

ENTREPRENEURIAL INTENSITY AND PERFORMANCE OUTCOMES AMONG KENYAN FIRMS

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Abstract

Given shrinking markets, price pressures and the need to survive and excel in a highly competitive business environment, firms have to continually renew themselves in order to remain relevant in their chosen markets. Corporate entrepreneurship is one of the ways to enhance innovative and entrepreneurial activity of employees and to increase firm performance through the creation of new products, services, strategy and organizational conditions (Bau & Wagner, 2010). It is therefore necessary to understand the intensity of entrepreneurial activity in firms and how this influences performance outcomes. By reviewing literature, an instrument was developed based on four descriptors of an organizational climate for successful Corporate Entrepreneurship, namely *entrepreneurial mindset*, *support for innovation*, *rules for an innovative environment*, and *intrapreneurial environment*. The instrument was tested for reliability and validity on a Kenyan sample and used to investigate how entrepreneurial intensity (how much the enabling climate exists in a firm) influences performance outcomes (entrepreneurial outcomes). An exploratory survey of 39 respondents' from firms in Kenya was conducted using structured questionnaires as data collection instruments. Data was analyzed using descriptive statistics to determine the entrepreneurial intensity and regression analysis to discern the influence of the intensity on performance outcomes. The results suggest that there is low entrepreneurial intensity leading to moderate performance outcomes. The results of this study are of practical significance in two ways. First, they reveal a low entrepreneurial intensity in the studied firms and point to areas that need improvement. Secondly, the relative influence of the entrepreneurial intensity dimensions on performance outcomes are revealed to aid in the prioritization of actions necessary to achieve better performance. This is the first attempt at investigation of entrepreneurial intensity using an instrument developed using a Kenyan sample.

Key words: Entrepreneurship intensity, mindset, innovation, intrapreneurial environment, performance

INTRODUCTION

Background

In a reality characterized by intensified global competition, dynamic change and increasing uncertainty, the need for organizations to become more innovative in order to survive and grow is increasing rapidly (Pasapia, 2009). The measure of entrepreneurial activity in an organisation is the level of creativity and innovation across all its operations. How intense the creative and innovative disposition is determines the success of organizations as reflected in performance outcomes.

Given the dynamic nature of the business environment-turbulent and unpredictable; and that only a few of the new enterprises that are started grow to become large corporations, it is necessary that existing organizations keep renewing themselves through multiple venture activities internally, such as establishment of new lines of business, and through external cooperative strategies which include joint ventures and venture capital investment activities. All these strategies are collectively referred to as corporate entrepreneurship where businesses engage in opportunity seeking and exploitation. It is against this background that a perspective has emerged within the field of entrepreneurship, calling for the integration of strategic advantage-seeking and entrepreneurial opportunity-seeking behavior. This perspective, called Strategic Entrepreneurship (SE) emphasizes the importance of managing entrepreneurial resources or activities strategically in order to obtain competitive advantage (Hitt, Ireland, Camp, and Sexton, 2001; Ireland, Hitt & Sirmon, 2003).

Further, the need for superior performance, such as acceptable growth by firms and recognition of the time to change tact by anticipating market dynamics and taking appropriate action cannot be overemphasized. This calls for the effort of all organizational members where top management provides support to other members for innovation through experimentation. According to Wolcott and Lippitz (2007):

CEOs talk about growth; markets demand it (Gulati, July-August, 2004). But profitable organic growth is difficult. When core businesses begin to flag, research suggests that fewer than 5% of companies regain growth rates of at least 1% above gross domestic product (CSB, 1998). Creating new businesses, or corporate entrepreneurship, offers one increasingly potent solution. According to a recent survey, companies that put greater emphasis on creating new business models grew their operating margins faster than the competition (Pohle & Chapman, 2006).

Consequently, firms should have a clear focus on the future through a compelling vision of the unfolding market place while being alert to opportunities in the context of a satisfactory corporate entrepreneurship disposition.

Corporate entrepreneurship

The question on every business executive's mind is how established organizations can build successful new businesses on an ongoing basis yet the road is littered with failures (Wolcott & Lippitz, 2007). The recognition of the importance of entrepreneurial dynamics in corporate context is increasingly acknowledged in both entrepreneurship and strategic management literature, as firms today face a reality in which frame-breaking innovation is an important element of survival (Lassen, 1989).

Corporate entrepreneurship (CE), is defined "as the process by which teams within an established company conceive, foster, launch and manage a new business that is distinct from the parent company but leverages the parent's assets, market position, capabilities or other resources" (Wolcott and Lippitz, 2007, p.75). Thus CE comprises initiatives in established organizations for different purposes. These include establishment of strategic business units to deal with disruptive technologies, or acquiring a marketing firm to rapidly commercialize

innovations from the acquiring firms R&D efforts. “CE activities are aimed at fostering profitability, firm performance, innovativeness, strategic and organizational flexibility, and new product-market arenas” (Covin & Miles, 1999; Kuratko et al. 2005, cited in Bau & Wagner, 2010). Further, corporate entrepreneurs are not just creating a new product or service but changing the way a company develops, builds, markets and supports its offerings.

