

# The Effect of Effectual Entrepreneur Set of Means in Opportunity Exploitation Capability

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**Abstract:-** The purpose of the study was to empirically explore the effect of effectual entrepreneur set of means in opportunity exploitation capability. Moreover it used number of founders as a moderator variable to examine if the number of founders strengthening or weakening the effect of effectual entrepreneur set of means in opportunity exploitation capability. This study used a cross-sectional survey design which is useful for investigating quantitative description of trends, attitudes, or opinions of a population from a representative sample of the focal population. 300 sample of entrepreneurs in five regions in Tanzania was collected. In this study Structural Equation Modelling(SEM) was used to examine the direct effect of effectual entrepreneur set of means in opportunity exploitation capability. After hypothesis testing, the empirical results indicated the significant and positive relationship between effectual entrepreneur set of means and opportunity exploitation capability. Also the study discovered that the relationship was influenced by the number of founders. These results are useful to all entrepreneurs especially who want to start the new venture. The entrepreneurs where the data were taken are recommended to use this techniques due to the reasons that they work in the environment where they experience uncertainties and unsupportive business environment.

## I. INTRODUCTION

New ventures have been facing challenges when exploit opportunities(Y. R. Choi & Shepherd, 2004; Lubatkin, Simsek, Ling, & Veiga, 2006; Shane, 2003). Owner of the new venture faces extensive uncertainty surrounding technology, target customers, customer preferences, marketing channels, among others. This challenges is exacerbated by the fact that entrepreneurs possess different ability and operate in different situation when decide to work on a new venture. Extant research have proposed several practical methods and theoretical frameworks that entrepreneurs may use when they exploit opportunities in a new venture under uncertainty environment. The notable approach or even the theories available which concerning on the psychology of the entrepreneurs have been trying to relate entrepreneur behaviors. The behaviors such as alertness, scripts, counterfactual thinking, and cognitive style(Koellinger, Minniti, & Schade, 2007; Riquelme, 2013) which help the survival, existence and performance of a venture rather than to the achievement of the entrepreneurs' individual aspirations and performance goals(S. D. Sarasvathy, 2004). These among all, have produced provocative models of how entrepreneurs

use beneficial shortcuts to opportunity process of new venture. Each of these approaches has been criticized to help an entrepreneur to determining opportunity process inconsistently in different ways. Because the shortcuts provided in the literature can lead to errors in evaluation and decisions. As a remedy to the shortcoming noted in these approaches scholar have suggested future research to examine the usage of other cognitive means which covers knowledge structure, and decision-making ability under uncertainty environment to pursue new venture exploitation activities.

In light of this research call, this study therefore examine the relationship between effectual entrepreneur set of means and opportunity exploitation capability, which lead to new venture performance. This refers to the reasons that, although the outcome of new ventures are affected by many factors such as entrepreneurial behavior, business strategy, resources and organizational structure, but the effectual entrepreneur who works under uncertainties(Shane, 2003) to bring about entrepreneurial results has empirically received less attention in the literature. The effectual entrepreneur said to give the entrepreneurs ability of what he/she is capable of doing given the means(S. Sarasvathy & Kotha, 2001; S. D. Sarasvathy, 2003). Ideas such as what each player brings to the opportunity creation and exploitation process, how each player manages risk, how flexible all players are when faced with the surprises that challenge a start-up and how each player contribute to the means, offer insight to the aspiring entrepreneur. Effectual entrepreneur in this study regarded as a human capital or actionable entrepreneur who has ability to run opportunity exploitation process by work on strategies and garner on capabilities for a new venture(S. Sarasvathy, 2008).

Also, the study examined the moderating effect of a number of founders between effectual entrepreneur set of means and opportunity exploitation capability. Thus the number of founders is a qualitative variable that moderates the strength of an effect between effectual entrepreneur set of means and opportunity exploitation capability. In theory of entrepreneurship book suggested that the stakeholders such as investors are willing to work with the venture founded by larger team of entrepreneurs with the belief that larger team have a wider range of necessary competencies(Roberts, 1991; Shane, 2003).The research by (Bruton & Rubanik, 2002)suggested that the size of the team establishing the business can mitigate the liability of newness.

The study collected a sample of 300 entrepreneurs from five regions of Tanzania country, East Africa. The regions are Mbeya, Morogoro, Dar-es-salaam, Arusha and

Mwanza. The instrument and scale used to collect data were developed and validated in prior studies and had been used in previous studies in both developed and developing countries. The study performed the validity fitness of scales and several analytical and statistical procedures were conducted to confirm the validity of the data which collected by using these instruments. The study results show that the effectual entrepreneurs set of means relates to opportunity exploitation capability positively. In the moderating results, the results showed that there was moderating effect of number of founders between effectual entrepreneur set of means and opportunity exploitation capability. The results and associated findings are significant to the both theory and practice. The results managed to extend the knowledge about the facilitative roles of effectual entrepreneurs in pursuing the key entrepreneurial function like opportunity exploitation. The findings offer the practical implication for entrepreneurs and their ventures and non-entrepreneurs and other practitioners who support the entrepreneurs' day to day movement.

