MARKET PENETRATION STRATEGY AND COMPETITIVENESS OF ISO CERTIFIED MANUFACTURING FIRMS IN KENYA

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ABSTRACT

This research looked at market penetration strategy and competitiveness of ISO-certified manufacturing firms in Kenya. The study assessed how market penetration strategy could be applied by firms at a corporate level to achieve competitiveness. The moderating variable, being industry characteristics, was introduced to establish the extent of the effect of the independent on the dependent variable. The study performed a descriptive survey targeting forty-one (41) ISO-certified manufacturing firms in Kenya. The primary data source was a self-administered structured questionnaire. A secondary data sheet was employed as a tool for measuring the dependent variable. The procedure for data collection was the 'drop and pick later' method. Data analysis was done using descriptive with mean score and standard deviation used. Inferential statistics was undertaken by applying the Pearson correlation coefficient and multiple regression model to analyze and determine the link between the predictor and the predicted. In testing the research hypothesis, the p- value in the Anova test was used while F-statistics was computed at 95% confidence level to test the possibility of existence of any significant relationship between market penetration strategy and competitiveness of ISO certified manufacturing firms in Kenya. The study found that firms employ value-based pricing to set prices of their products and/or services. The study also found that firms adopted competitor-based pricing to set prices of their products and/or services prices. Additionally, the study established that firms employ promotion strategy to provide information on the quality of their products/services. Further, majority of the respondents agreed that their firms adopted promotion strategy to sell different goods/services under different brand names. The study also established that firms employ customer retention strategies to improve customer service through timely resolution of customer's problems/enquiries. Finally, the study also found that firms utilize customer retention strategy to enhance communication between employees and customers. The study concluded market penetration strategy has significant influence on competitiveness of ISO certified manufacturing firms in Kenya and that industry characteristics had a moderating influence on the relationship between market penetration strategies and competitiveness of ISO-certified manufacturing firms in Kenya. The study recommended that management of ISO-certified manufacturing firms in Kenya should put in place market penetration strategies to enhance firm competitiveness. The study also recommended that in future, scholars and researchers should aim to test the relationship between market penetration strategy and firm competitiveness to bring rigour and offer platforms for comparison of findings.

Key Words: *Market Penetration Strategy; competitiveness of ISO certified manufacturing firms; Game Theory, Porter's five forces model.*

Background of the Study
The Big four (4) agenda, as pronounced by the then President of Kenya on 12th December 2017, comprised of four pillars namely; - Manufacturing, Affordable Housing, Food and Nutrition Security and Affordable Healthcare. Under the manufacturing pillar, the Big 4 agenda envisioned that the manufacturing sector should contribute at least 20% to GDP to by the year 2022. KAM, in their paper on manufacturing Priority Agenda (MPA) (2019) anticipated a 15% contribution to GDP by the same year, based upon 5 pillars, namely; competitiveness and level playing field; enhanced market access; pro-industry policy and institutional framework; government driven SME development and lastly securing the future of manufacturing industry.

In the period between the years 2015-2019, the manufacturing sector, on average, contributed 8.74% to GDP as outlined in Table 1.1. In the year 2019 alone, the Kenyan manufacturing sector contributed 7.9% to GDP (KNBS, 2023) against the 20% target by Big 4 agenda and 15% by KAM. Comparatively, contribution of the manufacturing sector to GDP for the Republic of South Africa and the Federal republic of Nigeria stood at 14% and 9.77% respectively, while the contribution of China's manufacturing sector to its GDP stood at 26% in the year 2019 (World Bank, 2021).

Failure by the manufacturing sector to achieve its potential as envisaged in the Big 4 Agenda and KAM could be an indication that manufacturing firms in Kenya have not been able to successively conceptualize competitiveness and/or adopt/develop appropriate models for competitiveness (KAM, 2018). This, as Were (2016) points out, could be as a result of a number of factors such as; (1) inadequacy of R&D by manufacturing firms in Kenya; (2) weakness in the link between Kenyan university's R&D and industry needs and (3) features that prevent think tanks and research institutes from providing applicable R&D to the sector.

