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Influence of Directive Leadership Style on the Innovative Behavior of Senior Managers in the Manufacturing Sector in Kenya

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ABSTRACT

Leadership plays a significant role in promoting employee innovative behavior. Innovative behavior is considered one of the positive behaviors required for improving individual and organizational performance. Organizations in the manufacturing sector in Kenya are under pressure to be more innovative in order to improve their performance and remain competitive in the sector. It is therefore imperative to investigate leadership behaviors and their influence on employee innovative behavior. The objective of this study was to determine the influence of directive leadership style on the innovative behavior of senior managers in the manufacturing sector in Kenya. Positivism research philosophy and descriptive correlational research design were used. The target population comprised of 802 senior managers in manufacturing firms in Kenya. The Yamane 1967 formulae was used to determine a sample size of 267 senior managers from the total population. Structured questionnaires were used to collect primary data and a response rate of 85% was achieved. Descriptive statistical analysis techniques used were percentages, means, and standard deviations. Inferential statistics used for data analysis included; Pearson's correlation, Chi-square, Analysis of Variance (ANOVA), and Ordinal Logistic Regression. The Statistical Package for Social Sciences (SPSS) version 22 was used as the data analysis tool for this study. The ordinal logistic regression (Nagelkerke Pseudo R-square) results showed that directive leadership style explained 4.4% of the variance in innovative behavior (R^2 =.044). The goodness-of-fit results showed that there was a good fit between the observed data and the hypothesized model, $X^2(22, N = 228) = 0.008$, p =1.000, p>.05. The parameter estimates results revealed that directive leadership style positively and significantly predicted innovative behavior (β =.626, p =.003, p<.05), thus rejecting the null hypothesis that directive leadership style does not significantly influence the innovative behavior of senior managers. This study concludes that directive leadership style influenced the innovative behavior of senior managers. The findings of this study will provide knowledge to the leaders in the manufacturing sector on the influence of directive leadership style on the innovative behavior of senior managers, to improve their performance and competitiveness. The study recommends that further research should be conducted on the influence of directive leadership style on the innovative behavior of employees in small-scale manufacturing organizations in Kenya.

Keywords: Directive Leadership, Innovative Behavior, Manufacturing Sector

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I. INTRODUCTION

Business growth is achieved through leadership behavior and managerial practices that promote creativity and innovation among employees (Rafiq et al., 2017). Leadership is considered as one of the major components that enhance innovative behavior in employees. There is increasing pressure on organizations to be more innovative; therefore, leaders need to find ways of influencing employees' innovative behavior to improve their performance (Choi et al., 2016). Path-goal leadership theory presents four dimensions of leader styles that a leader can adopt to influence innovative behavior, namely; participative, directive, supportive, and achievement-oriented leadership styles. Kesting et al. (2016) established that directive leadership style is instrumental in establishing clear rules. A study conducted in Poland by Lukowski (2017) found that directive leadership style had a positive effect on the implementation stage of the innovation process, and to a large extend, on incremental innovation. The study concluded that employees performed better when they were well informed of their role expectations.

However, a study by Naqshbandi and Tabche (2018) revealed that directive leadership acted as a barrier to innovation, based on the premise that directive leadership style is characterized by aspects of control, compliance, and low flexibility, thereby resulting in low levels of employee innovative behavior. A study by Rusli et al. (2016) on the influence of directive leadership style on employee performance in family-owned businesses in India revealed that directive leadership limited employees' involvement in decision-making, which denied employees the opportunity for creativity and innovation. When supervisors regularly engage in close monitoring and controlling behavior, highly conscientious employees are more likely to portray low levels of innovative behavior (Woods, Mustafa, Anderson, & Sayer, 2018). Innovative behavior has gained significant importance lately, mainly due to the rapidly changing global market and increased competition (Shanker et al., 2017). Innovative behavior plays a significant role in the survival and growth of organizations (Wang, Yang, & Xue, 2017).