According to Blau and Wagner (2010) corporate entrepreneurship is one of the ways to enhance innovative and entrepreneurial activity of employees and to increase firm performance through the creation of new products, services, strategy and organisational conditions. Besides an entrepreneurial orientation, “CE supports a firm’s capabilities to discover market changes as well as competitor and consumer behaviour to create new products and services” (Blau & Wagner, 2010, p.2).

Kenyan Context

The role of small and micro-enterprises (SMEs) to economic development of emerging markets has been widely acknowledged in literature. According to a study in Kenya (Bowen et al., 2009):

Small and Micro Enterprises (SMEs) play an important economic role in many countries. In Kenya, for example the SME sector contributed over 50 percent of new jobs created in 2005 but despite their significance, SMEs are faced with the threat of failure with past statistics indicating that three out five fail within the first few months.

Within the overall context of structural adjustment programmes (SAP) of the late 1980s, the 1990s saw the liberalization of the economy, followed by the privatization of State corporations and emergence of competition in all sectors of the economy. Consequently, many organizations have been started for various reasons: to create wealth, to create employment for the owners, and most importantly to align existing organizations with the new business environment realities. Some of the firms are by former employees of the privatized and or liberalised sectors of the economy. In essence, all these firms face stiff competition which calls for strategies to navigate their course to success. Similar to the situation described for South Africa van Wyk and Adonisi (2008), economic sensitive period that Kenya continues to experience including “the down turn of the world economy, with resultant high levels of unemployment, necessitates the application of corporate entrepreneurship strategies to enhance business growth”(p.3048).The challenges leading to the high rate of failure seem to change (evolve) according to different macro and micro conditions.

Statement of the problem

Against the backdrop of high failure rate of SMEs and recognition of the need for creativity and innovation through entrepreneurship among firms, government policies have been promulgated to move the entrepreneurial process forward. However, it is not clear whether the entrepreneurial climate in Kenyan firms is intense enough or what the relationship between that intensity and firm performance outcomes which we refer to entrepreneurial outcomes is.

We now present the outcome of an empirical investigation of entrepreneurial intensity and its influence on entrepreneurial outcomes. The dimensions of entrepreneurial intensity are:

entrepreneurial mindset (EM), support for innovation (SI), rules of innovation (RI) and intrapreneurial environment (IE). We first develop a reliable measurement instrument for the constructs in the Kenyan context then we proceed to test the relationships.

Operational definition of terms and concepts

Corporate entrepreneurship: Multiple internal and external ventures in which an organization is involved for purposes of enhancing its performance

Entrepreneurial intensity: The extent to which an organization adopts a mindset, supports innovation and has enforceable guidelines that work toward promotion of organizational renewal

Entrepreneurial mindset: A set of beliefs and assumptions held by someone, a group of people or an entire organization which creates an outlook which causes them to act in a certain way (Pisapia, 2009) in the promotion of entrepreneurship including setting and pursuing clear goals.

Intrapreneurial environment: An organizational disposition that encourages members to engage in all activities required to enhance entrepreneurship within that organization.

Support for innovation: The way an organization encourages behaviors that lead to creation of new products and services and commercialization of these products or services.

Rules of innovation: Guidelines that an organization can follow in keeping its entrepreneurial spirit and activity alive.

Entrepreneurial outcomes: performance that is achieved arising from the practice of entrepreneurship within and by the firm.

THEORY AND HYPOTHESIS

In this section, we present a review of literature on the key concepts in this study namely entrepreneurial intensity, entrepreneurial mindset, support for innovation, rules for an innovative environment, entrepreneurial environment, and entrepreneurial outcomes. The key theoretical orientation is that entrepreneurial intensity directly influences organisational performance.

Entrepreneurial intensity

The concept of “degrees of entrepreneurship” was first introduced by Cooper and Dunkelberg (1986) to illustrate how the different ways of becoming a business owner exhibited different levels of entrepreneurial intensity. More recently, Davidsson (2004), built on this idea and stressed the importance of studying “why, when and how do individuals, organizations, regions, industries, culture, nations (or other units of analysis) differ in their propensity for the discovery and exploitation of new venture ideas” (Davidsson, 2004, p. 29).

In this study, entrepreneurial intensity construct comprises four dimensions, namely *entrepreneurial mindset (EM)*, *support for innovation (SI)*, *rules for an innovative environment (RI)*, and *intrapreneurial environment (IE)*. Though there is no single accepted definition of CE,

a healthy intrapreneurial (intrapreneurship is one of the CE definitions) climate requires the evaluation of rewards, management support, time resources, macro-level organizational structures, and acceptance of risks (Marvel et al., 2007).