## II. THEORY AND HYPOTHESIS BUILDING

This study led by the suggestion made by (JR, Black, Babin, & Anderson, 2009) that theory can come from prior empirical research or past experience and observations of actual behavior, attitude and other phenomenon. Therefore our study theory relies on prior different studies to communicate the relationship of effectual entrepreneur set of means in opportunity exploitation capability building. The review of literature starts by discussing the role of effectual entrepreneur set of means in entrepreneurial opportunity exploitation capability, the number of founders and its effect on the relationship between effectual entrepreneur set of means and opportunity exploitation capability.

### A. An overview and prior research of effectual entrepreneurs

Effectual is known as the type of reasoning that has been shown (S. D. Sarasvathy, 2001) to work in somewhat non-predictive which sometimes it is adaptive (Weick, 1979), not predictive (Knight, 1921) and non-directive principle. In this theory, people shape the creation of ventures, product, markets, and ideas which in the end there is no need to predict the future (S. D. Sarasvathy, 2009). Set of means which are cognitive means (explained by effectuation theory) measured with three components such as "who I am", "what I know" and "whom I know". Means described as the provision of the basis for decision and new opportunities (Read, Song, & Smit, 2009). The effectuation theory identify three components to be resources of an entrepreneur, and suggested that all three are not mutual exclusive and not independent. But they stand to identify the entrepreneur resources "what I have" (S. D. Sarasvathy, 2009). These are experts whereby as the experts concept described by (Ericsson, Charness, Feltovich, & Hoffman, 2006) as years of experience or high performance. The study by (S. D. Sarasvathy, 2009) suggested the effectuation as a trait or logic that the entrepreneur might choose to use. The effectual entrepreneurs possess these kind of qualities.

### B. Dimensionality of the effectual entrepreneurs

Entrepreneurs like to explain their actions and decisions in terms of something fundamental about who they are rather than their more apparent preferences. Sometimes their identities have something to do with being an entrepreneurs (S. Sarasvathy, 2008). Which their characteristics sometimes interpreted comes from other areas of lives such as political affiliation, child trauma, religious faith, aesthetic pursuit or even loyalties to sport teams (S. D. Sarasvathy, 2009). As effectual entrepreneurs does not begin with a specific goal but given set of means and allow goals to emerge contingently overtime from the varied imaginations and diverse aspirations of the founders and people with whom they interact (S. Sarasvathy, 2008). Sarasvathy has suggested these inseparable cognitive means or set of means which entrepreneurs have as follows;

### C. Effectuation in individual performance "Who I am"

Means "Who I am" describes the level and composition of individuals' resources which believed to enable them to excel in entrepreneurs activities. In the literature, 'who I am' means claimed to carry a firm as a whole (Read et al., 2009). At individual level include attributes of the entrepreneur and stable traits. Although psychological variables constitute neither necessary nor sufficient explanation for entrepreneurial performance but Sarasvathy suggested the inseparability of them from personality of entrepreneurs (S. D. Sarasvathy, 2009). "Who I am" classified in the theory to be an entrepreneur's identity which allows them to construct their preferences when preferences do not exist, allows to experiment, to try on for size when preferences are not known (S. D. Sarasvathy, 2009). The meta study by (Read et al., 2009) suggested founder cognitive means "who I am" by assuming individual means accrue to the firm as a whole. Thus if one individual founding a team holds a patent that means is belong to the firm. It also suggested capital, assets, technological capabilities, R&D investment and patent reflects "who I am" of an individual who is a firm founder. Which this prior study proved these means and their results in ventures' performance outcome. Example of the means mentioned in prior studies are capital (Ohe, Honjo, & Merrifield, 1992), R&D investment (Zahra & Garvis, 2000), patent (Miner, Smith, & Bracker, 1992), asset at founding (Bamford, Bruton, & Hinson, 2006) and initial capital (Chandler & Hanks, 1998; Doutriaux, 1992). These means have suggested to contribute to entrepreneurial firm various outcome such as sales growth and profit (Chandler & Hanks, 1994; Zahra & Garvis, 2000) firm performance (Barney, Busenitz, Fiet, & Moesel, 1996) and employment growth. The study by (Gartner, 2002) suggested that personality of an entrepreneur is a predictor of a firm success. Different authors displayed different opinions regarding "who I am and its impact to venture's performance. But effectuation made clear that it consists of preferences for particular processes or ways of living and deciding rather than for particular consequences. "Who I am" which regarded as

identity suggested to be fictive or real which is freely chosen or sociocultural constructed (S. D. Sarasvathy, 2009).

