of the board of directors and Chief level executives of 425 manufacturing organisations (e.g., also known as industrial entrepreneurs) in Pakistan. We used an online survey technique. 7-point Likert scale allowed the respondents to mark one between 1 to 7, where 1 is the strongly disagree side and 7 is the strongly agree side.

Statistical Tests

We used SPSS 22 statistical software to run a test for reliability and validity. We checked the reliability of the scale through a test named Cronbach's alpha. Reliability of the items suggested either retaining the items or delete. We checked validity through factor analysis. Under factors analysis, we checked discriminant, convergent and construct validity. We used different tests under exploratory factor analysis (EFA) to extract factor(s) for entrepreneurs' start-up behaviour, like correlation, KMO and Bartlett's Test, communalities, total variance extracted, and component matrix/rotated component matrix (Gorsuch, 1997). A range for correlation between 0.40 to 0.90 within the items was used to retain the items (Jones, Radley, Lumb, & Jha, 2008). We applied EFA to extract factors, examine the number of factors under entrepreneurs' start-up behaviour, the number of items that existed in this factor, and decide which item of entrepreneurs' start-up behaviour scale is statistically proof to retain or delete. The authors

run the principal component with the varimax technique for factor analysis, used eigenvalue 1, and factor loading of the items as > 0.3 as suggested by well-known scholars, e.g., (Wielandt, 1955; Park & Yun, 1986; Horel, 1984).

Results

Missing Data Analysis

As the 1st step for data analysis, the authors analysed missing data. The authors found no missing data from the 425 responses. The reason for no missing data is a mandatory filling of all responses before submission of each response.

KMO and Bartlett’s Test

This test is run to analyse the sampling adequacy. The results of this test are placed in below table 2:

Table 2. KMO and Bartlett's Test

KMO and Bartlett's Test Sphericity		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.921
	Approx. Chi-Square	1650.341
Bartlett's Test of Sphericity	Df	15
	Sig.	.000

The value for sampling adequacy of entrepreneurs' start-up behaviours' 6-item scale was found to be 0.921 (p = .000), which represents acceptable adequacy. The confirmation of the sample adequacy means that all the 6-items of the start-up behaviour are related to testing the EFA (Dahal, 2007).

Extraction of Factors

The authors used Principal component analysis for the purpose of extracting the factors for entrepreneurs' start-up behaviour scale. This test is supportive of examining shared variance for the items represented in the form of latent variables. Simply it means that 6-items as observed factors represent the entrepreneurs' start-up behaviour as a latent variable (Qurat-ul-Ann, Mirza, & Awan, 2015; Kulcsár, 2010). We run the varimax rotation technique along with the principal component as the start-up behaviour is a unidimensional variable consisting of 6-items.

Table 3 explains the statistics for the 6-item unidimensional factor scale for entrepreneurs' start-up behaviour. These statistics represented that the first item explains around 71% of the whole construct, whereas the second item explains 7%, the third item explains 6.5%, and the remaining 3 items explain 15.5% of the construct.

Table 3. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
SB1	4.268	71.141	71.141	4.268	71.141	71.141
SB2	.420	6.997	78.138			
SB3	.403	6.719	84.857			
SB4	.330	5.501	90.358			
SB5	.308	5.125	95.483			
SB6	.271	4.517	100.00			

Correlation between the Items

Under this test, the authors found a correlation between the 6 items between 0.6 to .75, which depicts an acceptable correlation. In the below-mentioned table 4, the values of correlations are presented where p = .000.

Table 4. Correlation Table

	SB1	SB2	SB3	SB4	SB5	SB6
	1.000					
	.713	1.000				
	.684	.714	1.000			
	.630	.618	.637	1.000		

.628	.644	.668	.626	1.000	
.631	.665	.658	.613	.672	1.000

Communalities Text

We run this test to statistically analyse the variance among the 6-items for the scale of entrepreneurs' start-up behaviour. This test also indicates a sum of the squared component loadings for all the components obtained while factoring analysis. Its initial value remained at 1.0 due to the assumption of its correlation with other items of the same factor. We found the communalities values on a 6-item scale between 0.65 to 0.75 (acceptable >0.3). Table 04 below shows the statistics for communalities. It is visible that the values of each item are different from the other item. The difference in the communalities values indicates that each item explains entrepreneurs' start-up behaviour differently from each other.