Other challenges include formulation and poor implementation of overlapping policies and strategies that do not have clear operating mandates; and conflicting priorities in the different policies and strategies, bringing about a lack of prioritizing more so when choosing what and when to implement. Efforts have been made to revitalize the manufacturing sector. These efforts include creation of industrial parks, provision of credit loans, relaxation of stringent registration and operational rules and the enhanced fight against illicit trade (KAM, 2018).

Despite these efforts, the root cause of some of the problems afflicting the sector may not have been fully addressed. This is evidenced by the fact that growth in the manufacturing sector has averaged at 2.72% during the 5-year period between the years 2015-2019. Additionally, the average contribution of the manufacturing sector to GPD has averaged at 8.74% during the same period (KNBS, 2023); well below the Big 4 agenda target of 20% and KAM target of 15%. Lastly, the average growth rate of Kenya's economy over the same period has been 5.56%, again below the targeted average GDP growth rate of 10% annually as envisaged under the economic pillar of Kenya's Vision 2030 blueprint.

Increased contribution of the manufacturing sector to GPD would greatly influence achievement of average GDP growth rate of 10%. Sustainable economic growth and development would lead to job creation, poverty alleviation and socio-economic development, measured by indicators such as GDP, life expectancy and literacy levels. It remains unclear whether the Kenyan manufacturing sector, at its current state, has correctly conceptualized competitiveness, whether it is sustainably competitive or whether it can meaningfully contribute towards sustainable social economic development of Kenya.

Zugay and Zakaria, (2023) in the study on Ansoff matrix espoused that the model is a tool that can be used by managers in identifying strategies for business growth, ranging from high to low risk. The model helps managers determine risk levels by having them focus products and services on the specific markets targeted by the firm. This formed the basis upon which this study raised the research question of whether manufacturing firms can employ the model, at corporate level to achieve competitiveness.

Objectives of the Study
The study was guided by the following objectives:
General Objective

i. To establish the influence of market penetration strategy on competitiveness of ISO-certified manufacturing firms in Kenya.
ii. To explore the moderating influence of Industry characteristics on market penetration strategy and competitiveness of ISO-Certified manufacturing firms in Kenya.

Research Hypothesis

The study hypothesized that:
H01: Market Penetration strategy has no significant influence on competitiveness of ISO Certified Manufacturing firms in Kenya.

H02: Industry characteristics has no significant moderating influence on market penetration strategy and competitiveness of ISO Certified Manufacturing firms in Kenya.

Theoretical Framework
Game Theory
The premise of game theory was published in 1944 by John von Neumman and economist Oskar Morgestern in the book *the theory of games and economic behavior (*Maschler et Al., 2020). The theory illustrates how individual decisions are interconnected and the resultant outcome from each of these decisions. Khan (1920) in the study on game theory: business and growth strategies suggested that game theory is about how the decisions of two or more individuals jointly determine the outcome of a situation. The theory was adopted in anchoring in market penetration strategy in the study.

Porter's Competitive Theory
Porter's Competitive theory opines that a firm, before venturing into a business; must know its competitive scope in terms of how wide its target market is, the variety of products/services it wishes to produce, the distribution channels it wishes to use, the composition of buyers and geographic areas it wants to serve etc. (Fisk, 2016). The origin of competitive theory dates back to Porter (1980) who suggested that a firm draws its value from the competitive situation characterizing its end-product strategic position. Porter's theory was used to anchor in industry characteristics as a moderator to the study.