#### *D. Effectuation in experience of entrepreneur “What I know”*

Means “What I know” describes in the literature as experience in the industry (Barney et al., 1996) where the startup is operating, experience in functional area where individual is operating the startup, partner expertise and human capital (Read et al., 2009). The study by (Beckman, Burton, & O'Reilly, 2007) found out that demographic characteristics of entrepreneurs such as human capital experience or team experience bring new insight in the firm and results in entrepreneurial success. The study by (Doutriaux, 1992) showed the important of startup conditions which are behaviors and strategies can evolve as a firm matured. The study by (Honig, 1998) suggested that in order for a venture to achieve its success, social status, years of experience in the business suggested as the sources. In prior study by (Chandler & Jansen, 1992) which assessed self-competence of entrepreneurs found that business education and experience in managerial position are the source of founder of entrepreneur outcome. As prior literature emphasized what I know to bring about performance results in a venture. In effectuation theory, what I know bring about expertise that enables individual manager or team in new ventures to make decisions without having to rely on pre-existing or predictive goals (Sarasvathy, 2009).

#### *E. Effectuation in interaction of entrepreneur “Who I know”*

Means “Who I know” articulated by effectuation theory describes alternatives, opportunities and resources that become available through the founding team's social network (Read et al., 2009; S. D. Sarasvathy, 2009). Thus, these are individuals and entities which might offer opportunities and resources to the venture. These could be business network, friends in the business, number of university links, social capital, network capabilities, early team and so on. Effectuation theory, means regarded as “who I know” are those people the founder has familiar with and provided other means to the venture. In the study by (Chetty, Ojala, & Leppäaho, 2015) found that entrepreneurs who have existing relationships in foreign markets tend to use effectuation to select and entrepreneurial foreign markets. In other studies, early team which started with the venture has suggested to have an impact on new venture performance. In theory of entrepreneurship book suggested that the stakeholders such as investors are willing to work with the venture founded by larger team of entrepreneurs with the belief that larger team have a wider range of necessary competencies (Roberts, 1991; Shane, 2003). The study by (Beckman et al., 2007) assessed the usage of top management team which started with the venture. The result showed the team that has broad access to information by its members who work from different employers and possess diverse prior experience have positive outcome in a new venture. Social capital through being the member of network reported in the study by (Davidsson & Honig, 2003) was positively and significantly contribute to the venture's outcome (sales,

profitability and completion). It was by bridging and bonding social capital, consisting of both strong and weak ties. Therefore, these studies somehow agree with the concept of effectuation in a fact that in effectuation, a founder knows who can provide other means and new opportunities defines as the means (Read et al., 2009). However, literature lack the empirical study on effectual entrepreneur's set of means (who I am, what I know and who I know) which impact a venture into building opportunity exploitation capability. Because most of the cognitive means studied previously were treated separately. And most of the results focused were profit, sales and growth of the venture. Therefore the aim of this study is to find out the relationship of effectual entrepreneurs on building opportunity exploitation capability.

However, effectuation seems to take the opposite path, it aims to explain the question of what makes entrepreneurs “entrepreneurial”. Unlike much of the literature that has focused on finding and exploiting opportunities, effectuation offers an alternative view where opportunities are not necessarily found (causation) but are in fact created (effectuation). Effectuation theory argues that causation rests on the logic of prediction, while effectuation relies on the logic of control (S. Sarasvathy & Kotha, 2001; Wiltbank, Read, Dew, & Sarasvathy, 2009).

#### *F. Opportunity exploitation capability*

Entrepreneurs need a wide range of capabilities for exploiting an identified opportunity (Y. R. Choi & Shepherd, 2004) or created opportunity (S. D. Sarasvathy, 2009). Different ventures size possess different capabilities during opportunity exploitation process. Opportunity exploitation is defined as the decision process which undertaken by entrepreneurs after recognize opportunities (Shane, 2003) or create opportunity (S. D. Sarasvathy, 2009) which expected that if well exploited will enhance venture performance. This definition is general which it does not well describe precisely the meaning of opportunity exploitation in an entrepreneurial sense. The study by (S. Choi, 2003; Y. R. Choi & Shepherd, 2004; March, 1991) defined opportunity exploitation as those activities and investment committed to gain returns from the new products arising from the opportunity through building of efficient business systems for full scale operation. Exploitation includes such things as refinement, choice, production, efficiency, selection, execution and implementation (March, 1991). The study by (Shane, 2003) has furtherly defined opportunity exploitation capabilities as processes or conditions which should be met by entrepreneurs to reach organization performance such as venture survival, venture growth, venture profit and venture initial public income. This study treats the opportunity exploitation as outcome variable by examining on how the effectual entrepreneurs can enhance the process. By that the following hypothesis was formed:

H1: Effectual entrepreneur relates positively to the opportunity exploitation capability.

