

Determining the Contributing Factors of Successful Entrepreneurship in Terms of Starts up in Indonesian context with the Help of Logit and Probit.

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Abstract

The paper attempts to analyze the factors that impact and influence the success or failure of Indonesian startups. The paper creates a success or failure prediction model, which is based on the Indonesian entrepreneurship culture. In our study, we identify four categories that have a possibility of influencing the success levels. The four categories of influencing success include founder characteristics, capital, external factors, and the startup characteristics. In the model, we analyze startups that have been established in Indonesia from the year 2000 to the present. In our analysis, we analyze various explanatory variables, which include industry experience, management experience, marketing skills, capital, the characteristic of the founders, financial control and record-keeping, planning, staff, product and service timing as well as economic timing. In our analysis, we determine that external factors and the characteristics of the founders had a huge impact on the success of the Indonesian startups. From the model, we established that Indonesian startups that had younger founders and those with low education had more incidences of failure. However, contrary to the findings of past literature, there was a negative correlation between marketing expertise in the part of the startup and their success. The developed model offers a success and failure prediction model, which offers an ability for predicting Indonesian startup success accurately.

Keyword: *Industry Experience, Management Experience, Marketing Skills, Capital, planning, product and service timing*

1. Introduction

All economies require entrepreneurs to help in the establishment of businesses that go a long way to improve the overall state of the economy. Entrepreneurs have a positive impact on the economy as they assist in the creation of more job opportunities, which means that the country can acquire more income. In Indonesia, it is approximated that about 99% of all businesses in the country operate as small-scale and middle-sized sectors (Rakhim et al. 2017; Rachmania et al. 2012). The small-scale and middle-sized sectors use about ten percent of all the money that circulates, but these businesses contribute nearly about fifty percent to the country's Gross Domestic Product. It is also estimated that the small-scale and middle-sized businesses that the businesses contributed significantly to fifteen percent of all the gas and non-online exports. In the year 2011, it was estimated that the number of small and medium-sized enterprises reached a number of about 55.2 million businesses (Hidayat and Andri 2017; Tomy and Pardede 2017). In Indonesia, the most common form of business is a family business, and such businesses can be used as a reference source for a majority of the world's economies. Such businesses make a huge economic contribution to the country's economic output as well as employment figures. In the format, the main purpose of the family's businesses is to advance them for the purpose of thriving for several generations (Sahban et al. 2014).

In the recent past, there has been the development of an extensive body of research and literature on the factors that impact business success and failure. Multiple authors have attempted to explain the success and failure of start-ups across the world using both univariate and multivariate models and other financial models (Raillon 1991). Other studies have also performed studies of the various explanatory variables. In the present paper, we aim to establish and conceptualize the factors influencing the success or failure of Indonesian start-ups by improving Lussier's prediction model (Lussier 1996;

Lussier et al. 2016). The paper makes a contribution to the Indonesian startup literature since there exists limited information regarding the startups. The paper also examines the factors that influence the success and failure of Indonesian startups. The explanatory variables in the study fall into four major categories that include capital, startup characteristics, external factors, and the founder's characteristics (Lubis 2015, Wijaya et al. 2016). We also include the following explanatory variables such as industry experience, marketing skills, education, age, management experience, founder characteristics, professional advisors, partners, service and product timing, financial control, record keeping, staffing, economical timing, and planning. The paper develops a model that can predict the success and failure of Indonesian startups. The success and failure prediction model developed indicates that external factors and founder's characteristics have a huge influence on the success of Indonesian businesses (Mirzanti et al. 2015). Other factors, such as basic education, young age, as well as marketing skills, possess a significant negative influence on the success of the startup.

2. Problem statement

The paper aims to understand and develop a model for predicting the success of small and medium-sized enterprises in Indonesia. Since there are no predetermined variables for this, the study aims to understand the factors which impact the success of Indonesian businesses using explanatory variables such as founder characteristics, access to capital, the characteristic of the start-ups as well as the influence of external factors. We attempt to derive the model by classifying the variables.