Conceptual Framework
Varpio et al. (2020) defined the conceptual framework as an abstract or general idea inferred or derived from specific instances. It could be a word or phrase that symbolizes several interrelated ideas. Conceptualizing, according to Varpio et al. (2020) is inventing or contriving an idea or explanation and formulating it mentally. The conceptual framework outlined in figure 1.1 assisted the researcher in developing an understanding of the phenomena under scrutiny. It also assisted the researcher in drawing meaning and conclusions from the result findings.
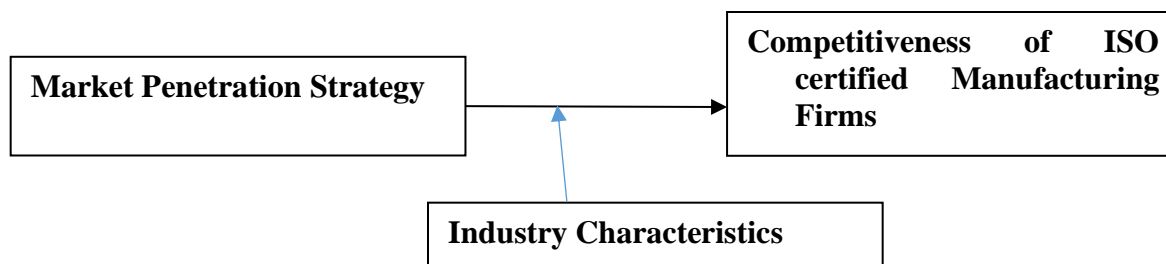
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┌─────────────────────────────┐        ┌──────────────────────────────┐
│                             │        │ Competitiveness    of   ISO  │
│ Market Penetration Strategy │───────▶│ certified   Manufacturing    │
│                             │        │ Firms                        │
└─────────────────────────────┘        └──────────────────────────────┘
                            ▲
              ┌─────────────────────────┐
              │ Industry Characteristics │
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Figure 1. 1: Conceptual Framework

Market Penetration Strategy
Among various definitions of market penetration strategy put forward by different scholars, there is convergence on the means of executing the strategy. Wainaina (2016) suggested that market penetration is simply a growth strategy which starts with concept development that culminates in the creation of new solutions to business problems. In this scenario, the business focuses on selling more of its existing products into current (existing) market segments. Arkolakis (2017) explained that market penetration determines the percentage of market share a business product or service is able to capture in a given market, relative to its competitors.

Empirical Review
Market Penetration Strategy
Using a multi–case study methodology, Chandola and Fu (2017) carried out a study on China smartphone companies' market penetration approach to the Indian market. The study findings revealed that in order to penetrate the Indian market, Chinese smartphone manufacturing companies used a customer segment strategy and created affordable innovative products for specific market segments. The findings of this study established that customer retention strategy was used as part of customer relationship management (CRM) by the Chinese mobile phone manufacturers in aiding them towards achieving competitiveness.

Industry characteristics
Hermundsdottir and Aspelund (2021) did a study on sustainability and firm competitiveness in order to identify factors that mediate/moderate the interconnection. The study established that there exists a positive relationship between sustainable innovation and competitiveness. The study established that industry characteristics can moderate the relationship between sustainability innovation and competitiveness. The study also found out that this relationship was complex and therefore contributed with the finding that national market, industry and firm-level factors have a moderating effect on the relationship. In conclusion, the study established that industry characteristics can moderate the relationship between sustainability innovation and competitiveness.

Iyer et Al. (2020) conducted a meta-analytic review of impulse buying. The research attempted to understand the relationship between impulse buying and its determinants with industry characteristics as a contextual moderator to the study. These determinants, the study established, were both internal and external e.g. traits, motives, consumer resources and marketing stimuli which emerged as key triggers of impulse buying. Based on the studies, Iyer et Al. (2020) established that indeed industry characteristics were a moderator to the study.

Research Methodology
This study adopted positivism philosophy based on qualitative and quantitative data. The study adopted a descriptive survey design targeting 41 Kenyan-based ISO-certified manufacturing firms were forty-one (41) in number, the majority of them located in Nairobi with a target population

constituting 82 respondents (a representative of the top management & a representative of the board) for each of the 41 ISO-certified manufacturing firms. Key instruments for collecting primary data in this study were structured questionnaires.