#### *G. Number of founders as a moderator*



Founders are suggested to have ability to make decision on behalf of a venture on goals and implementations. Founders are leading at formulating and implementing strategic initiatives to capitalize on new opportunities (Mousa & Wales, 2012). More observations from earlier research is that founders are associated with engagement in legitimacy-seeking behaviors, the behaviors which will help to collect stakeholders who will be ready to commit resources in the venture (S. Choi, 2003; Murphy & Tocher, 2011). The study by (Bruton & Rubanik, 2002) has stated that large team of founders accumulate shared prior work experience and shared common industrial background that can overcome part of costs that arise due to the difficulties in building a new social structure. Unfortunately, most studies about founders have not considered the number of founders and their influence in ventures' various outcomes. This study suggested that the extent to which an effectual entrepreneur to opportunity exploitation capability will frequently depend on the number of founders who are involved in the startups. Therefore the study suggested to find out the moderating effect of number of founders between effectual entrepreneur set of means and opportunity exploitation capability. By that the following hypotheses were formed:

H2: The strength of the relationship between effectual entrepreneur set of means and opportunity exploitation capability is moderated by number of founders.

### III. RESEARCH METHODOLOGY

The philosophy applied in the study is post-positivism which its basic principle claims that the research cannot be completely certain about the knowledge they claim about the behavior action of a human being (Clark, 1998) Cross-sectional survey design adopted since it is useful for quantitative description of trends, attitude or opinion of a population from a representative sample of the focal point.

#### A. Sampling and Data collection

The study obtained its sample from Tanzania country. It covered entrepreneurial firms in eleven (11) industries across five (5) regions of Tanzania. The industries covered were manufacturing, tourism, micro-finance/micro-credit, education, ICT, and renewable energy. The survey was conducted for over four months. The demographic makeup of the sample includes 225 male (75%) and 75 female (15%) entrepreneurs. The age of the entrepreneurs in the sample varies from 21 to 59 years with the mean age of 37.89 years and a standard deviation of 7.85. The industrial experience of entrepreneurs in their respective industries have mean age of 5.34 years and standard deviation of 1.95. Ventures have average of 6 people.

#### B. Common Method Bias

The researcher collected data on both predictor and outcome variables from the same source. Thus, common method variance in the findings was a likely to occur. The

following procedural and statistical remedies were employed to minimize and later to diagnose the effect of the common source bias on our findings (Podsakoff et al., 2003). First, the psychological separation was used in designing the measurement instrument. In this separation, different instructions were provided for each variable, but also, the order of the questions was counterbalanced for the eighteen items of the effectual entrepreneur construct. Besides, the control, criterion and outcome variables were placed in different sections to make respondents aware that the measures for the constructs are different. Also, the instrument assessed the predictor and outcome variables using different scale anchors or options to introduce the distinctiveness of the variables.

Also, the study tested if there was an influence of common method variance in the data by using two statistical approaches: Herman's one-factor test and measurement level method bias. For the Herman's one factor (or single-factor) test, the study examined whether a single factor explained the majority of the variance. This test was conducted by loading all the factors into an exploratory factor analysis using the principal axis factoring method and Promax rotation. Then, the results of the unrotated factor solution were examined to determine the number of factors that were necessary to account for the variance of the variables. Both the scree plot and Kaiser-Meyer-Olkin (KMO) criterion yielded ten factors (effectual entrepreneur set of means) examined through its three sub-dimensions as first-order factors) with eigenvalues greater than 1.00. The results showed that no single factor was dominant as the first factor explained 19.1% percent of the variance. According to the results produced by the Herman's single factor method, common method variance was not a significant problem in the data and results.

#### C. The study measurements

The aim of the study was to measure and assessed the direct and moderation relationship between variable chosen. Variables employed were from previous studies, adopting the measures by considering the quality provisions, with minor modifications in wording for the purpose of increasing their applicability to the Tanzanians context. The detailed information about these variables are explained as follows:

#### D. Dependent Variable

Opportunities exploitation capability was employed as a dependent variable by three items consistent with opportunities exploitative orientation such as "continuously improves the reliability of its products and services". The measures were on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale adopted from (Lubatkin et al., 2006). Previous research highlights the usefulness of such subjective measure since they display strong reliability and validity and are particularly useful for assessing wider non-financial dimensions of performance too (Chandler & Hanks, 1993; Dess & Robinson, 1984).

### E. Independent Variable

The effectual entrepreneur set of means are used as independent variable. 14 items will measure effectual cognitive means. Who I am will be presented by the self-efficacy behavior of entrepreneur. The study by (Sarasvathy, 2009) confirmed “who I am” to be traits of the entrepreneurs. 7 items of self-efficacy are employed. The items such as 1. It is easy for me to stick to my aims and accomplish my goals; 2. I am confident that I could deal efficiently with unexpected events; “What I know” presented by skills experience, experience in the industry and knowledge possessed by the entrepreneurs. 3 items are employed. The items such as 1. I hold suitable work experience for accomplishing my run this new venture successfully 2. I have well skilled professional to accomplish the role I play in this new venture successfully. The sentences are carefully changed but remained with the same meaning. “Who I know” presented the relationship which the entrepreneur has with external stakeholders. 4 items are employed. Example of items are 1. Our networks contribute significantly to our ability to reconfigure our opportunities process. 2. Our networks help us to enhance and solidify our opportunities process. These items are adopted from prior studies (Deligianni et al., 2015, Walter et al., 2006, Chandler et al., 2011) in respectable and reputable journals which will be re-validated to fit the study’s analysis. These items and scale anchors for all the dimensions are summarized in table 3.1 below.

