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Representativeness Heuristic, Investment Decisions, and Financial Performance of Small and Medium Enterprises in Nairobi, Kenya

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Abstract

Heuristic factors play an undeniable role in influencing individuals' decisions, including investment decisions. They have emotional impact on all investors and vary subject to the investor's nature which affects the financial performance of the firm. Investors have a specific way of intellectual and feeling which affects their actions when making investment decisions. These influences are called psychological or behavioral heuristics. Using cross-sectional data from 382 respondents of small and medium enterprises located in Nairobi County, the research evaluated the direct influence of Representativeness Heuristic on the financial performance of the SMEs in Nairobi County. In addition, the research scrutinized the mediational effect of Investment decisions on the relationship between Representativeness heuristic and the financial performance of the said SMEs. The study is guided by Heuristic theory and Modern portfolio theory. The study used an explanatory research design and arranged the samples into strata. Data collection was done through self-administered, structured questionnaires and elements were grounded on a 5-point Likert scale after which data analysis was done using descriptive and inferential statistics. The study hypotheses were tested with the use of multiple regression models and Hayes process macro. The results showed that Representativeness Heuristics significantly predicts SME's financial performance ($\beta = .169, p < .05$) and this relationship is partially mediated by Investment decisions ($\beta = .285, p < .001, CI = 0.023, 0.099$). Theoretically, the study supported the incorporation of different key dimensions of heuristic factors and investment decisions to achieve the financial performance of SMEs. Finally, there is a need to undertake similar studies covering other geographical locations to make a generalization of this study.

Keywords: Heuristic behavior, Representativeness, Investment decisions, financial performance

INTRODUCTION

SMEs have a significant role in most economies throughout the world. Financial performance pinpoints the financial strong points and feebleness of a business by launching interactions between the elements of the financial performance and statement of income as illustrated by Jayawardhana, (2016) as; Liquidity, profitability as well as return on equity, ratios amid others offer treasured devices or measures to shareholders to assess the previous as well as present financial performance of a business entity. Profitability is a pointer of how a company's financial position is, in relation to its total cost of assets. The SMEs play a significant role regarding entrepreneur skills, innovation, and employment which measures their financial performance (Kinyua, 2014). According to Tambunan *et al.* (2010), SMEs are a vital gear for development economically along with the empowerment of local people. Although SMEs offer a resolution to countless economic issues, they are similarly facing challenges from other dimensions that dissuade their financial performance and therefore inhibit their growth.

The representativeness heuristic is the propensity to plan occurrences in varying segments based on individual observable features. Investors don't have much time to ensure procedural actions on the entire information required in making any choice hence they choose to utilize heuristics in influencing the last verdict (Tversky and Kahneman, 1974). Likewise, Irshad, *et al.* (2016) said that representativeness heuristics is depending on stereotypes applied to form speedy but ridiculous decisions. Nofsinger, *et al.*, (2007) contends that investors make decisions by means of mental shortcuts and they don't develop all of the existing information at the same time do not participate in intricate analytical processing. The representativeness heuristics can influence investors' choices where, same information can be understood as a design and by doing so individuals offer additional loads to recently relayed updates concerning a firm which they overstate when they approximate the upcoming company achievements (Kaestner, 2006).

Investment is the variation in capital stock through a period. Investment can only be measured over a time frame. Investment course in a period can be calculated as the variance between the capital stock in the last part of the period less the capital stock at the commencement of the period (Archer, *et al.*, 2011). Rashid, & Saeed, (2017) affirms that comprehensive investments which instrument well-systematized approaches are vital to generating shareholders value, and should be analyzed together in appropriate framework and thorough analytical methods. If the verdict encompasses binding resources to research projects; new facilities; marketing program; development project; extra operating capital' an acquisition, or devoting in a financial instrument, a pecuniary trade-off should be made between the resources expended present day and the anticipation of upcoming cash benefits to be accrued (Taticchi, *et al.*, 2010.). Therefore, investing is experiencing costs to obtain profit through the projected life span of the existing assets or plant assets in the future. Consequently, investing must be measured and analyzed cautiously within the given alternatives. Investment decisions are crucial, fundamental and are important for any business around the world (Rashid, & Saeed, 2017).