Entrepreneurial mindset

Mindset drives every aspect of our lives, from work to sports, from relationships to parenting (Dweck, 2006). It refers to a set of beliefs and assumptions held by someone, a group of people or an entire organization which creates an outlook which causes them to act in a certain way (Pisapia, 2009). Consistent with this view, Dweck (2006) posits that the world is divided between people who are open to learning and those who are closed to it; and this trait (Pisapia, 2009, p.38) “affects everything from your worldview to your interpersonal relationships”. Just like people, organizational mindset will determine whether an organization can achieve success in the face of a dynamic business environment or not because the mindset will dictate the choices it makes regarding the direction of the business. Examples of indicators of entrepreneurial mindset are existence of set explicit goals, creation of a system of feedback and positive reinforcement; and emphasizing individual responsibility. Consistent with this argument, we propose the first hypothesis:

Hypothesis 1. Entrepreneurial mindset directly and positively influences entrepreneurial outcomes of a firm

Support for an innovative environment

Depending on the perspective taken, innovation can be perceived as either the firm performance achieved through entrepreneurial behavior, or as the grounds on which entrepreneurial behavior grows (Lassen, n.d.). According to Hannan and Freeman (1984 cited in Luokkanen & Rabetino, 2005), organizational changes can be divided into two types, which both include strategic elements: core feature changes (such as stated goals, forms of authority, core technology, and marketing strategy) and peripheral feature changes (for instance, horizontal and market-extension mergers, joint ventures, and interlocking directorates). These changes are necessary when an organization is faced with the need for frame-breaking change which leads to radical innovations or for frame-sustaining change which may lead to incremental innovations such as modifications to products, repositioning among others (Pisapia, 2009). These changes must be supported by firms; otherwise there will be little success in attainment of organizational goals.

In this study support for innovation is conceived in the context of actions such as providing ways for innovators to stay with and share their ideas in the organizations, encouraging entrepreneurial thinking, evolving quick and informal ways of accessing resources to try new ideas; and developing ways to manage many small and experimental innovations. “In the early stages, all innovations are defined by uncertainty. “If no uncertainty exists, then an organization is simply not innovating” (Wolcott & Lippitz, 2007, p.82). Consequently, we propose the second hypothesis as follows:

Hypothesis 2. Support for innovation directly and positively influences entrepreneurial outcomes of a firm

Rules for an innovative environment

Sykes and Block (1989) suggested some guidelines which they called “rules of innovation” to assist organizations in navigating through a constantly changing environment where creativity and innovation is the rule and not an exception. Among these ‘rules’ are: encouraging action, using informal meetings whenever possible, tolerating failure and using it as a learning experience, and persisting in getting an idea to market. Indeed, organizations that are intolerant of failure do not support experimentation yet this is necessary for bringing about innovations. Consistent with the role that adherence to laid down rules for an innovative environment plays in improving firm performance, we propose the third hypothesis:

Hypothesis 3. Implementation of rules for an innovative environment directly and positively influences entrepreneurial outcomes of a firm

Intrapreneurial environment

Conditions that can cause an individual, a group of people and ultimately the whole organisation to engage in entrepreneurial activities such as creativity, opportunity identification and exploitation are considered to be an ‘entrepreneurial environment’. Early identification of potential intrapreneurs, top management sponsorship of intrapreneurial projects; and creation of both diversity and order in strategic activities are some of the conditions that comprise an entrepreneurial environment in an organisational setting (e.g. Kuratko, 2004; Wyk & Adonisi, 2010). Our fourth hypothesis deals with the influence of an entrepreneurial environment on entrepreneurial outcome.

Hypothesis 4. Existence of an intrapreneurial environment directly and positively influence the performance of a firm

Entrepreneurial outcomes

Organisational effectiveness (OE) has been widely discussed in literature and there is no agreement on its definition. However, one of the perspectives to its understanding is the framework suggested by Quinn and Rohrbaugh (1983, 1988) which is based on Campbell’s (1977) initial criteria. They conceptualised organisational effectiveness and created three axes of competing values that reflect the paradoxes of real-world management: focus (internal-external), structure (control-flexibility), outcomes (means-ends). According to this framework, organisations can be effective if they balance these three competing value demands through creative and innovative approaches that underpin and are at the heart of any entrepreneurial activity – including corporate entrepreneurship. Some of the descriptors of organisational effectiveness are rapid commercialization of new innovations and quick adaptation to unanticipated changes.

It is suggested that entrepreneurial intensity should lead to desirable outcomes which can take the form of development of new products and services, creation of a work force that can help the enterprise maintain its competitive posture, promotion of a climate conducive to high achievers and helping the enterprise motivate and keep its best people, quickly recognizing new opportunities, ability to exploit the identified/recognized opportunities; and expansion and growth of the business.

In the context of corporate entrepreneurship (CE), the argument in this study is that entrepreneurial intensity leads to positive entrepreneurial outcomes which should be reflected in the performance of the firms. CE seen as a competitive and market oriented process also includes the discovery and recognition of opportunities, information search and the acquisition and accumulation of resources (Blau & Wagner, 2010).

METHODOLOGY

Research Design and Setting

A descriptive survey of a random sample of 39 participants from firms was conducted using a structured questionnaire to collect data. The questionnaires were self-administered and were delivered to respondents by email and through drop-and-pick later method. Research constructs were operationalized through multiple items that were discerned from literature: entrepreneurial mindset (five items), support for innovation (nine items), rules for an innovative environment (10 items), and entrepreneurial environment (five items); and entrepreneurial outcome (six items). In total there were 29 measures for independent variables and six for the dependent variable. The questionnaires were tested for reliability and validity prior to their use.

