

Exploratory Factor Analysis (EFA) To Measure Entrepreneur Satisfaction

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Abstract

This paper reports on developing a conceptualization for measuring the satisfaction of entrepreneurs. The paper, in doing so, first establishes a theoretical framework by defining constructs of entrepreneur satisfaction from the literature. Secondly, the identification of evaluating requirements from the literature for these constructs, and thirdly, the validation of the theoretical model for measuring the satisfaction of entrepreneurs in Indonesia. The theoretical model consists of 9 entrepreneur satisfaction. The empirical process of validation employed data collected from 100 respondents of pilot test what Micro and Small Enterprises in Pekanbaru Indonesia. The validation method aimed at validating the parameters which measure each of the constructs by statistically determining that the sample used is adequate, using the Bartlett test to ensuring the usefulness of the data for multivariate statistical analysis, validating the measurement requirements as applicable to entrepreneur satisfaction and determining the reliability of each entrepreneur satisfaction. All those goals were accomplished. This coincided in the end result, perhaps even an adjusted statistical model to measure the satisfaction of entrepreneurs in Indonesia. The design has been statistically tested to become a valid and reliable design.

Keyword:

Exploratory Factor Analysis (EFA), Entrepreneur Satisfaction,

1. Introduction

In human life well-being and Satisfaction are something that every individual really wants to achieve. Life satisfaction or better known as psychological well-being is a multidimensional measure of psychological development and mental health, including a scale of levels of independence and positive relationships with others (Michalos, 2014). Entrepreneurs are businesses where the culprit has independence and has a positive relationship with others to be able to manage his business and develop it. In this way an entrepreneur can be said to be prosperous (Andersson, 2008; Iskanto et al., 2019).

Ryff (1989) mentions 6 dimensions of psychological well-being, namely: self-acceptance, positive relationships with others, autonomy, life goals, personal development, and mastery of the environment. An individual can be said to be prosperous when the individual can accept his present life, has a positive relationship with many people, has the ability to face pressure and direct himself, is able to set goals and direction in life and feel the meaning in life in the present and past, the ability to develop potential within oneself and continue to develop in a sustainable manner, and finally the ability to own and create an environment that is in accordance with his physical condition. Besides the 6 dimensions there are two additional dimensions, namely free time and financial satisfaction to measure entrepreneurial satisfaction (Binder and Coad, 2016).

Entrepreneurship is a way for well-being because an entrepreneur must have a definite goal, be independent, develop himself and explore the potential he has and the ability to establish good relations (Andersson, 2008; Muryani et al., 2018). However, not all entrepreneurs are able to achieve a level of psychological well-being – because being an entrepreneur is the same as gambling, no one can guarantee whether the business will succeed or not.

At this time the world has entered the era of globalization which has a very large impact in almost every sector of life. Also not spared on the lives of entrepreneurs, where competition among entrepreneurs is getting tougher. So that an entrepreneur must have a good commitment to his business. Carter (2011) Stated that commitment to work and family is a variable that can affect the success of an entrepreneur. An entrepreneur also needs support from his social environment, especially family so that they can succeed with their business. Other research by Handayani (2013) states that there are two factors that can determine the success of entrepreneurs, namely internal and external factors. Internal factors consist of motivation, experience, education and personality. While external factors consist of two factors, namely the family and work environment (Iskanto et al., 2020).

2. Literature of Study

Now entrepreneurs are demanded to be more creative and innovative in making attractive products and marketing them, with a lot of competition in this industry it is not uncommon for their businesses that cannot last long. If this is seen positively this certainly can make individuals to improve his ability to further explore the abilities possesse (Iskanto, 2012).

Entrepreneurs have the opportunity to be able to further develop themselves, this personal development will certainly make individuals satisfied and feel prosperous about their lives. This is supported by research by Bernardino et al. (2018) which states that creative and innovative organizations can improve psychological well-being. (Andersson, 2008) also state that there is a relationship between psychological well-being and job satisfaction on work

performance. So that an entrepreneur who has satisfaction and good psychological well-being will affect the performance in managing his business.

Only a several research shows this is rather effective (Binder and Coad, 2016; El Shoubaki and Stephan, 2018). High satisfaction is one of the variables in the performance of entrepreneurship, even though a range of disadvantages remain, such as limited income (Hmieleski and Corbett, 2008), unpredictable up and down income (Yetim and Yetim, 2006) Smaller revenue (Delgado-García et al., 2012), long working hours (Binder and Coad, 2016).