II. THE PROBLEM

According to Fang et al. (2019) employee innovative behavior is determined by the leadership style adopted by the leader. Leaders in manufacturing need to be adaptive to the changing business environment and support innovation within their organizations (Leddy, 2019). Scholars in Europe and Asia have conducted studies on the influence of directive leadership on employee innovative behavior in the manufacturing and service sectors. The results of these studies revealed that directive leadership style had a positive effect on innovative behavior (Lukowski, 2017), and acted as a barrier to innovative behavior (Naqshbandi & Tabche, 2018). In Africa, a study by Opoku et al. (2019) recommended that leaders in the manufacturing sector in Ghana should introduce leadership styles and policies that encourage innovative behavior among employees. This study further recommended that further research should be conducted on the impact of leadership styles on each stage of innovative behavior, specifically, idea generation, idea promotion and idea realization.

There is a renewed interest in the manufacturing sector in Kenya through the Big 4 Agenda, which aims at increasing the GDP contribution of the manufacturing sector to 15% by the year 2022. However, Kenya’s manufacturing sector contribution to the GDP was low at 7.5% in June 2019, compared to 7.9% during the same period in 2018. The future prosperity of the manufacturing sector in Kenya depends on embracing innovation (Wakiaga, 2019). Organizations in the manufacturing sector in Kenya are under pressure to be more innovative in order to improve their performance in the sector and remain competitive and therefore, there is need to conduct a study on the influence of directive leadership style on the innovative behavior of senior managers in the manufacturing sector in Kenya.

III. OBJECTIVE

The objective of this study was to determine the influence of directive leadership style on the innovative behavior of senior managers in the manufacturing sector in Kenya.

IV. LITERATURE REVIEW

The study applied the path-goal leadership theory as the guiding theory for this study. The path-goal leadership theory was formulated by Robert House in 1971, who later revised it in 1996. Path-goal leadership theory presents different leadership styles that leaders can choose from, to influence their followers to accomplish their tasks, based on their individual and environmental characteristics. The theory includes the following leadership styles or behaviors; achievement-oriented, directive, participative, and supportive leader behaviors (House, 1996).This study focused on the directive leadership style dimension of path-goal theory. Directive leadership style involves close monitoring of employee performance. The directive leader explains work roles to their followers, and the followers clearly understand what they are expected to do (House, 1996). Directive leadership is characterized by aspects of planning, making schedules, setting performance expectations, and emphasizing adherence to rules and regulations (Daft, 2018).

V. CONCEPTUAL FRAMEWORK

A conceptual framework illustrates the relationship between the study variables. The conceptual framework for this study is shown in Figure 1.