Questions on the item measures of the five research constructs were pre-coded on a seven-point Likert type scale where 1 represented “strongly disagree”, 2 was “disagree”, 3, “slightly disagree”, while 4 represented “neutral”; 5 was the code for “slightly agree”, 6 for “agree”, and 7 for “strongly agree”. Categorical questions on *position/role* of the participant in the organization and on *business activity* were also coded with numbers as appropriate.

Since surveys often have missing data which can arise from various reasons such as due to lack of time on the part of the respondent, it is necessary that the collected data is edited and managed appropriately. Kamakura and Wedel (2000, p. 491) reported that item non-response can amount to as much as 50% of the data in marketing research. Vriens and Melton (2002) report that missing data can vary a lot variable by variable, and can be as low as 0% and as high as 80% or more (<http://srmo.sagepub.com/view/the-handbook-of-marketing-research/n10.xml>).

On receipt of the online questionnaires, the questionnaires were checked for completeness and the respondents requested to complete any areas that were left blank. Where it was not possible to reach the participant, the questionnaire was omitted from the analysis. Data was analyzed with the help of Statistical Package for Social Scientists (SPSS) version 17 to obtain descriptive statistics, correlation coefficients, regression coefficients, and reliability measures and principal component extraction was also done to obtain a parsimonious set of factors which were used in structural equation modelling.

Research Variables

The dependent variable was *entrepreneurial outcome* which is an antecedent of performance and was measured by, for example, observing retention of qualified staff, growth of the businesses; and identification and exploitation of new opportunities. *Entrepreneurial mindset, support form innovation, rules for an innovative environment* and *intrapreneurial environment* comprise the independent variables; these are collectively referred to as *entrepreneurial intensity*. The variables and their associated descriptors (or factors) are presented in Appendix I.

RESULTS AND DISCUSSIONS

The results of the analysis of data are presented in the following tables, discussed and interpreted.

Description of the participants

The means of the responses on item measures of constructs are reported in Table 1.

Table 1 Descriptive statistics

		Entrepreneurial Mindset (EMM)	Support for Innovation (SI)	Rules for innovation (RI)	Intrapreneurial Environment (IE)	Entrepreneurial outcome (EO)
		Mean	Mean	Mean	Mean	Mean
Role/Position	Operational	4.9	3.74	4.3	3.5	5.12
	Middle Level Manager	5.5	4.16	4.3	3.9	5.59
	Senior Manager	5.5	5.28	5.6	5.5	5.83
	Other	6.8	5.56	5.5	5.4	6.00
	Total	5.1	3.96	4.4	3.7	5.29
Business activity	Banking	5.0	3.53	3.7	2.9	5.54
	Telecommunication	5.5	3.78	4.4	4.4	6.13
	Transportation	4.8	4.33	5.1	2.2	4.83
	Tourism	.	.	.	.	.
	Hotel	.	.	.	.	.
	Health	6.2	4.00	6.1	5.0	7.00
	Education	4.8	3.22	3.9	3.2	4.00
	Manufacturing	4.6	4.44	3.1	2.2	4.83
	Other	5.1	4.12	4.5	3.9	5.19
	Total	5.1	3.96	4.4	3.7	5.29

While there was slight agreement on entrepreneurial outcome and entrepreneurial mindset, there the participants reported that the support for innovation and entrepreneurial environment existed to a low extent with a mean of 3.7 on a scale of one to seven. The participants were undecided whether on the existence of the entrepreneurial intensity according to the constructs (independent variables) studied (mean = 4.03; neutral). In a decreasing order, the disposition of the firms on the four dimensions of entrepreneurial intensity is entrepreneurial mindset (mean=5.1), rules for innovation (mean=4.4), support for innovation (mean=3.96) and

lastly intrapreneurial environment (mean = 3.7). There were no respondents from tourism and hotel industries.

Reliability tests

Testing for reliability and validity for data collection instrument is crucial in ensuring that the data collected is credible. Both internal consistency (Cronbach alpha) and convergent validity (squared multiple correlation, SMC) were investigated for the data collection instruments. The results of reliability tests are presented in Table 2

Table 2 Reliability tests

Item-Total Statistics						
Entrepreneurial mindset	Scale Mean	Scale Variance	Corrected Item	SMC	Cronbach's Alpha	
EM1	15.82	11.26	0.28	0.20	0.594	
EM2	16.79	7.64	0.45	0.22		
EM3	16.10	10.04	0.35	0.23		
EM4	17.36	5.55	0.51	0.29		
Support for innovation						
SI1	20.81	43.21	0.56	0.35	0.860	
SI2	19.73	41.26	0.74	0.60		
SI3	20.00	38.39	0.77	0.70		
SI4	20.57	42.47	0.68	0.58		
SI5	20.84	39.31	0.72	0.56		
SI6	21.57	46.47	0.43	0.31		
Rules for innovation						
RI1	28.87	56.44	0.53	0.39	0.780	
RI3	30.58	51.28	0.43	0.66		
RI4	30.37	50.40	0.54	0.65		
RI5	30.76	55.10	0.37	0.45		
RI6	30.66	50.23	0.58	0.42		
RI8	30.29	51.02	0.51	0.46		
RI9	30.95	51.83	0.44	0.40		
RI10	30.50	50.80	0.50	0.40		
Intrapreneurial environment						
IE1	15.55	31.17	0.62	0.42		0.900
IE2	15.42	30.14	0.85	0.74		
IE3	14.61	29.38	0.75	0.63		
IE4	15.16	29.00	0.72	0.57		
IE5	14.84	26.95	0.89	0.79		