3. Research questions

Based on the factors under review, the paper aims to answer the following research questions

1. To determine if the founder's characteristics possess a significant influence on the success of the startup
2. To establish if undercapitalization negatively impacts the success of startups
3. To establish if startup characteristics have a significant influence on the success of the startup
4. To determine if external factors significantly impact the success of startups
- 5.

4. Literature review

According to Paricia and Salingen (2016), there does not exist a universally accepted definition of startups. There exist several parameters that have been used to define it. The parameters include aspects such as profitability, age, growth metrics, as well as other categories. An enterprise that has existed for less than a year is categorized as being a startup. According to Blank and Dorf (2012), start-ups are temporary organizations that get formed for the purposes of pursuing a repeatable and scalable business model. As soon as the startup finds a desirable business model, the attention shifts from the to the execution phase (Famiola and Hartati 2018; Tajeddni et al. 2017). In our study, a startup is considered to be an organization that is at the first stage of development after inception and which has high levels of innovation, extreme uncertainties, and scalable business models.

It is a difficult task to identify and measure business success as it is a relative measure (Rivanti 2004; Tambunan 2007). Success in business can be determined using several approaches that will depend on the goals of the enterprise, whether financial or non-financial, and the expectations based on the behavior of the founders. According to (Zacheus et al. 2014), success is a measure of performance in which the enterprise creates some value for the customer in an economically sustainable and efficient manner. Other measures of successful performance include the organizational structure, enterprise strategy, revenues, processes, and systems, as well as growth in employment (Carter and Aukem 2006). According to Machmud and Sidharta 2016, survival is the bare minimum score of defining entrepreneurial success. Survival is an absolute criterion used to define the performance of the enterprise as being able to operate as a self-sustaining economic business. In our study, a case of a successful start-up is one that has been in operation for over four years and which the ownership structure has remained intact.

5. Methodology

Since our study makes use of dichotomous dependent variables, we apply the logit and probit model to help perform a regression analysis. The reason for this is that the ordinary least squares technique cannot produce the variables best linear unbiased estimator as it is inefficient and biased (Hanif et al. 2019). The logit model uses a statistical technique that makes use of conditional probability since the dependent variable under review is dichotomous and qualitative (Parish 2010). The logit model is beneficial as it fails to assume the independent variable's normal distribution as well as if there is the matrices are homogenous.

The logit model under consideration is as follows:

In estimating the equation, we can write it as follows:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + U_i \quad Y = 1 \text{ if } * > 0 \quad Y = 0 \text{ if } * \leq 0$$

Y_i represents the dependent variable

X_1, X_2 indicate the independent variables

$\beta_0, \beta_1, \beta_2$ shows the regression coefficients

To develop answers to the research questions which include the founder`s characteristics, startup characteristics, capital and external factors influencing the success of startups we developed four regression models.

- i. $SUCI = \beta_0 + \beta_1 ma_{exi} + \beta_2 in_{ex} + \beta_3 basic_{educ} + \beta_4 young_{age} + \beta_5 old_{age} + \beta_6 pent + \beta_7 mrkt + ui$ (this represents the founders characteristics)
- ii. $SUCI = \beta_0 + \beta_1 capt + ui$ (this represents capital equation)
- iii. $SUCI = \beta_0 + \beta_1 lecti + ui$ (this represents external factors equation)
- iv. $SUC_i = \beta_0 + \beta_1 young_{age}_i + \beta_2 basic_{educ}_i + \beta_3 mrkt_i + \beta_4 pradi + \beta_5 ecti + ui$ (this represents startup characteristics)

In this case, I am related to each startup with the error terms that are represented using U_i . The SUC represents the dummy variable that takes a value of zero when the startup is a case of failure and one when the startup is a success case.

6. Results and Discussion

In order to study the various factors that have influenced the success of Indonesian startups, we derived a sample of twenty Indonesian startups that are distributed throughout the entire country (Lussier and Preifer 2000). The sample is comprised of different groups that have different characteristics. In the following section, we present the descriptive statistics for the study`s explanatory variables. The univariate statistics target the dummy variables which are related to capital (7), founder characteristic (between one and six), the characteristics of startup (8-13), and external factors in play (14).