Investment heuristic behavior is viewed as a developing discipline that combines behavioral heuristics and intellectual psychological features supplemented with the economics and finance to draw feasible supporting opinions for the irrational behavior of people while making investment decisions (Pachur, *et al.*, 2008). This is a fast expanding discipline of finance that tends to clarify psychology-based theories to explain irregularities existing in the investment market based on qualitative mental characteristics (Brabazon, 2000).

Hypotheses

The study hypothesized that:

H₀₁ *Representativeness heuristic has no significant influence on the Financial Performance of SMEs in Nairobi County, Kenya*

H₀₂ *Investment decisions do not mediate the relationship between representativeness heuristic and Financial Performance of SMEs in Nairobi County, Kenya*

Theoretical review

The research was informed by Heuristic theory and modern portfolio theory. Managers use these tenets in uncertain situations to make decisions simple and efficient (Ritter, 2003). It has been noted that illogical investors use behavioral heuristics in making their consistent decision since they failed to weigh the better probability (Kahneman and Tversky, 1979). Waweru *et al.* (2008) claimed that heuristics are convenient when there is a short period and little available information as noted by Tversky and Kahneman (1974). Tversky and Kahneman, (1974) introduced three kinds of heuristics that can be used by different investors in making their decision; availability; representativeness and finally fixing

heuristics. Keynes (1936) and Fisher, (1930), both concluded that investments are continuously made till the present value of anticipated future incomes is equivalent to the opportunity cost of the capital. Therefore, investments are done till the net present value is equivalent to nothing. An investment is anticipated to create a rivulet of cash flows in future. The net present value regulation for investment has developed as a typical constituent of corporate finance. Jorgenson, (1963) in his investment neoclassical theory ratifies thoughts put onward by Fisher. Perhaps, Keynes has impacted the accelerator theory of investment, recognized for its applications to business cycles by Eklund. (2013). The methodology to quantify marginal q initiated by Kreuz & Riordan (2018) also fit in to this line of thought. Therefore, this study was guided by the theoretical lenses which are the Heuristic theory and Modern portfolio theory.

Conceptual framework

A conceptual framework is a figure which the researcher uses to best expound on the natural advancement of the phenomenon being studied (Osanloo, & Grant, 2016). This is the researcher’s explanation of in what manner the research problem would be discovered. It describes the connection between the core concepts of a study. This research seeks to study the mediational effect of investment decisions on the relationship between heuristic behavioral factors and the financial performance of SMEs in Nairobi County.