The 14 items were allowed to load to the corresponding first order factors (dimensions of effectual cognitive means). A second-order confirmatory factor analysis was conducted to examine whether the items load into respective factors. The results show that the second-order model fitted data well ( $X^2=2.31$ ,  $df=20$ ,  $TLI=0.98$  and  $RMSEA=0.053$ ) The Cronbach’s alpha score for the construct was 0.840 indicating fairly good construct reliability. The first objective of this study aimed to determine the construct of effectual entrepreneur set of means. Thus it was important and necessary to assess whether the data fit well in the high-order structure of effectual entrepreneur behaviors.

### F. Moderating variable

The study hypothesized that, the strength of relationship between effectual entrepreneurs and opportunity exploitation capability is moderated by the number of founders. Number of founders was regarded as number of individuals who invest in the venture and expect to obtain the proceeds of any profits (Bruton & Rubanik, 2002; Song, Podoyntsyna, Van Der Bij, & Halman, 2008). This study acknowledges the number of founders in a venture from one to any number of founders which obtained in a venture to investigate the relationship.

### G. Control variables

Apart from measuring the independent, dependent and moderator variables, the study also controlled the effect of four covariates that have shown to influence the effect of

effectual entrepreneurs on various outcomes. Extant research suggests that the entrepreneur’s demographic variables- Age, gender, years of experience in the industry, level of education and environmental uncertainty help entrepreneurs to interact with different stakeholders in the environment that they are functioning (Bian, 1997; Deligianni, Voudouris, & Lioukas, 2015) and may determine the kind of support that entrepreneurs can receive from their stakeholders. Empirical evidence reveals that if an entrepreneur and an investor share a successful history of prior interactions, the investor might tender more resources and commit to the venture than when such prior ties were not available (S. D. Sarasvathy, 2009). Years of experience is number of the year the entrepreneur has been in the industry. The environmental uncertainty is measured as a four items scale that captures the rate such as the entrepreneur cannot predict actual user of their product, competitor of their supply of raw materials, competitor they share customer, public political views and attitudes towards their industry and government regulations controlling their industry (Zahra, Neubaum, & Larrañeta, 2007). Entrepreneurs’ experience was measured by the number of years that an entrepreneur has operated the venture. Gender was a binary variable (1= male; 2= female), and age was a continuous variable measured in years. Education level was measured by a five-point scale ranging from 1= “primary education” to 5= “postgraduate education.” The theoretical and empirical evidence justified that the net influence of effectual cognitive means on opportunity exploitation capability could be sufficiently determined after controlling the effect of these covariates. To assess the construct validity of all variables, we followed the process suggested by (Spanos & Lioukas, 2001) which involved tests of un-dimensionality, reliability and convergent validity.

## IV. RESULTS

### A. Measurements reliability and validity

Previous authors suggested to examining the measurement model and validate it before proceeding with the structural model construction. Our study piloted a confirmatory factor analysis (CFA) for the purpose of assessing the measurement model. The goodness of fit measures was observed to evaluate the measurement model. The different authors in their books such as (JR et al., 2009; Kline, 2011) suggested reasonable model fit is proved if the values of AGFI, CFI, GFI, and NFI exceed 0.90 and RMSEA should be less than 0.08 (JR et al., 2009). In this study the goodness indices of fit were as follows,  $X^2/df=2.068$ ,  $CFI=0.967$ ,  $GFI=0.923$ ,  $AGFI=0.903$ ,  $NFI=0.939$ ,  $RMSEA=0.048$  which technically, all goodness of fit measures declared a measurement model good fit to the data. We then assessed construct validity by evaluating both convergent validity and discriminant validity. Convergent validity provides evidence regarding the accuracy of indicators of a specific construct (JR et al., 2009; Wang, Wang, & Liang, 2014). Therefore we assessed the convergent validity by evaluating the factor loadings and composite reliability which suggested to be greater than 0.50 and 0.70 respectively (JR et al., 2009).

On the other hand, discriminant validity refers to the degree in which a construct is truly different from others(JR et al., 2009). Discriminant validity can, therefore, be confirmed when the value of average variance extracted (AVE) for each construct is higher than 0.50 which the higher AVE indicates that a latent construct explains more of the variance in its measures than the proportional of variance it shares with another construct(JR et al., 2009).Our study meets most of the threshold suggested, such as factor loadings, composite reliability, and AVE. Table 1 demonstrated standard

deviations, means and the square root of the AVE which are bolded. We also conducted correlation test. The point is to provide some preliminary evidence of discriminant validity the results which give us confidence that our covariance matrix shall be safe when we continue our data assessment. As per other authors, the inter-factor correlation is within recommended level of 0.65 does not create a bias in our data(Tabachnick & Fidell, 1996).