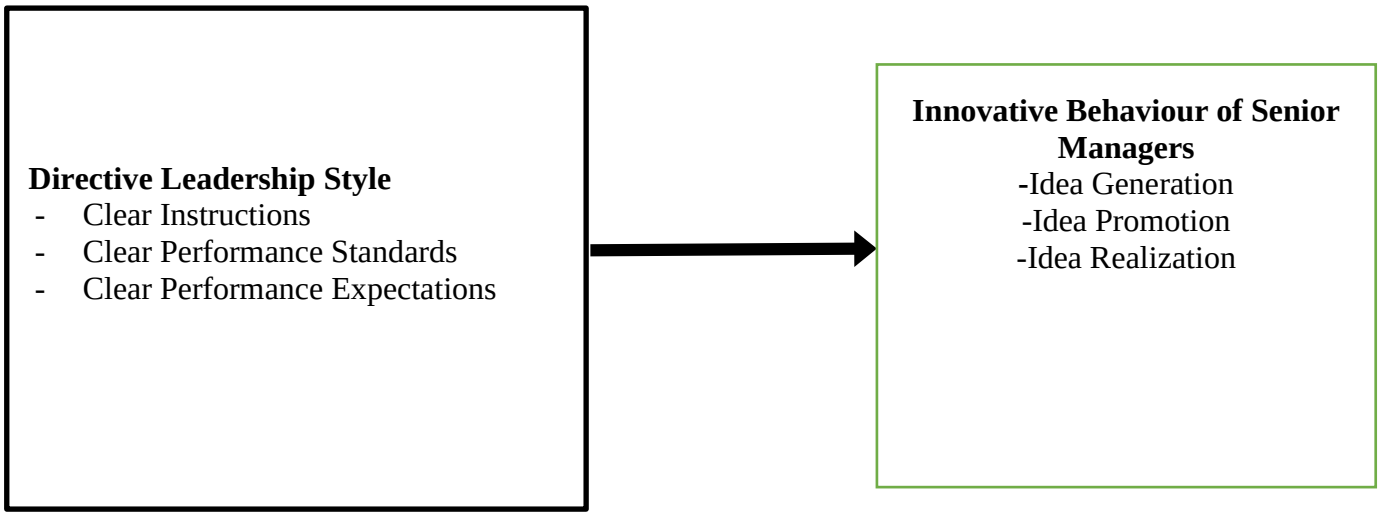

Figure 1: Conceptual framework

The independent variable for this study was directive leadership style. Directive leadership style is mainly focused on providing work instructions, clarifying policies and procedures, scheduling and coordinating employee job roles (House, 1996). This study measured directive leadership style using three constructs, namely; clear instructions, clear performance standards, and clear performance expectations. The dependent variable for this study was the innovative behavior of the senior managers in the manufacturing firms in Kenya. The study adopted the Scott and Bruce (1994) three-stage model of innovative behavior. The parameters that were used to measure innovative behavior were idea generation, idea promotion, and idea realization.

Empirical review

Employee performance depends on a clearly developed job description provided by the organization to the employees through their supervisors. Results of a study by Raju and Banerjee (2017) on the effect of job descriptions on employee performance in India's manufacturing sector revealed that unclear job descriptions led to employees' poor performance and subsequently, their organizations' overall performance. Salama et al. (2017) studied the relationship between performance standards and achievement of supervision objectives at the Islamic University in Gaza, and found a positive relationship between performance criteria and achievement of control objectives. Performance expectations are implicit anticipations of the quality of an employee's future performance (Jacobsen & Anderson, 2017).

Without clear details of performance expectations, employees waste their efforts trying to understand their roles rather than focusing on productive tasks (Dalal, 2018). According to Shin, Yuan, and Zhou (2016), perceived innovation job requirements increase employee engagement and commitment to innovative behavior.

VI. RESEARCH METHODOLOGY

This study applied the positivism research philosophy. The target population for the study consisted of 802 senior managers from large and medium-sized manufacturing firms in Kenya who reported to CEOs. To calculate the sample size, this study used a statistical formula, the Yamane (1967) simplified sample size formula, to determine a sample size of 267 senior managers from the target population, as shown below.

$$n = \frac{N}{1 + N(e)^2}$$

Where:
N = the target (total) population
n = the desired sample size
e = the confidence interval (0.05 testing at 5% significant level)

$$n = \frac{802}{1+802(0.05)\ (0.05)}$$

$$n = 267$$

Data was collected using self-administered questionnaires, and analyzed using descriptive and inferential statistical analysis. Inferential statistical analysis used included; Pearson's correlation, Chi-square, Analysis of Variance (ANOVA), and Ordinal Logistic Regression. The quantitative data analysis tool used was SPSS version 22.

VII. RESULTS

Out of the 267 questionnaires distributed to the respondents, a total of 228 were returned. This represented a response rate of 85%.

A. Demographic information

Descriptive statistics were used to analyze the demographic information of the respondents, which included the manufacturing subsector of the respondent's organization, job title, gender, length of service, age, and the highest level of education. The study results revealed that Food and Beverage, and the Plastic and Rubber subsectors had the highest representation of 20% each. The majority of the respondents held the title of Head of Production (20%). From the study, 58% of the respondents were males while 41% were female. The findings indicate that the majority of the respondents (41%) had worked for 11-15 years in their organizations. The results revealed that 37% of the respondents had a Bachelor's degree, while 31% had a Master's degree.

B. Factor analysis for directive leadership style and innovative behaviour

Factor analysis was used to reduce data to fewer items that were strongly related to the construct. The questions that did not relate to the construct were dropped from the analysis. As indicated in Table 1, the Kaiser-Meyer-Olkin of sampling adequacy was 0.716. Bartlett's test of Sphericity was significant at X^2 (36, N=229) = 498.151, p<.05, indicating that factor analysis was adequate since KMO was above the recommended value of 0.5, and Bartlett' s test of Sphericity was statistically significant (p<.05).