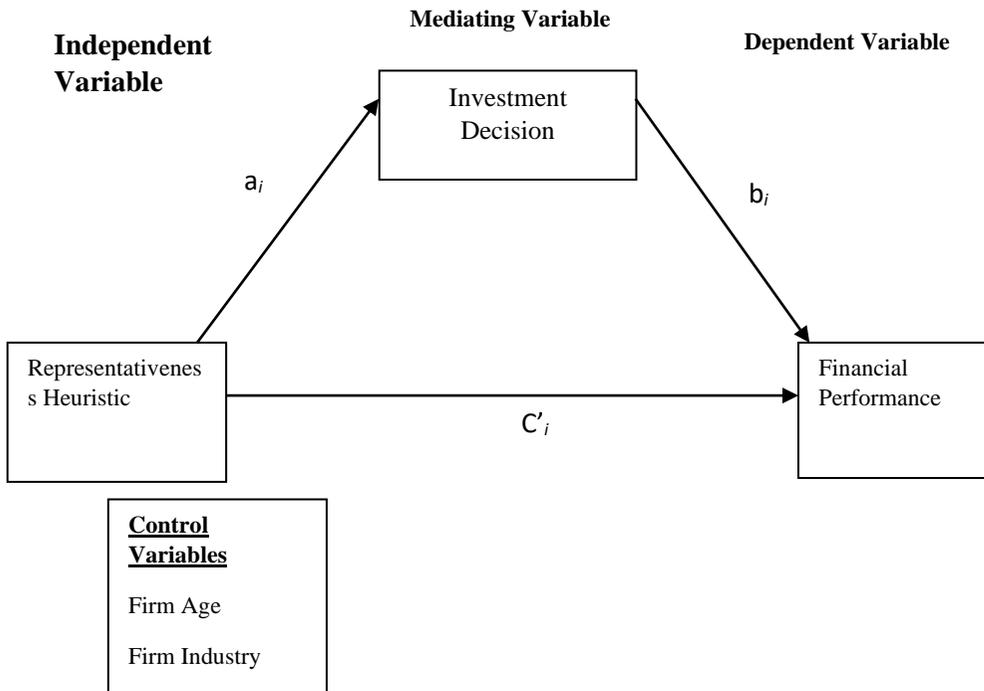


Figure 1: Conceptual Framework

METHODOLOGY

The study embraced an explanatory research design and stratified random sampling techniques to select the SMEs and Industry respectively. Data were collected by use of a closed-ended questionnaire which was self-directed to a sample size of 382 respondents a selection of a target population of 64,443 SMEs in the County of Nairobi, Kenya using

(Borg and Gall, 2014) formula. This study used a positivism research philosophy. Positivists argue that there exist cause-effect association in nature between phenomena, which are predictable with certainty (Garner *et al.*, 2016).

Regression models

For direct effect with control variables

$$FP = \beta_0 + \beta_1FA + \beta_2FI + \beta_3REP + \varepsilon \dots\dots\dots 1$$

Mediation model for the indirect effect

$$FP = \beta_0 + C + \beta_1REP + \beta_2IND + \varepsilon \dots\dots\dots 2$$

Where;

β_0 is the Constant; *FA* is the Firm age (covariate); *FI* is the Firm industry (covariate); *FP* is Financial Performance (DV); *REP* is the Representativeness heuristic (IV); *IND* is the Investment Decision (mediator variable).

Measures

Financial performance of the study

This is the act of determining the outcomes of a firm's rules and operations in monetarist terms within a certain time frame (Jayawardhana, 2016). Seven items were used in measuring the financial performance adopted from Al-Matari, *et al.* (2014) with a few adjustments to suit the present research. Every problem was measured on a Likert scale of 1–5 ranging from 5- Strongly agree to 1 - Strongly disagree. The items encompassed; profitability of new ventures, knowledge, and ability of staff to study the market, the current financial responsibilities of the firm, assets being financed by the owners, assets being financed by debt, acceptable profits as a percentage of revenue, part of the total revenue generated by the firm goes to pay interest.

Representativeness heuristic

Six items studied Representativeness heuristic developed by Yalcin (2012) with a few adjustments to suit the present study. Each problem was measured on a 5-point likert scale extending from 1- Strongly disagree and 5- Strongly agree. They include, avoidance of stock that has done badly in the ancient, use of trend analysis to make decisions, treating each investment portfolio separately, analyzing a company’s customer preference before making any investment decision, forecasting the change in investment pattern in the future based on the recent investment decision, making investment decision judgment based on the information easily remembered.

Investment decisions

Five items were used to measure investment decision variable adapted from Pachur, *et al.*, (2008) and also adapted two items from Scott and Bruce, (1995) with a few adjustments to suit the present study. Each problem was measured on a Likert scale of 1–5; 5- Strongly agree, 1- Strongly disagree. These items include being risk-averse on investment, satisfaction on investment decisions and relying on information gathered in groups, having a workable investment plan, regular monitoring of returns on investment, diversification of investment depending on the returns, satisfied with our investment decisions like buying and holding of goods.