A secondary data sheet was employed as a framework for measuring the dependent variable. The data sheet formed part of the questionnaire. Out of the initial sample size of 54 subjects, the study targeted 6 subjects for the pretest. Opinion from Lawoko (2019) suggested that a questionnaire pre-test is done to observe respondents' reactions and attitudes and clear any ambiguities in the questions. The questionnaire is revised before administering to the target group in case some ambiguities are noted at the pre-test stage.

Quantitative analysis was used to convert data into information. This involved data processing, presentation, and interpretation. Data analysis involved statistical analysis of the closed-ended items in the questionnaire. Statistical Package for the Social Sciences (SPSS) was used to help in data analysis as well as in generating descriptive and inferential statistics. The descriptive statistical techniques encompassed distribution tables and percentages. Measures of central tendency i.e. mean and standard deviations were used. Inferential statistics was done using Pearson's correlation analysis and multiple standard regression to show the relationships between variables. The estimated multiple linear regression model was defined based on the model specification.

Model specification
A multiple linear regression model was used in this study in the form:

Equation 1: $Y = \beta_0 + \beta_1 X_1 + e$ (Without moderator)

Equation 2: $Y = \beta_0 + \beta_1 X_1*Z + Z*Z + e$ (With moderator)

Whereby:
Y = Firm Competitiveness;
β_0 = Constant associated with the regression model
β_1 = Parameter;
X_1 = Market Penetration Strategy (MPS)
Z = Industry characteristics (IC)
e = Error Term
Final Moderated Model: $Y = \beta_0 + \beta_1 X_1*Z + e$

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Analysis of the Findings
Through descriptive statistics, the researcher is able to show the extent to which research findings have answered the research questions (Mishra et al., 2019). A descriptive analysis was carried out where the respondents' views of the research questions were reported as they were. The main statistics included the standard deviation, means and percentages. Analysis was done systematically based on the research objectives of the study.

Market Penetration Strategy
The first objective of the study was to establish the influence of market penetration strategy on competitiveness of ISO certified manufacturing firms in Kenya. The study sought to assess the respondents' views on market penetration strategy as applied in their respective organizations and how the same has contributed to competitiveness of their firms. Respondents were asked to indicate their level of agreement or disagreement with key statements drawn from the sub-constructs of market penetration strategy which were pricing strategy, promotion strategy, customer retention

strategy management. A 5-points Likert's scale was used where 1 represented strongly disagree, 2 = disagree, 3- neutral, 4= agree and 5= strongly agree. The findings are as shown in Table 1.2.

Table 1.2: Descriptive Analysis for Market Penetration Strategy

Statements	SD	D	N	A	SA	Mean	Std. Dev.
Our firm employs value-based pricing to set prices of our products and/or services prices.	4.3%	4.3%	6.4%	29%	56.0%	4.48	0.65
Our firm adopts competitor-based pricing to set prices of our products and/or services prices according to the prices set by our competitors for similar products.	3.4%	7.7%	7.7%	29.1%	52.1%	4.02	0.49
Our firm employs promotion strategy to provide information on the quality of our products/services.	7.7%	9.4%	9.4%	61.5%	12.0%	4.63	0.56
Our firm adopts promotion strategy to sell different goods/services under different brand names.	6.0%	8.5%	4.3%	23.9%	57.3%	4.06	0.56
Our firm employs customer retention strategy to improve customer service through timely resolution of customer's problems/enquiries.	11.1%	11.1%	8.5%	53.1%	16.2%	3.61	0.75
Our firm utilizes customer retention strategy to enhance communication between our employees and customers. Any employee can provide the same high level of service to any customer since all employees have access to the same customer data.	9.4%	5.2%	48.7%	22.2%	14.5%	3.59	0.73