	1	2	3	4	5	6	7	8	9	10
1 Gender										
2 Industrial experience	-.207**									
3 Age	-.166**	.570**								
4 Education	0.00	-0.05	-0.05							
5 Uncertainty	.092*	0.01	-0.03	0.01						
6 Effectual means	-0.04	-0.01	0.00	0.01	0.02					
7 Self-Efficacy	-0.02	0.02	0.02	-0.02	0.02	.55**	<b>0.68</b>			
8 Skills Experience	-0.03	-0.06	-0.03	0.04	0.00	.11**	.58**	<b>0.78</b>		
9 Networking	-0.04	-0.04	-0.01	0.02	0.03	.50**	.45**	.431**	<b>0.59</b>	
10 Opportunity exploitation	-0.04	-0.02	0.04	-0.04	0.01	.464**	.338**	.305**	.486**	<b>0.70</b>
Mean	1.25	5.34	37.89	2.24	4.73	3.75	3.76	3.98	3.56	2.88
SD	0.43	1.95	7.85	1.04	1.96	0.52	0.56	0.66	0.80	0.73

\*\*\*P<0.001, \*\*P<0.01\*P<0.05 Bolded=Square root of AVE

*B. Model validation, descriptive and hypotheses tests*

- *Direct relationship of effectual entrepreneur set of means in opportunity exploitation capability*

We conducted structural equation models (SEM) which we follow the procedure of minimum likelihood estimation to assess the validity of the hypotheses. The model

involved the direct relationship between effectual entrepreneur set of means and opportunity exploitation capability. The good fit indices obtained were as follows; Minimum achieved of chi-square was 24.38with 0.310 probability, X<sup>2</sup>/df =2.71, CFI=0.95, GFI=0.98, AGFI=0.96, NFI=0.92 and RMSEA=0.061. By insignificant chi-square means the difference between our model and the saturated model has no significant difference (JR et al., 2009). Most of our indices proved our model to be good.

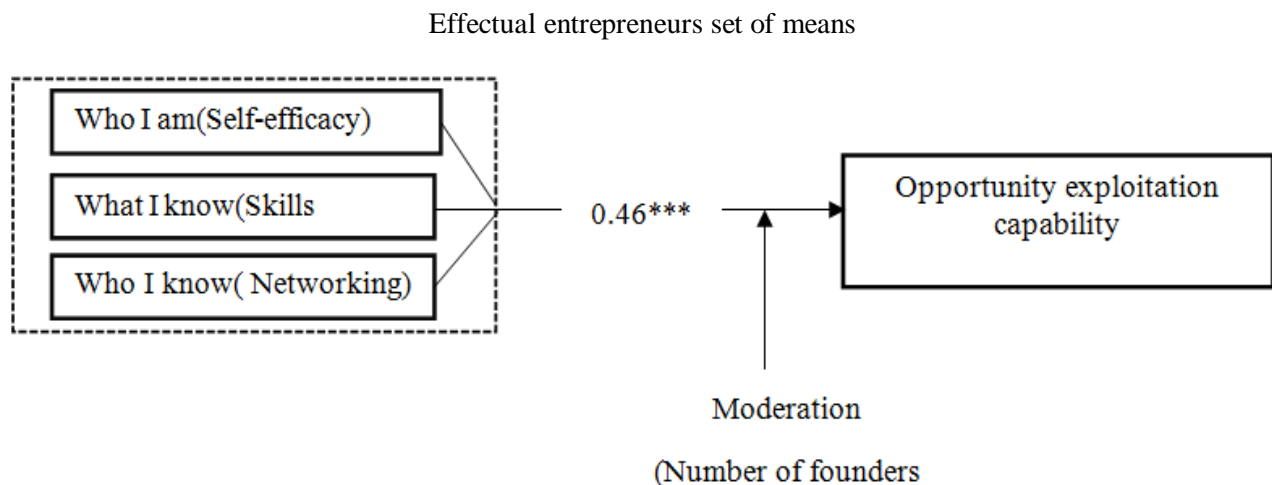


Fig 1:- Structural Equation Model

The reason of using SEM approach is because it accepts estimation of multiple association, which it incorporates observed and latent constructs in these relations as well as account for the bias effect of random measurement error in the latent construct(Hoyle, 2012; JR, Black, Babin, & Anderson, 2009; Lubatkin et al., 2006; Shook, Ketchen, Hult, & Kacmar, 2004). Unlike other the other regression method, the SEM controls the measurement errors in the model when relationships among variables are examined(Hoyle, 2012). The theory by (S. D. Sarasvathy, 2009) gave the ability to examine the set of means together. Therefore the effectual entrepreneurs set of means was positively associated with opportunity exploitation capability. Therefore the hypothesis 1 was supported.