Table 5. Communalities

Component / item	Initial value	Extracted value
SB1	1.000	.719
SB2	1.000	.743
SB3	1.000	.746
SB4	1.000	.659
SB5	1.000	.700
SB6	1.000	.701

Component Matrix

The discriminant validity is confirmed through the values of cross-loading of the item (acceptable > 0.3). Discriminant validity states that each construct explains a different concept or that more than one construct is not like the other (Csikszentmihalyi & Larson, 2014; Sekaran, 2006). The statistical values of factor loading are shown in below table 6, which confirms the discriminant validity of the 6-items scales of entrepreneurs' start-up behaviour:

Table 6. Component Matrix

Component / Item	Factor Loading
Due to entrepreneurs' opportunities available under Economic Corridors.....	
I am putting efforts into early-stage entrepreneurial activities for a new start-up	.863
I talked with others to seek an idea for a new start-up	.862
I am spending time searching for new start-ups	.848
I am thinking of investing money as the next 12 months will be better for the new start-up*	.837
I will prefer to invest in a new start-up instead of investing elsewhere*	.837
I found someone who will start a new business in the next 12 months*	.812

** The authors used the future tense (e.g., will or will be) in 3-items of the scale due to the reason that CPEC in Pakistan is under development, and it is expected that entrepreneurial opportunities under CPEC will be available to the entrepreneurs (respondents of this study) within or after 12-months. Hence, for those studies where entrepreneurial opportunities are already available on the ground for a new start-up, the word "will" may be replaced with "is or are or past tense".*

Descriptive Statistics

The authors also checked descriptive statistics. All the values of mean, median, and mode are shown on the positive side. The values of the standard deviation of 6 items of entrepreneurs' start-up behaviour were found near 1.

Reliability Test

The authors run Cronbach's Alpha test to check the reliability. Its value was found 0.918 (acceptable >0.7). Therefore, a 6-item scale for entrepreneurs' start-up behaviour is found reliable on the basis of its statistically value. Table 7 below shows the reliability statistics of the PSES scale:

Table 7. Reliability Statistics

Cross Processing Summary		Reliability Statistics			
		N	%	Cronbach's α	N of items
Cases	Valid	425	100	0.918	06
	Excluded	0	0		
	Total	425	100		

Discussion and Conclusion

Our results indicated that human behaviour is a key resource for start-up decisions. Entrepreneurs' start-up behaviour scale has 06 items, and it is a unidimensional construct for the context of entrepreneurship under economic corridors. This scale is helpful for the researchers of behavioural sciences, leadership, entrepreneurship, and economic corridors as this study provides them with a valid and reliable scale to measure entrepreneurs' start-up behaviour. This scale is equally important for those representing the government and policymakers by providing them with a 6 items-based mechanism which enables them to analyse whether entrepreneurs are interested in making investment decisions in new opportunities or otherwise. Behavioural activities in force industrial entrepreneurs to take entrepreneurial decisions. Through this scale, the positive behaviour and negative behaviour of the entrepreneurs regarding investment decisions for new start-ups can be analysed. This study received data from local manufacturing entrepreneurs, and it is recommended that future research will be conducted to test this scale for cross-national entrepreneurs like Pakistan, China, and other OBOR member countries. It is also recommended that this newly developed scale may be tested with the variables like trust, ecosystem, and transparency to further confirm its reliability and validity.