The findings from Carree and Verheul (2012) revealed that in the Holland, income, emotional and recreational time are the factors which affect business satisfaction. High-educated businessmen are more pleased with the income. However, while their monthly average turnover is lower than that of males, women entrepreneurs are more pleased with their income than men. As per (Cooper and Artz (1995) has been found that productivity and quality are not optimal for company success that only stresses financial goals.

Moreover this does not help businesspeople who are forced to become businessmen in order to avoid unemployment. With their leisure time, these two forms of entrepreneurship caused increased dissatisfaction. Carree and Verheul (2012) found that workers are happy to earn more money while businessmen are pleased with being able to pay their employees on time. Studies conducted in Germany by El Shoubaki and Stephan (2018) showed that families and earnings contribute significantly to the life satisfaction of the entrepreneurs.

As per Padovez-Cualheta et al. (2019), businessmen have a greater family satisfaction rate than un-entrepreneurs, and there is no difference between male and female in satisfaction levels. Contrary to on-time employee business, this effect is more significant for employ-less businessmen. Hmieleski and Corbett (2008) found improvised behavior had a beneficial connection with the new business performance demonstrated founders with a high ambition, whereas improvisatory behavior was revealed as having an adverse link to the new business success shown by low entrepreneurial spirit.

Research suggested that, under strain and adverse expectations from their communities and families, many women run small businesses on micro entrepreneurs. Some of them are house wives, doing household chores and raising children together with activities at their business. Lu and Pan (2016) suggested that companies are more likely to be dissatisfied if government involvement takes steps that are burdensome to businesses, while government offers a lighter burden that does not significantly affect business satisfaction.

Premised on Wolfe and Patel (2018) found that capital sharing has a connection to business fulfilment. Results from (Hessels et al., 2017; Roche, 2014) examining the beneficial correlation between entrepreneurial and employee-life satisfaction by contemplating high-skilled versus low-skilled jobs in Europe. In both of them it has been discovered that being businessmen is happier with their lives than being employees.

Exploratory Factor Analysis

The author was tested previous to conducting the study for the precision of data entry, missing values, normality and outliers. Coefficients of skewness and kurtosis have also been studied. In this research, all items were circulated reasonably normal, where skewness and

kurtosis statistics were examined indicating that all values were within the range of ± 2 (Afthanorhan, 2013; Byrne, 2010). While, the standard scores z were within the range of ± 4 for each object, revealed no extreme cases and suggested no outliers in the results. The data were therefore appropriate for more review since no major violation was detected.

In order to identify the appropriateness of data for factor analysis, there were three factors that needed to be addressed. The three factors were sample size, correlation matrix factorability and Kaiser-Meyer-Olkin (KMO) Sampling Adequacy Check, or Bartlett's Sphericity Test. Hair et al, (2014) proposed that sample sizes should be just 100 or greater for the sample size.

Awang, 2015; Byrne, 2010; Hair et al., 2014; and Mondiana et al., 2018 indicated that if the Kaiser-Meyer-Olkin (KMO) reaches 0.6 and the Bartlett's Sphericity Test (BTS) must be relevant at $\alpha < 0.05$, the correlation matrix factorability is supposed. In certain words, the KMO and BTS check decides whether the sample was sufficient to perform factor analysis (Awang, 2015; Ghazali et al., 2019).

However, this study has to take a step into account as the anti-image association for all objects must be above 0.5, the appropriate amount (Byrne, 2010; Hair et al., 2014). In addition, there was a community above 0.3 in the scores offered for all items (Tabachnick & Fidell, 2007). The Exploratory Factor Analytics relationship index can be seen in Table 1.

Correspondence Index for Exploratory Factor Analysis

Indicators	Cut-off Value	Source
Kaiser–Meyer–Olkin (KMO) Meritorious: ≥ 0.80 , Middling: ≥ 0.70 , Mediocre: ≥ 0.60 , Miserable: ≥ 0.50 , Unacceptable: < 0.50	Recommended value of 0.6 or above	Hair et al. (2010)
Bartlett's Test of Sphericity	Significant at $\alpha < .05$	Hair et al. (2010)
Anti-Image Correlation: individual measure of sampling adequacy (MSA)	> 0.5	Coakes & Steed, (2003); Hair et al., (2010)
Communalities (variables are well defined by the solution—low values require removal)	> 0.3 > 0.4 > 0.5	Tabachnick & Fidell (2007); Gaskin (2012); Hair et al. (2010)
Factor loadings Significant Factor Loading based on Sample Size	Above sufficient factor loading to retain the item while below sufficient factor loading to eliminate the item.	Hair et al. (2010)

3. Research Methodology

This research conducted a pilot study of micro and small enterprises (MSEs) In Pekanbaru, Indonesia,. The data collection instrument of the study was self-administered surveys where the participant had been asked to complete the question. A number of 130 questionnaires were returned where the questionnaires were distributed, 104 questionnaires, but four questionnaires ranged from approximately 65% to 80%. So, only 100 questionnaires were

available for exploratory factor (EFA) analysis. Analyst has not made a deal on the proportion that becomes troublesome of the lost value part. For example, Schafer (1999) suggested 5 per cent as the limit.