- *The moderation effect between effectual entrepreneur means and opportunity exploitation capability*

The study was furtherly examined the moderation effect of the number of founders between effectual

entrepreneur and opportunity exploitation capability. Therefore the number of founders was used as the moderator for the relationship. The effectual entrepreneurs and number of founders were entered in the first step of regression analysis. In the second step of regression analysis the interaction term between number of founders and effectual entrepreneur means was entered and explained the significant increase in variance in opportunity exploitation capability;  $R^2=0.014$ ,  $F(453)=8.95$   $p<0.002$ . Thus the number of founders was a significant moderator of the relationship between effectual entrepreneur means and opportunity exploitation capability. The results for moderation is as shown in figure 2. For the high number of founders and low number of founders, there was no zero in the confidence interval which means the relationship was significant. Therefore the hypothesis 2 was supported.

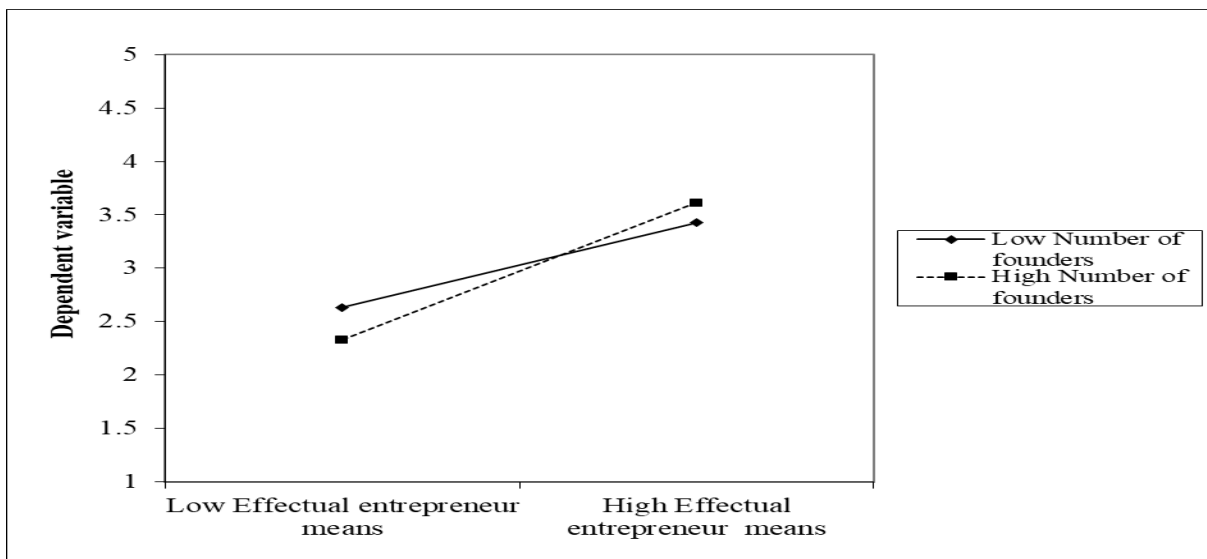


Fig 2:- The effect for low and high number of founders

For low number of founders the Gradient of simple slope = 0.475, t-value = 12.99  $P<0.001$

For high number of founders the Gradient of simple slope = 0.754, t-value = 8.89  $P<0.001$

**V. DISCUSSION, FINDINGS AND CONCLUSION**

The study examined the effect of effectual entrepreneur set of means in opportunity exploitation capability where by effectual entrepreneur means treated as the overall construct. It was suggested by (S. Sarasvathy & Kotha, 2001; S. D. Sarasvathy, 2009) to use the effectual means “who I am”, “what I know” and “whom I know” as one construct. The effect of effectual entrepreneur set of means as an outcome variable were positive and significant. This results supported by the first noted argument in the literature that human capital experience bring new insight in the ventures

and results in entrepreneurship(Beckman et al., 2007; Ucbasaran, Westhead, & Wright, 2007). Although the effectual entrepreneurs focus on the means when they decide to enter in the new market and building strategy capability, the keep on discouraging planning strategy(S. D. Sarasvathy & Dew, 2005) and revolving as the situation prevail. This is admitted to the fact that the effectual entrepreneurs never predict on the coming situation of the venture but keep on controlling the situation.

Moreover, since the literature lacks a knowledge of how effectual entrepreneur set of means unfolds to influence the outcomes, this study extended its examination on number of founders as a moderator variable. The number of founders was a significant moderator of the relationship between



effectual entrepreneur means and opportunity exploitation capability.

This is supported by various results from prior literatures that the various entrepreneurial outcomes of ventures such as resources acquisition and other activities need big number of founders who will bring the means to the venture (Bruton & Rubanik, 2002; Nelson, 2003).