References

- Ahmed, A., Arshad, M. A., Mahmood, A., & Akhtar, S. (2017). Neglecting human resource development in OBOR, a case of the China–Pakistan economic corridor (CPEC). *Journal of Chinese Economic and Foreign Trade Studies*, *10*(2), 130-142. <https://doi.org/10.1108/jcefts-08-2016-0023>
- Ali, L., Mi, J., Shah, M., Shah, S. J., Khan, S., Ullah, R., & Bibi, K. (2018). Local residents' attitude towards road and transport infrastructure (a case of China Pakistan economic corridor). *Journal of Chinese Economic and Foreign Trade Studies*, *11*(1), 104-120. <https://doi.org/10.1108/JCEFTS-08-2017-0024>
- Ali, M. M., & Faisal, F. (2017). CPEC, SEZ (Special Economic Zones) and Entrepreneurial Development Prospects in Pakistan. *Pakistan Development Review*, *56*(4), 143-155.
- Ali, S. R., & Chaudhri, I. A. (2018). CPEC–A Flagship of New Silk Road: Perceptions of 'Sinophilia' and 'Sinophobia' in Pakistan. *Journal of Political Studies*, *25*(2), 137:155.
- Ali, W., Gang, L., & Raza, M. (2016). China-Pakistan economic corridor: current developments and future prospect for regional integration. *International Journal of Research (IJR)*, *3*(10). <https://ssrn.com/abstract=2794276>
- Ali, Y., Rasheed, Z., Muhammad, N., & Yousaf, S. (2018). Energy optimisation in the wake of China Pakistan Economic Corridor (CPEC). *Journal of Control and Decision*, *5*(2), 129-147. <https://doi.org/10.1080/23307706.2017.1353929>
- Anderson, K., Blackhurst, R., & Secretariat, G. (1993). *Regional integration and the global trading system*. New York: Harvester Wheatsheaf.
- Aydin, A., Ahmed, K., Brewin, J., Khan, M. S., Dasgupta, P., & Aho, T. (2014). Face and content validation of the prostatic hyperplasia model and holmium laser surgery simulator. *Journal of surgical education*, *71*(3), 339-344.
- Babar, S. F., & Zeeshan, Y. (2018). Financial Institutions and Chinese Investment: The Review of China Pakistan Economic Corridor (CPEC) Policy. *European Journal of Economics and Business Studies*, *4*(2), 73-82.
- Baluku, M. M., Kikooma, J. F., & Kibanja, G. M. (2016). Psychological capital and the start-up capital–entrepreneurial success relationship. *Journal of Small Business & Entrepreneurship*, *28*(1), 27-54. <https://doi.org/10.1080/08276331.2015.1132512>
- Barringer, B. R., Jones, F. F., & Neubaum, D. O. (2005). A quantitative content analysis of the characteristics of rapid-growth firms and their founders. *Journal of business Venturing*, *20*(5), 663-687.
- Baruah, D. M., & Mohan, C. R. (2018). *Connectivity and Regional Integration: Prospects for Sino-Indian Cooperation Rethinking the Silk Road*, 85-98. Springer.
- Brunell, A. B., & Buelow, M. T. (2017). Narcissism and performance on behavioral decision-making tasks. *Journal of behavioral decision making*, *30*(1), 3-14. <https://doi.org/10.1002/bdm.1900>
- Büthe, T., & Milner, H. V. (2008). The politics of foreign direct investment into developing countries: increasing FDI through international trade agreements? *American journal of political science*, *52*(4), 741-762.
- Callahan, W. A. (2016). China's "Asia Dream" The Belt Road Initiative and the new regional order. *Asian Journal of Comparative Politics*, *1*(3), 226-243.
- Carpenter, S. (2018). Ten steps in scale development and reporting: A guide for researchers. *Communication Methods and Measures*, *12*(1), 25-44. <https://doi.org/10.1080/19312458.2017.1396583>
- Carter, N. M., Gartner, W. B., & Reynolds, P. D. (1996). Exploring start-up event sequences. *Journal of business Venturing*, *11*(3), 151-166. [https://doi.org/10.1016/0883-9026\(95\)00129-8](https://doi.org/10.1016/0883-9026(95)00129-8)
- Churchill Jr, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of marketing research*, *16*(1), 64-73. <https://doi.org/10.2307/3150876>
- Clercq, D. D., & Arenius, P. (2006). The role of knowledge in business start-up activity. *International Small Business Journal*, *24*(4), 339-358. <https://doi.org/10.1177/0266242606065507>
- Coase, R. H. (1937). The nature of the firm. *Economica*, *4*(16), 386-405.
- Csikszentmihalyi, M., & Larson, R. (2014). *Validity and reliability of the experience-sampling method Flow and the foundations of positive psychology*, 35-54. Springer.
- Dahal, H. (2007). Factor analysis for soil test data: a methodological approach in environment friendly soil fertility management. *Journal of Agriculture and Environment*, *8*(1), 8-19. <https://doi.org/10.3126/aej.v8i0.722>
- Durrani, T. S., & Forbes, S. M. (2018, 30 March-1 April 2018). *Entrepreneurship along the New Silk Road: Business challenges and opportunities in the One Belt One Road Initiative*. Paper presented at the 2018 IEEE International Symposium on Innovation and Entrepreneurship (TEMS-ISIE), Beijing, China.
- Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, *5*(6), 215-217. <https://doi.org/10.15406/bbij.2017.05.00149>