4. Finding and Result

There were 9 dimensions and 14 newly developed items for the entrepreneur satisfaction (ES) construct in this study. Among 14 items of ES construct, Autonomy, Environmental mastery, Personal Growth, Financial condition, Business Performance, Positive relationships, Leisure Time, The purpose of life and Self-acceptance. The result of this study is therefore presented as follows

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.831	823.351	91	.000

Table 2 just above showed that Bartlett's Sphericity Test is significant (chi-square with degree of freedom (df) 91= 823.351 with a significance value = 0.000). The measurement of perfectly adequate KMO sampling is 0.831, which is higher than Kaiser and Rice's (1974) proposed a minimally acceptable value of 0.5. Such findings present a reasonable basis for progressing to the next stage. This finding indicates the data is sufficient for the reduction process to proceed.

Table 3: Total Variance Explained

Item	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.178	44.125	44.125	6.178	44.125	44.125
2	2.136	15.259	59.384	2.136	15.259	59.384
3	1.243	8.880	68.265	1.243	8.880	68.265
4	.898	6.411	74.676			
5	.637	4.553	79.229			
6	.553	3.952	83.181			
7	.447	3.193	86.374			
8	.418	2.989	89.363			
9	.369	2.633	91.997			
10	.324	2.313	94.309			
11	.271	1.938	96.247			
12	.240	1.717	97.964			
13	.165	1.177	99.141			
14	.120	.859	100.000			

Extraction Method: Principal Item Analysis.

The decision for the variety of factors to be derived is based on the size of the eigenvalues and the percentage of the stated variance. This research considers only factors that are equivalent to or higher than one to be significant and also considers that at least 60% of the total variance is satisfactory (Hair et al., 2014). The table outcome above 3.3 showed that one factor produced with eigenvalues just above that, which reflects 68.27 percent of its total variance. The factor clarified 68.27 percent of the variance, with about 1.234 of its eigenvalue.

Table 4: Item Matrix^a

Items	1	Item	2	3
SF1	.631		-.451	.202
SF2	.572 (to be removed)		-.596	.060
SF3	.782		-.363	-.024
SF4	.644		-.302	.475
SF5	.549 (to be removed)		.365	-.029
SF6	.572 (to be removed)		.602	.425
SF7	.645		.453	.429
SF8	.764		.103	-.150
SF9	.690		-.102	-.473
SF10	.697		-.219	-.146
SF11	.663		.533	-.075
SF12	.559 (to be removed)		.502	-.409
SF13	.763		-.114	-.357
SF14	.709		-.190	.197

Extraction Method: Principal Item Analysis.

a. 3 Items extracted.

From the table 4 above, the factor loading presented a clean and interpretable solution: the fourteen items have loaded significantly on one item as the study conceptual Entrepreneur Satisfaction. So, in the case of one element, no rotated element matrix. Ten out of fourteen items have factor loads above the 0.6 lower bound (awang, 2012). However objects with factor lower loads below 0.60 should be removed from further review (Awang, 2015; Hengky and Imam, 2012). Therefore, the item: SF2, SF5, SF6, and SF12 have the loading Factor bellow 0.6, it will be deleted from the construct analysis. These outcome suggested good inner consistency among the items of this construct, the construct is appropriate for other analysis.

5. Conclusion

The current research contributes to measuring the construct of entrepreneur satisfaction (ES), especially in the Micro and Small Enterprise context in Indonesia. The findings on the EFA provided a design that extracts seven dimensions of ES. The dimensions of ES are Autonomy, Environmental Mastery Business Efficiency, Positive Relationships, Leisure Time, The meaning of life, Self-acceptance as well as those dimensions can be calculated by 11 items established in this study as all reliability measures for the six dimensions of OS build have shown high Cronbach's Alpha value, meet Bartlet Test achievements (significant), KMO (> 0.6). This represents the applicability of items not set aside in this research. The stringent scale creation and validation procedures of the present study have assured that the new instrument for entrepreneur satisfaction is internally consistent and sample-wide stable.

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