**Entrepreneurial
outcome**

EO1	26.13	33.58	0.72	0.73	
EO2	26.13	32.12	0.71	0.77	
EO3	26.34	35.64	0.71	0.61	0.920
EO4	26.95	29.51	0.88	0.86	
EO5	26.71	30.37	0.86	0.87	
EO6	26.68	29.90	0.79	0.85	

Except for entrepreneurial mindset (EM), the Cronbach alpha values for *support for innovation* (SI), *rules of innovation* (RI), *intrapreneurial environment* (IE) and *entrepreneurial outcome* (EO) meet the acceptable criteria of at least 0.7 (Nunally, 1978). However, it is noted that the reliability value for EM is 0.594 which is close to the 0.6 threshold for a new instrument (Nunally, 1978) but it is still low. It is necessary that data be collected from a larger sample and the measures of *entrepreneurial mindset* be purified more to make it acceptably reliable.

Variation in responses

One-way analysis of variance (ANOVA) was done to determine whether there was significant variance in responses by participants across business activity and across position of the participant in the organization. Results of this analysis are presented in Table 3 and Table 4 respectively.

Table 3 One-way ANOVA for business activity

ANOVA		Sum	of	Mean		
		Squares	df	Square	F	Sig.
Entrepreneurial Mindset(EM)	Between Groups	2.54	6	0.42	0.59	.735
	Within Groups	22.91	32	0.72		
	Total	25.45	38			
Support for Innovation(SI)	Between Groups	3.57	6	0.60	0.51	.795
	Within Groups	37.29	32	1.17		
	Total	40.87	38			
Rules for innovation(RI)	Between Groups	8.15	6	1.36	1.96	.102
	Within Groups	22.20	32	0.69		
	Total	30.35	38			
Entrepreneurial Environment (EE)	Between Groups	13.38	6	2.23	1.30	.284
	Within Groups	54.70	32	1.71		
	Total	68.08	38			
Entrepreneurial	Between Groups	12.36	6	2.06	1.93	.107

outcome) EO	Within Groups	34.25	32	1.07
	Total	46.61	38	

According to these results the responses were independent of the business activity of the participants since the variance is not significant between and within the groups ($p>0.05$).

Table 4 One-way ANOVA for position in firm

ANOVA						
		Sum of Squares	DF	Mean Square	F	Sig.
Entrepreneurial Mindset(EM)	Between Groups	5.49	3	1.8	3.21	.035
	Within Groups	19.96	35	0.6		
	Total	25.45	38			
Support for Innovation(SI)	Between Groups	7.73	3	2.6	2.72	.059
	Within Groups	33.14	35	0.9		
	Total	40.87	38			
Rules for innovation(RI)	Between Groups	4.45	3	1.5	2.01	.131
	Within Groups	25.90	35	0.7		
	Total	30.35	38			
Intrapreneurial Environment (IE)	Between Groups	10.82	3	3.6	2.20	.105
	Within Groups	57.26	35	1.6		
	Total	68.08	38			
Entrepreneurial outcome) EO	Between Groups	2.72	3	0.9	0.72	.544
	Within Groups	43.88	35	1.3		
	Total	46.61	38			

On the whole there was no significant variation in the reporting by the participants on all variables except on entrepreneurial mindset ($p<0.05$). The results imply that the perception of entrepreneurial mindset varied according to the position of the participants in the firms.

Relationship between variables

It was hypothesized that the dimensions of entrepreneurial intensity were each directly related with entrepreneurial outcome. Pearson correlation analysis was done to investigate the relationship between research constructs; the results are presented in Table 5.

Table 5 Correlation analysis

Correlations		1	2	3	4	5
Entrepreneurial Mindset(EM)	Pearson	1				
	Correlation					
	Sig. (2-tailed)					
Support for Innovation(SI)	N	39				
	Pearson	.663**	1			
	Correlation					
Rules for innovation(RI)	Sig. (2-tailed)	.000				
	N	39	39			
	Pearson	.632**	.727**	1		
Intrapreneurial Environment (IE)	Correlation					
	Sig. (2-tailed)	.000	.000			
	N	39	39	39		
Entrepreneurial outcome) EO	Pearson	.676**	.749**	.766**	1	
	Correlation					
	Sig. (2-tailed)	.000	.000	.000		
Entrepreneurial outcome) EO	N	39	39	39	39	
	Pearson	.683**	.490**	.519**	.630**	1
	Correlation					
Entrepreneurial outcome) EO	Sig. (2-tailed)	.000	.002	.001	.000	
	N	39	39	39	39	39