Table 1: KMO and Bartlett's Test on Directive Leadership Style

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.716
Bartlett's Test of Sphericity	Approx. Chi-Square	498.151
	Df	36
	Sig.	.000

C. Descriptive statistics for directive leadership style and innovative behaviour

Table 2 shows the results of the descriptive statistical analysis for directive leadership style and innovative behavior. The majority of the respondents agreed that their leader gave clear instructions on how they should perform their tasks (*M*= 4.26, *SD* = 0.656); their leader sets clear performance standards (*M*= 4.14, *SD* = 0.669). *(See table 2 in appendices).*

D. Correlation analysis between directive leadership style and innovative behavior

Correlation analysis was conducted to test the strength of the relationship between directive leadership style and innovative behavior. Findings in Table 3 show that there was a significant relationship between directive leadership style and innovative behavior, r (228) =.257, p<.05.

Table 3: Correlation Analysis between Directive Leadership Style and Innovative Behavior

		Directive Leadership Style	Innovative Behavior
Directive Leadership Style	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	228	
Innovative Behavior	Pearson Correlation	.257**	1
	Sig. (2-tailed)	.000	
	N	228	228

**. Correlation is significant at the 0.05 level (2-tailed).

E. Chi-square test on directive leadership style and innovative behavior

Chi-square test was conducted to test whether there was a significant association between directive leadership style and innovative behavior. The results in Table 4 indicate that there was a statistically significant association between directive leadership style and innovative behavior of senior managers, X^2 (126, N = 226) = 263.848, p<.05).

Table 4: Chi-square Test on Directive Leadership Style and Innovative Behavior

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	263.848[a]	126	.000
Likelihood Ratio	144.279	126	.154
Linear-by-Linear Association	34.492	1	.000
N of Valid Cases	226		

a. 142 cells (92.8%) have expected count less than 5. The minimum expected count is .01.
*Chi-square is significant at p <. 05 level

F. One-way ANOVA Test on directive leadership style and demographic information

One-way ANOVA test was performed to test the mean differences between directive leadership style and the demographic information of the respondents on the basis of; job title, gender, length of service in the organization, age, and the highest level of education. The results of the One-way ANOVA presented in Table 5, indicate that there was no significant difference between the mean values of each of the respondents' demographic information and directive leadership style *(See table 5 in appendices).*

G. Ordinal logistic regression analysis and assumption tests

Ordinal logistic regression was conducted to determine whether directive leadership style predicted the innovative behavior of senior managers in the manufacturing sector in Kenya. The null hypothesis tested was as follows; H_{01}: Directive leadership style does not significantly influence the innovative behavior of senior managers in the manufacturing sector in Kenya.

Ordinal logistic regression assumptions
Before conducting regression analysis and hypothesis testing, assumption tests were conducted for ordinal logistic regression analysis, which included dependent and independent variables, multicollinearity, and proportional odds.

Dependent and independent variables assumption

The assumption for the dependent variable states that the dependent variable must be ordinal. Ordinal variables have a specific order to the response values on an ordinal scale. The study determined that the dependent variable, innovative behavior was an ordinal variable measured on a five-point Likert scale. The assumption for the independent variable states that the independent variable should be categorical, ordinal, or continuous. This study determined that the independent variable, directive leadership style was ordinal, because its relationship with the dependent variable was measured using an ordinal scale.

Multicollinearity assumption test

The multicollinearity test was conducted to test whether the values of directive leadership style and innovative behavior were correlated with one another. The multicollinearity test was done using VIF. Results in Table 6 indicate a VIF value of 1.000, implying that there was no multicollinearity between directive leadership and innovative behavior.

Table 6: Multicollinearity Test on Directive Leadership Style

Model		T	Sig.	Collinearity Statistics	
				Tolerance	VIF
1	(Constant)	13.429	.000		
	Directive Leadership Style	4.000	.000	1.000	1.000

Proportional odds assumption test
The test of parallel lines was conducted to test the proportion odds assumption. The Chi-square results presented in Table 7 show that there was no difference in the constructs of directive leadership style at the null and the general model, χ^2 (3) = 6.559, p>.05, and a significant level, .087 (p>.05), indicating that the assumption was not violated.

Table 7: Test of Parallel Lines on Directive Leadership Style

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Null Hypothesis	46.364			
General	39.805	6.559	3	.087

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
a. Link function: Logit.