In this study the effect of effectual entrepreneur set of means on opportunity exploitation capability of entrepreneurial ventures was examined successful. Since the effectual cognitive means was treated as one construct, its effect examined only at construct level. Although there are few empirical investigation regarding the relationship, but there are theories and extensive literature which proposed the conduct of such relationship. Effectual entrepreneur set of means proved to positively and significantly affect the opportunity exploitation capability and therefore fit the purpose of relationship hypothesized. The competence within effectual entrepreneur set of means has given an entrepreneur who operates in an uncertainty environment to have the confidence to use of partnership rather than compete; As effectual entrepreneur believed to roll on different alternatives and strategy design it shaped their ability to turn to new area of market and make their own customers from the scratch. The partnership is possible only through pre-commitment from the stakeholders on board as the way to eliminate or reduce uncertainties and stiff barriers. The entrepreneurs where the data were taken are recommended to use this techniques due to the reasons that they work in the environment where they experience uncertainties and unsupportive business environment.

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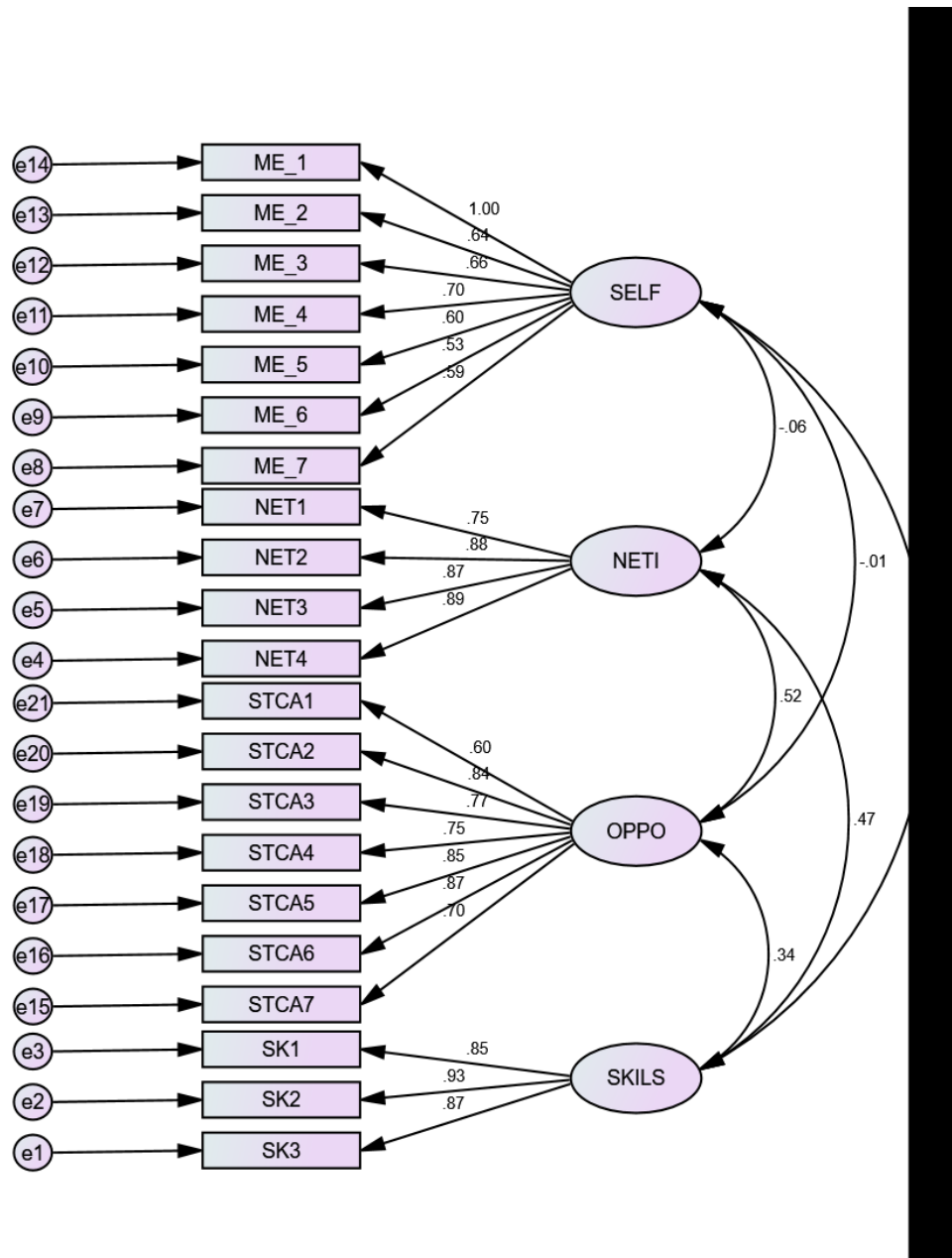
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➤ APPENDICES

A. Confirmatory Factor Analysis CFA



B. Structural Equation Model