- Garlick, J. (2018). Deconstructing the China–Pakistan Economic Corridor: Pipe Dreams Versus Geopolitical Realities. *Journal of Contemporary China*, 27(112), 219-533. <https://doi.org/10.1080/10670564.2018.1433483>
- Gartner, W. B. (1985). A conceptual framework for describing the phenomenon of new venture creation. *Academy of management review*, 10(4), 696-706.
- Gorsuch, R. L. (1997). Exploratory factor analysis: Its role in item analysis. *Journal of personality assessment*, 68(3), 532-560. https://doi.org/10.1207/s15327752jpa6803_5
- Hantrais, L. (1999). Contextualisation in cross-national comparative research. *International Journal of Social Research Methodology*, 2(2), 93-108. <https://doi.org/10.1080/136455799295078>
- Harding, R., Hart, M., Jones-Evans, D., & Levie, J. (2002). *Global entrepreneurship monitor*. London: London Business School.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organisations. *Journal of management*, 21(5), 967-988.
- Hongdao, Q., Azam, S., & Mukhtar, H. (2018). China Pakistan Economic Corridor: Legal Injunctions and Protection of Chinese Investment in Pakistan Under OBOR Initiative. *European Journal of Research in Social Sciences*, 6(2), 29-37.
- Horel, J. D. (1984). Complex principal component analysis: Theory and examples. *Journal of climate and Applied Meteorology*, 23(12), 1660-1673.
- Hyman, H. H. (1957). *Survey design and analysis: Principles, cases and procedures*. Glencoe: Free Press.
- Ijaz, M. (2018). Growth versus Development: The case of China Pakistan Economic Corridor.
- Ishizaka, A., & Siraj, S. (2018). Are multi-criteria decision-making tools useful? An experimental comparative study of three methods. *European Journal of Operational Research*, 264(2), 462-471.
- Jelilov, G., Chidigo, M., & Onder, E. (1869). Firm size and firm growth: Testing Gibrat's law on 17 Nigeria manufacturing industry (2000-2011). *The International Journal of Social Sciences and Humanities Invention*, 3(2), 1869-1879. <https://doi.org/10.18535/ijsshi/v3i2.07>
- Jin, C.-H. (2017). The effect of psychological capital on start-up intention among young start-up entrepreneurs: A cross-cultural comparison. *Chinese Management Studies*, 11(4), 707-729. <https://doi.org/10.1108/cms-06-2017->
- Jones, G., Radley, S., Lumb, J., & Jha, S. (2008). Electronic pelvic floor symptoms assessment: tests of data quality of ePAQ-PF. *International Urogynecology Journal*, 19(10), 1337-1347. <https://doi.org/10.1007/s00192-008-0655-2>
- Juma, N., & Sequeira, J. M. (2017). Effects of entrepreneurs' individual factors and environmental contingencies on venture performance: a case study of African-American women-owned ventures. *Journal of Small Business & Entrepreneurship*, 29(2), 91-119. <https://doi.org/10.1080/08276331.2016.1248276>
- Kofanov, O., & Zozulov, O. (2018). Successful development of start-ups as a global trend of innovative socioeconomic transformations. *International and Multidisciplinary Journal of Social Sciences*, 7(2), 191-217. <https://doi.org/10.17583/rimcis.2018.3576>
- Kulcsár, E. (2010). Principal component analysis in tourism marketing. *Management & Marketing*, 5(2), 151-158.
- Kyriazos, T. A., & Stalikas, A. (2018). Applied psychometrics: the steps of scale development and standardisation process. *Psychology*, 9(11), 2531. <https://doi.org/10.4236/psych.2018.911145>
- Lambert, V. A., & Lambert, C. E. (2012). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255-256.
- Lanjian, C., & Wei, Z. (2015). China OBOR in Perspective of High-speed Railway (HSR)—Research on OBOR Economic Expansion Strategy of China. *Advances in Economics and Business*, 3(8), 303-321. <https://doi.org/10.13189/aeb.2015.030803>
- Malik, A. R. (2018). The China–Pakistan Economic Corridor (CPEC): A Game Changer for Pakistan's Economy *China's Global Rebalancing and the New Silk Road*, 69-83. Springer.
- Maqsood, A. (2018). *CPEC and Capacity Building in Pakistan*.
- Mehar, A. (2017). Infrastructure development, CPEC and FDI in Pakistan: is there any connection? *Transnational corporations review*, 9(3), 232-241. <https://doi.org/10.1080/19186444.2017.1362857>
- Morgado, F. F., Meireles, J. F., Neves, C. M., Amaral, A., & Ferreira, M. E. (2017). Scale development: ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexão e Crítica*, 30(1). <https://doi.org/10.1186/s41155-016-0057-1>
- Nabi, G., & Liñán, F. (2013). Considering business start-up in recession time. *International Journal of Entrepreneurial Behavior & Research*, 19(6), 633-655. <https://doi.org/10.1108/ijeb-10-2012-0107>
- Nassaji, H. (2015). *Qualitative and descriptive research: Data type versus data analysis (Vol. 19, pp. 129-132)*: Sage Publications Sage UK: London, England.