Covariates

To eliminate the effect of covariates, the study controlled two variables (firm age and the industry type). Firm age comprises the number of years of work that the enterprise has existed. The firm age was controlled because previous studies have found a positive

relationship with financial performance (Kumar & Rao, 2015). Firm age was measured using the number of years which the enterprise has been functioning that is the ordinal scale ranging from 1 to 4 (Akben-Selcuk, (2016). Kim & Lee, 2018 indicates that older firms with longer operating histories make it easier for the investors to estimate their projected future cash flows and therefore help in investment decisions. The industry is the category of business the SMEs fall in. Three industries were identified, manufacturing industry, Merchandising industry and Service industry. The industry was measured by the respondent's answer on which category they fall in.

RESULTS

Findings show a response degree of 92.6%, which is above the standard thresh-hold of 50% as suggested by several researchers. The outcomes point out that 59.3% of the respondents was of male gender and 40.1% were of female gender. Regarding the level of education, 20.3% of the respondents had attained primary education, 25.4% had acquired secondary education, and 45.8% studied up to tertiary level while 8.5% had no education. This indicates a high literacy level among the SMEs Owners/Managers which has consistently been viewed as a type of credential that contributes to informed investment decisions and therefore high financial performance. On the period of operation, the results displayed that the enterprises which have been in existence for less than one year are 28.8%, between 2-3 years were 37.3%, 4-5 years were 22% and the SMEs which were in existence for more than 5 years was 11.9%. This implies that SMEs in Nairobi county are volatile and do not exist for long due to decisions made by the Owners/Managers which affects the financial performance of the businesses.

The results showed that the SMEs who employed less than 5 employees was 49.2%, those who have employed between 6-10 employees were 33.9%, while those who have more than 11 employees were 16.9%. This means that 49.2% of the SMEs in Nairobi County fall under the small enterprises. The study further checked on the results of the industry from which the SMEs operate and found that 22% operates the manufacturing industry, 33.9% operate the merchandising industry and 44.1% of the respondents operate in the service industry.

Statistical analysis

Table 1 below summarizes the standard deviations; means; correlation as well as reliability outcomes for the variables of this research. The results show that financial performance has the uppermost mean of 4.89, standard deviation being .522 and the Investment decision has the smallest mean of 4.04 while the standard deviation is .678. Besides, the scale reliability was within the accepted value, since the Cronbach' Alpha was directly above .7 for all the variables. The results on correlation disclosed that representativeness heuristic was positively linked with Financial performance with the highest relationship of $r = .453$, $p < .01$, the investment decision was also positively and significantly related to the financial performance with $r = .323$, $p < .01$.

Table 1: Reliability, Means, Standard Deviations, and Correlation results

N=340 Variable	Reliability	M.	SD.	Correlation		
				1	2	3
FPAVE	.815	4.8880	.52202	1		
REPAVE	.830	4.2300	.55785	.453**	1	
INDAVE	.893	4.0433	.67791	.323**	.304**	1

** Correlation is significant at the 0.01 level (2- tailed).

Keywords: FPAVE (Financial performance average); REPAVE (Representativeness Heuristic Average); INDAVE (Investment Decisions average)

Hypothesis testing

The regression tests for the control variables and the independent variables (direct effect) were done. The results in Table 2 demonstrated that the predictors explained 51.7% of the variations on financial performance, R-squared = 0.517, Adjusted R-squared = .508. The results also showed the coefficient of determination as significant as shown by $F = 103.79$, $p < 0.001$. From the control variables, firm age was not significant but, in the industry, ($\beta = 0.591$, $p < 0.05$) the results showed that it significantly influences the firm performance.