H. Model fitting information for directive leadership style

Model fitting information test was performed to examine the suitability of the model in predicting innovative behavior. Results in Table 8 indicate that the Final Model Chi-square test result was statistically significant χ^2 (1, N=228) =8.584, p=.003, p<.05, implying that the model was suitable for predicting innovative behavior.

Table 8: Model Fitting Information for Directive Leadership Style

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	54.949			
Final	46.364	8.584	1	.003

Link function: Logit.

I. Goodness-of-fit for directive leadership style

The goodness-of-fit test was conducted to determine whether there was a relationship between the actual values observed and the hypothesized model. Table 9 shows the Pearson Chi-square significance test results, X^2 (22, N = 228) = .008, p =1, p>.05, which implies that there was a good fit between the observed data and the hypothesized model.

Table 9: Goodness-of-Fit for Directive Leadership Style

	Chi-Square	Df	Sig.
Pearson	.008	22	1.000
Deviance	.017	22	1.000

Link function: Logit.

J. *Pseudo R-square of directive leadership style*

Pseudo R-square shows the proportion of variance explained by the independent variable on the dependent variable. Table 10 presents the Nagelkerke R-Square results (R^2 =.044), which indicate that directive leadership style explained a 4.4% variation in innovative behavior.

Table 10: Pseudo R-Square of Directive Leadership Style

Measure	R-Square Value
Cox and Snell	.037
Nagelkerke	.044
McFadden	.020

Link function: Logit.

K. *The parameter estimates of directive leadership style*

Parameter estimates test was conducted to obtain the coefficients that explained the extent to which directive leadership style predicted the innovative behavior of senior managers. Table 11 presents the results of the parameter estimates coefficient, which indicate that directive leadership style positively and significantly predicted innovative behavior (β =.626, p =.003, p<0.5). This implies that for every unit increase in directive leadership style, there was a predicted increase of .626 in the innovative behavior of senior managers, and therefore rejecting the null hypothesis, H_{01}: Directive leadership style does not significantly influence the innovative behavior of senior managers in the manufacturing sector in Kenya *(See table 11 in appendices).*

The ordinal logistic regression equation:
$\text{logit}[P(Y \leq j)] = \alpha j + \beta x_3$
where $P(Y=Neutral, agree)/ P(Y=strongly\ agree) = \exp(5.606 + .629\ x_3)$
αj= constant
β_1= coefficient
$X_{1=}$ Directive leadership style

VIII. Discussions of the Findings

The Pearson's correlation test results revealed that there was a positive and significant relationship between clear performance expectations and innovative behavior, $r(228) = .435$, $p < .05$, supporting results from a study conducted by Shin et al. (2016) which determined that perceived innovation job requirement had a positive relationship with innovative behavior. Pearson's correlation results further showed a positive and significant correlation between clear instructions and innovative behavior, $r(228) = .248$, $p < .05$. Conversely, Woods et al. (2018) stated that when supervisors frequently engage in close monitoring and controlling behavior, highly conscientious employees are more likely to display low levels of innovative behavior.

Results of Pearson's correlation further showed a positive and significant correlation between clear performance standards and innovative behavior, $r(228) = .210$, $p < .05$, which corresponds with results from a study by Montgomery et al. (2019). These findings differ from the results of a study by Zacher and Rosing (2015), which revealed that when employees were limited to focus on a set of established standards of performance, the employees were more risk-averse for fear of making mistakes, which reduced their innovative capability.

One-Way ANOVA test results showed that there was no significant difference between the mean values of each of the respondents' demographic information and directive leadership style. The demographic information included job title ($p = .489$, $p > .05$), gender ($p = .169$, $p > .05$), length of service in the organization ($p = .755$, $p > .05$), age ($p = .927$, $p > .05$), and the highest level of education ($p = .472$, $p > .05$). These results implied that directive leadership style was not influenced by the demographic information of the respondents. This study determined that providing clear work instructions, communicating clear performance standards and performance standards are major attributes of directive leadership (Jozsef & Blaga, 2015; Montgomery et al. (2019).