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

Multi-collinearity occurs when independent variables overlap with respect to the information they provide in explaining the variation in dependent variables. The correlations between the independent constructs were high but below the threshold for multi-collinearity of 0.8 and were all significant ($p < 0.01$). All correlation coefficients among independent variables were very significant ($p < 0.001$). Similarly, the correlation coefficient between entrepreneurial mindset and entrepreneurial outcome ($r = 0.683$) and intrapreneurial environment and entrepreneurial outcome ($r = 0.630$) were significant very significant ($p < 0.001$). The correlation between rules for innovative environment ($r = 0.519$) and entrepreneurial outcome and between support for innovation ($r = 0.490$) and entrepreneurial outcome were both significant ($p < 0.01$).

According to these results, there is a positive and significant relationship between entrepreneurial mindset, support for innovation, and implementation of rules for an innovative

environment, entrepreneurial environment and entrepreneurial outcome. These results confirm all the research hypotheses.

Influence of entrepreneurial intensity on performance

Multiple linear regression analysis using ordinary least squares (OLS) method was done to determine the relative influence of entrepreneurial intensity dimensions and entrepreneurial outcome. The results are presented in Table 6.

Table 6 Coefficients

Coefficients ^a		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	1.108	.954		1.162	.253
	Entrepreneurial Mindset(EM)	.697	.231	.515	3.014	.005
	Support for Innovation(SI)	-.151	.211	-.142	-.717	.479
	Rules for innovation(RI)	-.001	.247	-.001	-.004	.997
	Intrapreneurial Environment (IE)	.321	.175	.388	1.836	.075

a. Dependent Variable: Entrepreneurial outcome) EO

The coefficients indicate a negative but insignificant relationship between both support for innovation ($\beta = -0.142$, $p = 0.0497$) and entrepreneurial outcome; and rules for an innovative environment ($\beta = -0.001$, $p = 0.997$) and entrepreneurial outcome. The results suggest that there is insufficient *support for innovation* at the studied firms and that the *rules for an innovative environment* are not adequately implemented at the firms. These results are consistent with the descriptive statistics where the mean scores on support for innovation (mean is 3.96) and for rules for an innovative environment (mean is 4.4) were low. These mean scores indicate the participants were undecided whether indeed there was support for innovation or an implementation of rules for an innovative environment existed in the firms. However, it is also important to note that the correlation between support for innovation and rules for innovative environment is high ($r = 0.727$) and significant ($p < 0.001$). This may partly explain the observed behavior in the regression model.

Due to the inconsistency between the sign correlation coefficients and the regression coefficients, support for innovation and rules for an innovative environment; and that the corresponding regression coefficients are insignificant, the two variables were dropped and the research model re-estimated. The reduced regression model which excludes the insignificant variables is presented in Table 7.

Table 7: Reduced model

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.034	.852		1.213	.233
Entrepreneurial Mindset(EM)	.641	.212	.474	3.018	.005
Intrapreneurial Environment (IE)	.256	.130	.309	1.969	.057

a. Dependent Variable: Entrepreneurial outcome) EO

The coefficient of determination was 0.52 which implies that entrepreneurial mindset and entrepreneurial environment explain 52% of the variation in entrepreneurial outcome among the studied firms. Only entrepreneurial mindset significantly influence entrepreneurial outcome at $p = 0.05$; intrapreneurial environment is only significant at $p < 0.1$. These results suggest that the regression analysis results are not stable; further found that entrepreneurship mindset alone accounted for 46.6% ($R^2 = 0.466$) of the variation in entrepreneurial outcome.

Principal component analysis

Principal components analysis (PCA) which is a procedure for finding hypothetical variables (components) which account for as much of the variance in multidimensional data as possible (Davis, 1986; Harper, 1999) was used to extract principal factors from among the multiple factors that were used to operationalise the research constructs. These new variables are linear combinations of the original variables. The principal components are reported in Table 5.

Table 8: Principal components

Factor	Extracted items
Entrepreneurial Mindset(EM)	EM4, EM5
Support for Innovation(SI)	SI3, SI9, SI7
Rules for an innovative environment (RI)	RI6, RI2, RI7
Intrapreneurial Environment (IE)	IE5

As presented in Table 8, two components were extracted for entrepreneurial mindset (“do not punish failures [EM4]” and “give rewards based on results [EM5]”); and three components for support for innovation (“has evolved quick and informal ways to access the resources to try new ideas [SI3]”, “it is easy to form functionally complete autonomous teams in the firm’s corporate environment [SI9]”, and “people are they constantly stopping to explain their actions and ask for permission [SI7]”). Further, three components for *rules for an innovative environment* (“plan the physical layout of the enterprise to encourage informal communication [RI6]”, “use informal meetings whenever possible [RI2]”; and “expect clever bootlegging of ideas—secretly working on new ideas on company time as well as personal time [RI7]”), one for entrepreneurial environment (development of collaboration between intrapreneurial participants and the organization at large [IE5]); and one component for entrepreneurial outcome (“promote a climate conducive to high achievers and help the enterprise motivate and keep its best people [EO4]”).