H₀₁ of this study states that Representativeness heuristic has no significant influence on the financial performance of SMEs in the County of Nairobi, Kenya. From the outcomes in Table 2 below, representativeness heuristic has a positively significant effect on financial performance $\beta = 0.169$, $p < 0.001$. The p-value associated with the t ratio was low consequently, the null hypothesis was rejected. This indicates that for every decision made using representativeness heuristic, there is a general increase of 16.9% in financial performance.

Table 2: Coefficients of estimates

	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	β	S. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	2.368	.136		17.454	.000		
Operational years	.060	.032	.084	1.897	.059	.934	1.070
Industry	.400	.030	.591	13.321	.000	.934	1.070
REPAVE	.184	.052	.169	3.536	.000	.632	1.581
Summary statistics							
R	.719						
R Square	.517						
Adjusted R Square	.508						
Std. Error of the Estimate	.424						
Durbin- Watson	1.996						
ANOVA (F stat)	103.79						
Sig	.000						

Dependent Variable: Financial Performance

REPAVE (Representativeness Heuristic Average)

Mediational testing

In Hypothesis 1 testing, the research predicted that Investment Decision would mediate the connection between Representativeness Heuristic with Financial performance of the SMEs. The study used Hayes 4 model to achieve the mediating effect and performed regression analysis on representativeness variable using PROCESS Macro Version 3.2 Model 4 (Hayes, 2018). The descriptive statistics were done for the variables, then correlation analysis to establish the relations amid the variables. Furthermore, to determine the mediation effect, the MacKinnon (2012) four-step procedure was adopted. To attain robust standard errors for the parameter estimate, a bootstrapping technique was used by the researcher to test for the significance of the variables according to Hayes, (2018). The Bootstrapping produced 95% unbiased confidence interval of the effect using 5000 data re-samples. Hayes (2018), says that confidence intervals that don't have a zero in between, indicates effect that is positively significant at $\alpha = .05$, therefore, indicating partial mediation.

The results in Table 3 indicated that representativeness heuristic is significantly related to Investment decisions, $\text{coeff.} = .364, p < .001$ (Table 3 of Model 1) with the model interpreting 11.2% of the variance, ($R^2=.112$) the covariate (Firm age) significantly associated with Investment decisions $\text{coeff} = -.100, p < .05$ and one control variable being insignificant, which is presented as the first step. In step two, Investment decision was found to be positive and significantly related with financial performance with, $\text{coeff.} = .155, p < 0.001$ (Table 3 of Model 2). The industry type covariate was established to be positively significant with coefficient = .341, $p < .001$. The model explained 50.0% of the variance, ($R^2=.500$).

To establish the results in step three while we control for investment decisions, the Model 2 was employed. The results show that representativeness heuristic was significantly linked to financial performance with, coefficient = .285, $p < .001$. Lastly, results from the bias-correct percentile bootstrap technique showed that the indirect effect of representativeness heuristic on financial performance via investment decision was significant, $a_i \times b_i$ $\text{coeff.} = .056, 95\% \text{ CI} = [.023, .099]$. The results point out a partial mediation. Additionally, Table 3 on Model 4, gives the total effect $C^+ (a \times b)$ of the research results with Representativeness heuristic having a coefficient = .342, $p < 0.001$. The results of the control variables show the type of industry of SMEs has a positively significant effect on the financial performance of the SMEs.

Table 3: Mediation Effect of Investment Decision on the association between representativeness Heuristic and Financial Performance of SMEs in Nairobi County.