- Neumeyer, X., & Santos, S. C. (2018). Sustainable business models, venture typologies, and entrepreneurial ecosystems: *A social network perspective*. *Journal of Cleaner Production*, *172*(1), 4565-4579. <https://doi.org/10.1016/j.jclepro.2017.08.216>
- Nicholson, W. J., Cates, C. U., Patel, A. D., Niazi, K., Palmer, S., Helmy, T., & Gallagher, A. G. (2006). Face and content validation of virtual reality simulation for carotid angiography: results from the first 100 physicians attending the Emory NeuroAnatomy Carotid Training (ENACT) program. *Simulation in Healthcare*, *1*(3), 147-150.
- Nicoletti, G., & Scarpetta, S. (2003). Regulation, productivity and growth: OECD evidence. *Economic policy*, *18*(36), 9-72. <https://doi.org/10.1111/1468-0327.00102>
- Park, S., & Yun, S. N. (1986). A study for development of a tool measuring organisational characteristics in nursing. *The Journal of Nurses Academic Society*, *16*(3), 31-37.
- Pili, S., Grigoriadis, E., Carlucci, M., Clemente, M., & Salvati, L. (2017). Towards sustainable growth? A multi-criteria assessment of (changing) urban forms. *Ecological Indicators*, *76*, 71-80.
- Punch, K. F., & Oancea, A. (2014). *Introduction to research methods in education*. California, USA: Sage Publications.
- Qurat-ul-Ann, A.-R., Mirza, F. M., & Awan, G. W. (2015). Entrepreneurial Characteristics and Firm Growth: A Case Study of Sports Industry in Sialkot. *The Pakistan Journal of Social Issues*, *6*, 53-69.
- Radović-Marković, M., & Salamzadeh, A. (2012). *The nature of entrepreneurship: Entrepreneurs and entrepreneurial activities*: Lap Lambert Academic Publishing.
- Rahman, S. U., & Shurong, Z. (2017). Analysis of Chinese Economic and National Security Interests in China Pakistan Economic Corridor (CPEC) under the Framework of One Belt One Road (OBOR) Initiative. *Arts and Social Sciences Journal*, *8*(4), 12-23. <https://doi.org/10.4172/2151-6200.1000284>
- Ramay, S. A. (2016). China Pakistan economic corridor: A Chinese dream being materialised through Pakistan.
- Rasheed, A., Farooq, S. H., Usman, M., Hanif, A., Khan, N. A., & Khushnood, R. A. (2018). Structural reliability analysis of superstructure of highway bridges on China-Pakistan Economic Corridor (CPEC): a case study. *Journal of Structural Integrity and Maintenance*, *3*(3), 197-207.
- Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., . . . Chin, N. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small business economics*, *24*(3), 205-231. <https://doi.org/10.1007/s11187-005-1980-1>
- Salimath, M. S., & Cullen, J. B. (2008). New venture attempts to influence state institutions: Effects on innovation. *Frontiers of Entrepreneurship Research*, *28*(18), 1-13. <http://digitalknowledge.babson.edu/fer/vol28/iss18/5>