Ordinal logistic regression analysis was performed to determine whether directive leadership style predicted the innovative behavior of senior managers. The parameter estimates results revealed that directive leadership style positively and significantly predicted innovative behavior ($\beta = .626$, $p = .003$, $p < .05$). These findings led to the rejection of the null hypothesis that directive leadership style does not significantly influence the innovative behavior of senior managers. These results are consistent with findings from a study by Lukowski (2017) which found that directive leadership style had a positive impact on the implementation stage of the innovation process and incremental innovations, because of its ability to give structure for decision making and alignment with the leader's vision. However, a study by Naqshbandi and Tabche (2018) found that directive leadership acted as a barrier to innovation. Another study conducted by Rusli et al. (2016) found that directive leadership limited employees' involvement in decision-making which denied them the opportunity for creativity and innovative thinking.

IX. Conclusions

The study concluded that directive leadership style significantly influenced the innovative behavior of senior managers in the manufacturing sector in Kenya.

X. Recommendations

The study determined that directive leadership style significantly influenced the innovative behavior of senior managers in the manufacturing sector in Kenya, and recommends that leaders in the manufacturing sector should adopt directive leadership behaviors such as giving clear instructions on how the senior managers should perform their tasks, setting clear performance standards, and communicating clear performance expectations, to develop innovative behavior in senior managers.

A. Areas of further research

The study recommends that further research should be carried out to investigate the influence of directive leadership style on the innovative behavior of employees in the small-scale manufacturing organizations in Kenya.

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APPENDICES

APPENDIX I: TABLES

Table 2: Mean and Standard Deviation for Directive Leadership Style and Innovative Behavior

	M	*SD*	Skw	Std. Error Skw
My leader gives clear instructions on how I should perform my tasks	4.26	0.656	-0.622	0.161
My leader sets clear performance standards	4.14	0.669	-0.529	0.161
My leader gives clear instructions on how I should perform my tasks, which enables me to generate new ideas	3.89	0.719	-0.483	0.161
My leader sets clear performance standards, which enables me to generate new ideas	3.92	0.789	-0.446	0.161
My leader communicates clear performance expectations, which enables me to generate new ideas	3.98	0.831	-0.376	0.161
My leader gives clear instructions on how I should perform my tasks, which enables me to promote new ideas	3.81	0.743	-0.509	0.161
My leader sets clear performance standards which enables me to promote new ideas	3.8	0.798	-0.351	0.161
My leader gives clear instructions on how I should perform my tasks, which enables me to realize new ideas	3.72	0.785	-0.335	0.161
My leader sets clear performance standards, and this enables me to realize new ideas	3.73	0.841	-0.303	0.161

Table 5: One-way ANOVA Test on Directive Leadership Style

		Sum of Squares	Df	Mean Square	F	Sig.
Job title	Between Groups	48.267	8	6.033	.934	.489
	Within Groups	1413.992	219	6.457		
	Total	1462.259	227			
Gender	Between Groups	3.808	8	.476	1.475	.168
	Within Groups	70.662	219	.323		
	Total	74.469	227			
Duration in organization	Between Groups	3.833	8	.479	.626	.755
	Within Groups	166.784	218	.765		
	Total	170.617	226			
Age	Between Groups	2.041	8	.255	.387	.927
	Within Groups	144.520	219	.660		
	Total	146.561	227			
Education level	Between Groups	10.096	8	1.262	.955	.472
	Within Groups	289.272	219	1.321		
	Total	299.368	227			

Table 11: Parameter Estimates of Directive Leadership Style

Parameter		Estimate	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp (B)	95% Wald Confidence Interval for Exp(B)	
				Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Threshold	[IB=1.00]	.075	.9264	-.741	1.891	.007	1	.935	1.078	.175	6.623
	[IB=2.00]	.140	.9243	-.671	1.952	.023	1	.879	1.151	.188	7.043
	[IB=3.00]	1.606	.9213	-.200	3.411	3.038	1	.081	4.982	.819	30.311
	[IB=4.00]	5.606	1.0130	3.621	7.592	30.627	1	.000	272.127	37.366	1981.843
Directive Leadership Style		.626	.2138	.207	1.045	8.567	1	.003	1.870	1.230	2.843
(Scale)		1[a]									

Dependent Variable: Innovative behavior (IB)
Model: (Threshold), Directive Leadership Style
a. Fixed at the displayed value.