Structural Equation model

The extracted factors were used to model the relationship between entrepreneurial intensity dimensions factors and entrepreneurial outcome. Table 9 presents the resulting model diagnostics.

Table 9: Model diagnostics

CMIN

Model	NPA			
	R	CMIN	DF	P
Default model	14	12.044	14	0.603
Saturated model	28	0	0	
Independence model	7	77.404	21	0

RMR, GFI

Model	RM			
	R	GFI	AGFI	PGFI
Default model	0.17	0.925	0.85	0.463

Saturated model	0	1		
Independence model	0.85	0.566	0.422	0.425

Baseline Comparisons

Consistent with the approach adopted by Justo, Mayedu and de Castro (2005), we provide an assessment of the goodness of fit of our proposed model, and we propose linear combinations of the entrepreneurial intensity indicators that can be used as valid proxies of the latent continuous variables in our model. Generally there is a good model fit between organisational effectiveness and motivation for KM implementation with Chi-square to degrees of freedom ratio of $0.86 < 3$ and a significance of 0.603 which is much greater 0.05). This implies that there is no significant difference between the full/saturated model and the parsimonious model. Further, model diagnostics showed an acceptable model fit with goodness of fit index (GFI) of 0.925 and an adjusted Goodness of fit index (AGFI) of 0.85 which are respectively above the threshold values of $GFI > 0.9$ and $AGFI > 0.8$ (Segars & Grover, 1993)

Structural equation model parameters

Slope parameter estimates for the model is presented in Figure 1 along with their standard errors.

Figure 1: Slope parameters for relationship between corporate entrepreneurial intensity dimensions and outcomes indicators.

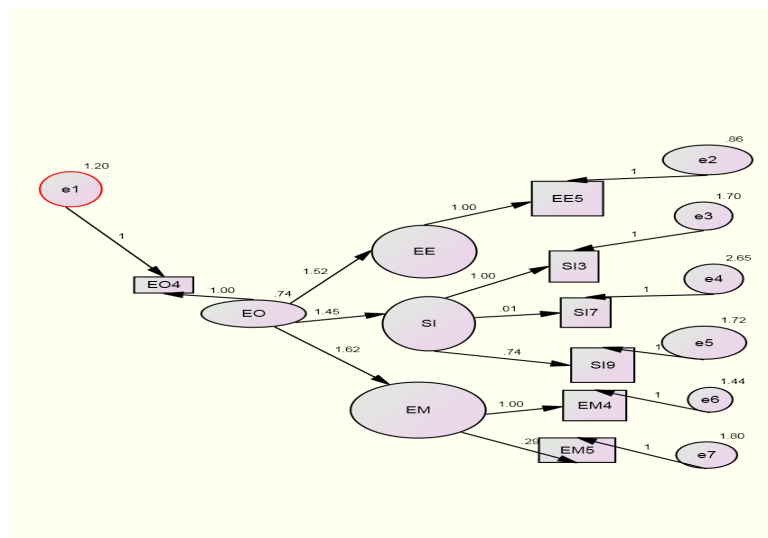


Figure 1. Slope parameters of the relationship between variables

Normed $\chi^2 = (\text{CMIN}/\text{DF}) < 3$, $p=0.603$, $\text{GFI}>0.9$, $\text{AGFI}>0.8$,

Note: Digit 1 in the SEM indicates that the parameter was fixed at a value of 1 for identification purposes only

Testing of hypotheses

We proposed four hypotheses for this study. We then tested them based on the results of correlation analysis; all the hypotheses were supported as follows:

Hypothesis 1 is supported by the result of correlation analysis between *entrepreneurial mindset* and *entrepreneurial outcome* ($r=0.683$, $p < 0.001$, [Table5]).

Hypothesis 2 was supported by the result of correlation analysis between *support for innovation* and *entrepreneurial outcome* ($r= 0.490$, $p= 0.002 < 0.01$ [Table5]).

Hypothesis 3 was supported by the result of correlation analysis between *rules for an innovative environment* and *entrepreneurial outcome* ($r= 0.519$, $p= 0.001 < 0.01$ [Table 5]).

Hypothesis 4 was supported by the result of correlation analysis between *entrepreneurial environment* and *entrepreneurial outcome* ($r= 0.630$, $p < 0.001$ [Table5]).

The structural equation model path coefficients, significance and direction are as hypothesized, positive and significant suggesting that entrepreneurial mindset, support for innovation and entrepreneurial environment directly influence entrepreneurial outcomes.

CONCLUSION

Summary of findings

We reviewed literature and identified four continuous latent variables that determine the corporate entrepreneurial intensity of organisations, namely, *entrepreneurial mindset*, *support for innovation*, *rules for an innovative environment* and *entrepreneurial environment*. We then operationalised these constructs using multiple measures as proxies and explored them on a Kenyan sample.

We found that there was a low corporate entrepreneurial intensity which appeared to result in moderate performance – entrepreneurial outcome. There was also a positive and significant relationship between each of the four variables and entrepreneurial outcome. However, the mean scores on a scale of one to seven for all the constructs were only four implying that the disposition of the explored firms was low. Consequently, it is suggested that the corporate entrepreneurial intensity of the firms comprising the four variables be improved in order to achieve better performance outcomes.