Table-1 Research Analysis

Explanatory Variable	Successful Indonesian startups N=33		No successful startups N= 17	
	Frequency	%	Frequency	%
Industrial Experience				
Yes	19	54	11	65
No	14	46	6	35
Experience of Management				

Yes	16	48	10	59
No	17	52	7	41
Education				
Individuals with Less Than High School Diploma	0	0	2	12
Diploma from High School	1	3	2	12
Postgraduate degree	11	33	4	24
Ph.D.	17	52	9	
Age				
Below 25 years	2	6	5	29
Between 26 and 35 years	19	58	10	59
Over 36-year's	12	36	2	12
Marketing skills				
Yes	9	27	10	52
No	24	74	8	47
Parents				
Yes	16	49	6	35
No	17	53	11	66
Capital				
Yes	22	64	12	72
No	12	35	5	29
Keeping financial and accounting records				
Adequate	4	14	1	6
	14	44	4	26
Average	8	24	7	39
	4	12	4	24
Weak	4	12	4	6

	3	10	1	
Planning				
Adequate	9	29	3	16
	8	23	1	8
Average	7	21	4	24
	3	9	8	47
Weak	3	17	1	6
Professional Advisors				
Yes	14	42	11	65
No	19	58	6	35
Staffing				
Easy staff	6	18	1	6
Average staff	7	21	4	24
Hard staff	11	33	5	29
Product timing				
New product	9	29	7	39
Product in growth stages	24	71	10	61
Partners				
No	29	86	13	76
Yes	4	14	4	24
Economic timing	6	18	7	39
Expansion period	27	82	10	61

Source: Current Research 2020

The variables number from one to six are based on the characteristics of the founders. From the analysis, it is possible to see that the startups that are successful have founders that have completed some high level of education beyond a high school diploma (Rafiki and Nasution 2019; Effendi 2018). Also, from the analysis, it is possible to determine that all successful cases have founders that have high levels of experience and skills. From the table, it is possible to deduce that a majority of Indonesian small and medium-sized startups do not require a high level of management structure in place.

From the analysis, it is possible to determine that unsuccessful startups have more young founders younger than twenty-five. As for successful startups, individuals above the age of 35 achieved

higher success. Besides, the more successful startups have a more detailed and comprehensive financial control and record-keeping structure. As indicated in the table, the founders of successful businesses have financial controls and business plan levels of about 2.65 and 2.67 as compared to those no non-successful, which stands at about 3. It is also worthy to note that the majority of successful startups have more than one founder, which can be attested since there exists a positive relationship that exhibits business success. As the founders interact, they get to increase their expertise, know-how, and external relationships. Besides, the successful startups had businesses with products in the growth stage experienced more successful.

This research further suggests that there are a few basic building modules are necessary for a place to turnout be a start-up bliss, these would be:

- i. There should be noticeable Intent & desire of government to support the starts-up industry
- ii. Focused support of local statutory bodies and with basic and favourable infrastructure which would imply Public transport & amenities that are beyond and better than basic Civic structure & safety for staff & employees.
- iii. A skill base that can be locally tapped if required.
- iv. Beside that there should be Legal infrastructure & with independent judiciary which is not mired in political interference.

There are some other valid points, but that said, whilst Indonesia is a hot destination for various kinds of investments right now.

Implication of research

Governments all across the world have recognized the role of micro and middle enterprises because of the contribution that the businesses make towards job creation, stability, social cohesion, and development (Carter and Auken 2006). The statistics on the numbers of small and medium-sized enterprises in Indonesia indicate the importance of such businesses in the country. Because of the significance of such businesses to the society and economy, stakeholders and policymakers have promoted the creation of such businesses while also reducing any incidence of failure (Handavani and Kusumastuti 2017; Van Diermen 2019). The research findings can go a long way in guiding policy as well as entrepreneurs on the critical factors necessary for ensuring business success in the country.

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