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Tracing Superior Non-Financial Performance to Knowledge Creation: An Empirical Study of Family Firms

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Abstract:
Drawing on socialization, externalization, combination, and internalization model, an inquiry is affected to establish the association between family firms' creation of knowledge and its effect on non-financial performance. Based on knowledge-based view, it is hypothesized that knowledge creation in firms has no significant effect on non-financial performance. A test of the hypotheses is executed with data collected from 75family firms based in Migori County, Kenya. Findings suggest that knowledge creation in firms contributes to superior levels of non-financial performance.

Keywords: Non-financial performance, knowledge creation, family firms

1. Introduction

Nonaka, Byosiere, Borucki and Konno (1994) regard knowledge creation as the capability of forming new knowledge as a result of processing information and knowledge already present in the organization. But, according to Cook and Brown (1999) knowledge creation is an interplay between knowledge and knowing. Nonetheless, knowledge creation, according to the Nonaka's SECI model is about continuous transfer, combination and conversion of the different types of knowledge, as users' practice, interact, and teach (Frost, 2014). Bornemann et al. (2003), on their part, consider knowledge creation as internal expansion of available knowledge by utilizing the creative potential of employees. The definitions agree that value should be created for the organization through investment in intellectual capital by the organization. Stewart's (1997) definition finds added resonance with this study as the knowledge inherent in employees is considered a valuable asset to the organization, and if strategically managed, creates more 'wealth' for the firm leading to enhanced capabilities for the organization.

The viewpoints regarding knowledge creation in organizations agree that knowledge creation is about new information and new knowledge available to the organization (Nonaka, Byosiere, Borucki & Konno 1994; Cook & Brown, 1999; Bornemann et al., 2003). Indeed, it is the new information and knowledge that leads to better techniques, processes, products, and services in the organization. However, knowledge should also be beneficial for employee and general organizational improvement (Bornemann et al., 2003; Nonaka, Byosiere, Borucki & Konno 1994). If knowledge is not beneficial to the firm, then creating it is an exercise in futility as production levels and performance in general will not be affected. Despite these notions on knowledge, Nonaka, Byosiere, Borucki and Konno (1994) highlight the existence of capability for an organization to create new knowledge without much struggle.

Knowledge creation should therefore involve the development of new information and new knowledge available to the organization. In addition, new knowledge created should also be beneficial for the employee and general organizational improvement (Frost, 2014). Perhaps more fundamental is the development of capability by the workforce to enable knowledge creation in the firm. In view of the discrepancies noted in a number of the definitions above, this study therefore operationally regards knowledge creation as a capability developed by the organization for the generation of new information and new knowledge to be available to the organization, for the benefit of the employee and general organizational improvement. It follows, therefore, that an organization claiming to be creating knowledge should not do it in vain, but celebrate their development of this capability, their ability to generate new knowledge and information within their firms, and its resultant capability to transform most organizational processes for eventual maximal productivity. Without the creation of new knowledge in a firm, an organization is bound to suffer due to redundant processes, diminished profitability as a result of outdated brands, and eventually low performance (Frost, 2014; Conley, 2018).

The theory used by the current study to explain knowledge creation process in organizations is Nonaka and Takeuchi's (1995) SECI model. The theory of organizational knowledge creation (Nonaka 1994; Nonaka & Takeuchi 1995; Nonaka & Toyama 2003) traces its roots from studies of information creation in innovating companies (Nonaka, 1990, 1991; Nonaka & Kenney, 1991) and has undergone two phases of development. On the basis of the SECI conceptualization this study expects MSMEs that work towards creating their knowledge bases to ultimately register an effect on growth in terms of their non-financial performance.

Iyer, Sharp and Brush (2017) empirically investigated knowledge creation and its association to innovative performance. In the study, organizational systems mediated the relationship between knowledge and organizational innovation performance. Structural Equation Modeling (SEM) was employed in the analysis. Findings indicated that

organizational systems mediate knowledge transfer and innovative performance, in addition, internal knowledge sources contribute more to knowledge transfer within the organization as compared to external knowledge sources. Having explored the effect of knowledge creation on innovative performance, a study exploring non-financial performance was crucial and is bridged by this study.

  Xu, Yang, Jiaotong and Zhang (2017) empirically investigated the manner in which inter-firm coopetition ultimately affects collaborative innovation performance by way of promoting knowledge creation. The study examined the moderating effects as a result of external environments. Survey was done using a sample of 170 Chinese high-technology organizations. Findings revealed that knowledge creation has a mediating effect on the relationship between inter-firm coopetition and collaborative innovation performance.

2. Data and Methodology

  The study employs a model of simple linear regression in measuring the relationship between knowledge creation and non-financial performance. Content validity of the study is ensured through review of theoretical and empirical literature to identify management of intellectual capital. Table 1 presents the reliability test results.

Variable	Cronbach's Alpha	No. of Items	Scale Statistics	
			Mean	Std. Deviation
Knowledge Creation	0.909	15	62.20	9.85
Non-Financial Performance	0.955	20	83.07	14.43

Table 1: Reliability Test Results
Source: Research data (2019)

  Table 1 indicates that knowledge creation has a Cronbach's Alpha score value of 0.909 with 15 items. Non-financial performance has a Cronbach's Alpha score of 0.955 with 20 items. Since the Cronbach Alpha values are above 0.7, the researcher therefore, resolves to proceed with further analysis.