- Sekaran, U. (2006). *Research Methods For Business: Metodologi Penelitian Untuk Bisnis*. Buku 2.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*: John Wiley & Sons.
- Shoukat, A., Ahmad, K., & Abdullah, M. (2017). Does Infrastructure Development Promote Regional Economic Integration? CPEC's Implications for Pakistan. *Pak. Dev. Rev*, *56*(1), 455-468.
- Singh, S., & Magray, J. M. (2017). China-Pakistan Economic Corridor (CPEC), Its Impacts on Pakistan Economy. *International Journal of Innovative Research and Advanced Studies*, *4*(7), 6-9.
- Sperber, S., & Linder, C. (2018). Gender-specifics in start-up strategies and the role of the entrepreneurial ecosystem. *Small business economics*, *53*(2), 533–546. <https://doi.org/10.1007/s11187-018-9999-2>
- Subregion, G. M. (1998). *Joint Statement on the Economic Corridor Approach to Subregional Development*. Paper presented at the Issued at the 8th GMS Ministerial Meeting. Manila.
- Sultan, F. M., Ahmed, I., & Zafar, R. Z. (2017). Measuring the Impact of China Pakistan Economic Corridor on the Socio-Economic Aspects of Pakistan: A Quantitative Research Highlighting the Public Opinion. *Journal of Economics and Sustainable Development*, *8*(23), 46-56.
- Suskie, L. A. (1992). Questionnaire Survey Research. Tallahassee: Association for Institutional Research.
- Tehsin, M., Khan, A. A., & Sargana, T.-u.-H. (2017). CPEC and sustainable economic growth for Pakistan. *Pakistan Vision*, *18*(2), 102-118.
- Tong, L. (2015). CPEC Industrial Zones and China-Pakistan Capacity Cooperation. *Strategic Studies Journal*, *35*(1), 174-184.
- Wielandt, H. (1955). An extremum property of sums of eigenvalues. *Proceedings of the American Mathematical Society*, *6*(1), 106-110. <https://doi.org/10.1090/s0002-9939-1955-0067842-9>
- Wolf, S. O. (2018). *China–Pakistan Economic Corridor (CPEC): Regional Cooperation in the Wider South Asian Region China's Global Rebalancing and the New Silk Road*, 85-100. Singapore: Springer.
- Zaman, K., & Abd-el Moemen, M. (2017). Energy consumption, carbon dioxide emissions and economic development: evaluating alternative and plausible environmental hypothesis for sustainable growth. *Renewable and Sustainable Energy Reviews*, *74*, 1119-1130. <https://doi.org/10.1016/j.rser.2017.02.072>

- Zanger, C., & Geissler, M. (2018). *Entrepreneurial Environment of the University: Opportunities for Technological Spin-Offs*. Paper presented at the 2018 Portland International Conference on Management of Engineering and Technology (PICMET), Portland.
- Zeelenberg, M. (1999). Anticipated regret, expected feedback and behavioral decision making. *Journal of behavioral decision making*, 12(2), 93-106. <https://doi.org/3.0.co;2-s>">10.1002/(sici)1099-0771(199906)12:2<93::aid-bdm311>3.0.co;2-s