Predictors	Model 1 (INDAVE)		Mod 2 (FP)		Mod 3 a1xb1		Mod 4 Total	
	B	PV	B	PV	β	Pv		
Constant	2.468	(.000)	0.804	(.000)			1.187	(.000)
Firm age	-.100	(.020)	0.051	(.080)			.035	(.232)
Industry	.078	(.061)	.341	(.000)			.353	(.000)
REPAVE	.364	(.000)	.285	(.000)	.364 × .155	=.056	.342	(.000)
INDAVE	-	-	.155	(.000)			-	-
R	.335		.707				.688	
R ²	.112		.500		CI = .023	.099	.473	
F	14.129		83.705					
Sig.	(.000)		(.000)				(.000)	

The confidence level for all confidence intervals in output; 95

Number of bootstrap samples, for percentile bootstrap confidence intervals; 5000

Keywords: REPAVE (Representativeness Heuristic Average); INDAVE (Investment Decisions average)

DISCUSSION

The outcomes from this research disclose that investment decision had a partial mediational effect on the link between representativeness heuristic and financial performance of the SMEs. The findings coincide with (Waweru *et al.*, 2008) that representativeness heuristic investors usually buy quick sale stock and evade stocks which have achieved below par in the recent past. This behavior explicates the motive for investors' over-reaction in the market (De Bondt *et al.*, 2013). Individuals give more meaning to that experience which relates to a good happening in the past. Individuals are assumed to make unfair conclusions beneath doubt due to short period together with perceptive resources leading them to use heuristics for instance representativeness (Hirshleifer, 2011). Tversky and Kahneman, (1974) noted that for the reason that individual's emphasis on resemblances, they deviate from logical reasoning in numerous ways. For example, if the firm reported improved earnings for

several quarters continuously then investors overdramatize variation in stock worth with believing that they can receive elevated lasting earnings growth (Barberis, 2001). Consequently, investors apply trend analysis of a few representative stock to make decision for an investment. Representativeness heuristic affects investors' choice making and therefore affects prices of stock, an investor might associate a solitary factor to a firm's increasing stock and therefore, overlooking additional aspects and he formerly may exaggerate and choose illogically (Hirshleifer, 2011). These findings go in line with Shah and Oppenheimer (2008) who suggested that there is an association between representativeness heuristics and financial performance and that investors sometimes may use unpretentious guidelines that appear to work for them as an alternative of employing intricate models in making decision.

CONCLUSION

This paper provides a research model of understanding the role of representativeness heuristic; financial performance; and investment decisions on SMEs. The study ratifies that representative heuristic association between investors and business opportunities can be used to shape and reinforce SME financial performance. These findings can help the investor fraternity to develop strategies that can outpace competitors in decision making, therefore, improving their financial performance of SME.

Managerial and Theoretical implications

This paper confirmed what has already been established by other scholars that representativeness heuristic has a significant direct effect on financial performance and Investment decisions of Small and Medium Enterprises. Moreover, the study brings in new knowledge that the Investment Decisions can facilitate the association between representativeness heuristics and financial performance of the SMEs. Besides, the specific investors who can benefit straightly from the discoveries of this research, the small and medium enterprises can apply these discoveries as locus for investigation as well as forecast of the trends of the investment market. Our outcomes have positive and significant practical inferences for specific investors; the study of behavioral finance; and securities organizations. Precisely, these findings demonstrate that the representativeness heuristics intensely affect Investment decisions hence affecting the financial performance. Decision-makers ought to be conscious of the heuristic behavioral partialities. Investors can also use the study to know the power of representativeness heuristics on personal investment decisions as well as to come up with models that relate the critical factors of heuristics to have informed investment decisions. Besides, both local and international financial governing authorities; the government; and controlling agencies are probable to have a better understanding of the SMEs by appreciating the behavioral nature and investment decision patterns of the investors in this sector. Lastly, this paper is unique in the emerging economies, examining the mediating mechanism of Investment decisions on the association between representativeness heuristic and financial performance using the greatly demanding method of PROCESS macro for analysis.

RECOMMENDATIONS

This study pulls an overall picture of the impact of Representativeness Heuristic on the financial performance as well as the mediating influence of the decisions of investment on the association between Representativeness Heuristic and the financial performance within Nairobi County. The future researchers ought to focus on the challenges that the investors face in the process of making decisions for investment. A research may additionally be done

to assess the effect of other factors that could affect SME investment decisions apart from the heuristic factors reflected in this study.

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