Further, we developed a valid and reliable instrument to measure *support for innovation* (Cronbach alpha, $\alpha = 0.860$, *rules for an innovative environment* ($\alpha = 0.780$), *entrepreneurial environment* ($\alpha = 0.900$) and *entrepreneurial outcome* ($\alpha = 0.920$). The instrument for *entrepreneurial mindset* just almost met the criteria for a reliable new instrument ($\alpha = 0.6$).

Lastly, Mulaik (1993), suggests that the factor structures based on theory should be set up prior to conducting a factor analysis which would prove or disprove that theory. Consistent with this suggestion, we reviewed literature and identified factors (descriptors) of the research variables (constructs). We started with the following factors (items): entrepreneurial mindset (five), support for innovation (nine), rules for an innovative environment (10), entrepreneurial environment (five) and entrepreneurial outcome (six). However, since the nature of this research was exploratory, the data ultimately suggested the factor structure comprising a total of 29 factors (Table 2) from the original 35 identified from literature. The factors were further reduced to a parsimonious 10 factors using principal factor extraction (Table 8) comprising *entrepreneurial mindset* (two), *support for innovation* (three), *rules for an innovative environment* (three), *entrepreneurial environment* (one) and *entrepreneurial outcome* representing all the five continuous latent variables (constructs) in the study.

Implication of the findings

We found that there was inadequate support for innovations and that the entrepreneurial environment was not conducive for corporate entrepreneurship (CE) among the surveyed firms. Similarly the CE intensity was low. The practical implication is that firms need to improve across all the dimensions of CE intensity, namely, *entrepreneurial mindset* by setting appropriate goals, *support for an innovative environment* by providing resources and encouraging experimentation among other actions targeting *rules for innovation* and creation of an *entrepreneurial environment* in order to improve the performance outcomes.

Limitations and suggestion for further study

Since this was an exploratory study, the results are not conclusive for two reasons: the sample that was surveyed was small and this limits the generalizability of the results and that for some firms there was a single respondent and this introduces response bias. In view of these limitations, it is suggested that more participants be included in the study and that multiple respondents be obtained from each firm in order to improve the generalizability of the findings. In addition, the inconsistency between the signs of the correlation coefficients and regression coefficients between *support for innovation* and *entrepreneurial outcome*; and between *rules for an innovative environment* and *entrepreneurial outcomes* need to be investigated further using a larger sample. Further, since we found measures of variables to be reliable and valid, a study focusing on specific sectors of the economy such as in banks and in telecommunications firms using the developed instruments will benefit firms in the studied sectors.

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APPENDIX I

Research variables

Variable 1: Entrepreneurial mindset (Cronbach $\alpha = 0.594$)

EM1	have set explicit goals
EM2	create a system of feedback and positive reinforcement
EM3	emphasize individual responsibility
EM4	give rewards based on results
EM5	do not punish failures

Variable 2: Support for innovation (Cronbach α = 0.86)

- SI1 provides ways for innovators to stay with their ideas
 - SI2 encourages entrepreneurial thinking
 - SI3 has evolved quick and informal ways to access the resources to try new ideas
 - SI4 has developed ways to manage many small and experimental innovations
 - SI5 encourages risk taking
 - SI6 tolerates mistakes
 - SI7 people are they constantly stopping to explain their actions and ask for permission
 - SI8 people are more concerned with new ideas or rather that with defending their turf
 - SI9 it is easy to form functionally complete, autonomous teams in the firm's corporate environment
-

Variable 3: Rules for an innovative environment (Cronbach α = 0.78)

- RI1 encourage action
 - RI2 use informal meetings whenever possible
 - RI3 tolerate failure and use it as a learning experience
 - RI4 persist in getting an idea to market
 - RI5 reward innovation for innovation's sake
 - RI6 plan the physical layout of the enterprise to encourage informal communication
 - RI7 expect clever bootlegging of ideas—secretly working on new ideas on company time as well as personal time.
 - RI8 put people on small teams for future-oriented projects
 - RI9 encourage personnel to circumvent rigid procedures and bureaucratic red tape
 - RI10 reward and promote innovative personnel
-

Source: Adapted from Sykes and Block (1989)

Variable 4: Intrapreneurial environment (Cronbach $\alpha = 0.90$)

IE1	Early identification of potential intrapreneurs
IE2	Top management sponsorship of intrapreneurial projects
IE3	Creation of both diversity and order in strategic activities
IE4	Promotion of intrapreneurship through experimentation
IE5	Development of collaboration between intrapreneurial participants and the organization at large

Variable 5: Entrepreneurial outcome (EO) / performance (Cronbach $\alpha = 0.92$)

EO1	developed new products and services
EO2	expanded and grow
EO3	created a work force that can help the enterprise maintain its competitive posture
EO4	promoted a climate conducive to high achievers and helps the enterprise motivate and keep its best people
EO5	quickly recognizes new opportunities
EO6	exploits the identified/recognized opportunities