  Survey method is used for the study since it facilitates a rapid turnaround in collection of field data by identifying those salient features of a largely inherent group in terms of population from a relatively small group of cases in consideration (Creswell, 2014). Data obtained from the respondents is analyzed using both descriptive and inferential statistical techniques. The association between the knowledge creation and non-financial performance is determined using inferential statistics.

  To test for hypothesis that knowledge creation has no significant effect on non-financial performance of family MSMEs in Migori County. A summary of the tests of hypothesis is displayed in Table 2.

Hypothesis	Hypothesis Test and Decision Rule[1]
H_o	H_o: $\beta_{KC} = 0$ H_A: $\beta_{KC} \neq 0$ Reject H_o if p- value ≤ 0.05

Table 2: Hypothesis Testing
Significance 5%
Source: Researcher's Own Conceptualization (2019)

  As shown in Table 2, the null hypothesis is stated as Ho: $B_{KC} = 0$, and the alternative hypothesis is stated as H_A: $B_{KC} \neq 0$. The null hypothesis Ho is rejected if p- value ≤ 0.05, otherwise it is not rejected at 5% significance level.

3. Results and Discussion

  Knowledge creation is assessed using a set of four measures manifest in Nonaka and Takeuchi's (1995) SECI model in which measures are on the basis of socialization, externalization, combination and internalization. Table 3 presents the descriptive statistics for creation of knowledge.

Dimensions	N	Mean	Std. Dev	t	df	Sig (2-tailed)
Socialization	75	4.170	0.749	48.212	74	0.000
Externalization	75	4.230	0.719	50.973	74	0.000
Combination	75	4.013	0.737	47.135	74	0.000
Internalization	75	4.182	0.830	43.648	74	0.000

Table 3: Descriptive Statistics for Knowledge Creation of Family Firms in migori County
Source: Survey Data (2019)

  The data in Table 3 reveals that on a Likert scale of 1 to 5 (1 for completely disagree and 5 for completely disagree) the means for knowledge creation range between 4.013 and 4.230. The actual means are 4.170, 4.230, 4.013 and 4.182 respectively for socialization, externalization, combination and internalization. Manifestly, the means reveal that externalization is the most practiced knowledge creation indicator, followed by internalization. Least in prevalence is

combination as practiced by the family firms. Since all these averaged opinions statistics of knowledge creation are above four, it followed therefore that respondents were in agreement that knowledge creation is well embedded in the family firms of the respondents.

Moreover, a One-sample t-test with a theoretical test value of zero (no significant difference expected in the mean scores) is conducted to establish whether knowledge creation measures varied significantly from one family firm to another (see Table 3) and it is manifestly proven that knowledge creation mean score measures differ significantly from one family firm to another, with the highest difference being noted in externalization (t-value = 50.973, $p < 0.05$), followed by socialization (t–value = 48.212, $p < 0.05$). The lowest statistical difference is reported in internalization (t-value = 43.648, $p < 0.05$).

A model summary is generated showing R, R square, adjusted R square and standard error of the estimate. The results are presented in Table 4.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.890[a]	.793	.790	.328

Table 4: Model Summary of Knowledge Creation and
Non-Financial Performance
a. Predictors: (Constant), Knowledge Creation
Source: Survey Data (2019)

The data in Table 4 below reveals that R^2 is 0.793, which indicates that creation of knowledge accounts for 79.3% of the variabilities in non-financial performance, leaving out a paltry 20.7% to be accounted for by other variabilities not fitted in the model. This by extension therefore suggests that by creating knowledge, a huge upturn in non-financial performance is occasioned in firms.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.150	.243		.620	.537
	Knowledge Creation	.965	.058	.890	16.709	.000

Table 5: Coefficients for Knowledge Creation and Non-Financial Performance
a. Dependent Variable: Financial Performance
Source: Survey Data (2019)

Arising from the data Table 5, a simple regression equation that may be used to estimate non-financial performance of a family owned MSMEs in Migori County, Kenya given its existing knowledge creation and is expressed as follows:

NFP = 0.150+ 0.890 KC+ε
Where: NFP = Non-Financial Performance, KC= Knowledge Creation.

The equation shows that knowledge creation has a coefficient (β_0) of 0.890, which implies that a unit change in knowledge creation would result in89.0% change in non-financial performance. The t-statistic and corresponding p-value were t-value = 16.709 and p value= 0.000 respectively. Therefore, at 5 percent level of significance, the null hypothesis is rejected, implying therefore that knowledge creation has a positive significance relationship with non-financial performance.

The F- Statistics is used to test the significance status associated with the regression models (Kothari, 2004). According to Goldstein (2013), F-test is normally utilized when several parameters are involved at once in the null hypothesis as opposed to T-test which is concerned with only one parameter.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.069	1	30.069	279.178	.000[b]
	Residual	7.863	73	.108		
	Total	37.932	74			

Table 6: ANOVA Test Results for Knowledge Creation and Non-Financial Performance
a. Dependent Variable: Non-Financial Performance
b. Predictors: (Constant), Knowledge Creation
Source: Survey Data (2019)

Analysis of variance test results in Table 6 illustrate the outcome for the regression model. The linear regression F-test result is significant at 5% level of significance (F $(1,73)$ = 279.178, $p< 0.05$). It is therefore concluded that the model explaining knowledge creation and non-financial performance is statistically significant

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