Key: SD= Strongly Disagree; D= Disagree; N= Neutral; A= Agree; SA= Strongly Agree

As the findings portray, majority of the respondents agreed that their firm employs value-based pricing to set prices of their products and/or services prices (Strongly Agree = 56%; Agree = 29%, Mean = 4.48, standard deviation = 0.65). The measure of dispersion around the mean of the statements was 0.65 indicating the responses were varied. From the results, majority of the respondents agreed that their firm adopts competitor-based pricing to set prices of their products and/or services prices according to the prices set by their competitors for similar products (Strongly Agree = 52.1%; Agree = 29.1%, Mean = 4.02, standard deviation = 0.49).

Majority of the respondents also agreed that their firms employ promotion strategy to provide information on the quality of their products/services (Strongly Agree = 12%; Agree = 61.5%, Mean = 4.63, standard deviation = 0.56). The measure of dispersion around the mean of the statements was 0.56 indicating the responses were varied. In addition, a majority of the respondents also agreed that their firm adopted promotion strategy to sell different goods/services under different brand names (Strongly Agree = 57.3%; Agree = 23.9%, Mean = 4.06, standard deviation = 0.56). The measure of dispersion around the mean of the statements was 0.56 indicating the responses were varied.

As the findings portray, majority of the respondents agreed that their firms' employed customer retention strategy to improve customer service through timely resolution of customer's problems/enquiries (Strongly Agree = 16.2%; Agree = 53.1%, Mean = 3.61, standard deviation = 0.75). The measure of dispersion around the mean of the statements was 0.75 indicating the responses were varied. In addition, majority of the respondents agreed that their firms utilize customer retention strategy to enhance communication between our employees and customers. Any employee can provide the same high level of service to any customer since all employees have access to the same customer data (Strongly Agree = 14.5%; Agree = 22.2%, Mean = 3.59,

standard deviation = 0.73). The measure of dispersion around the mean of the statements was 0.73 indicating the responses were varied.

The findings implied that Market Penetration Strategy enhanced ccompetitiveness of ISO certified manufacturing firms in Kenya. The findings concured with those by Tien 2020 study on Analysis of Lotte's Market Penetration Strategy in Vietnam FMCG Industry that found that market entry strategies aim at increasing consumption and competitiveness of existing products in current markets so as to increase market share through marketing efforts.

Industry characteristics
The second objective of the study was to explore the moderating influence of industry characteristics on market penetration strategy and competitiveness of ISO-certified manufacturing firms in Kenya. Respondents were asked to indicate their level of agreement or disagreement with specific statements drawn from sub-constructs under industry characteristics. A five-point Likert scale was used where 1 indicated strongly disagree, 2 = disagree, 3- neutral, 4= agree and 5= strongly agree. The findings are shown in Table 1.3.

Table 1.3: Descriptive Analysis for Industry Characteristics

Statement	SD	D	N	A	SA	Mean	Std. Dev.
Suppliers have the power to determine the prices of the goods/services they supply us with.	9.4%	13.7%	11.2%	19.7%	46.0%	3.99	0.97
Buyers have the power to demand higher quality products.	7.7%	12.8%	4.3%	23.9%	51.3%	3.98	1.33
New entrants are competitors to current companies within an industry.	17.9%	6.8%	7.0%	17.9%	50.4%	3.76	1.55
We minimize the threat of substitute products by creating unique product offerings that satisfy specific needs so customers are not easily swayed by substitute products.	3.4%	15.4%	7.7%	57.3%	16.2%	3.67	1.03
We use competitive rivalry as a measure of the extent of competition among firms in the industry. Competitive rivalry impacts on profits, leads to price cutting, increased advertising expenditures, or spending on service/product improvements and innovation.	41.4%	13.0%	7.1%	5.6%	33.0%	3.82	1.01

Key: SD= Strongly Disagree; D= Disagree; N= Neutral; A= Agree; SA= Strongly Agree

The findings revealed that most of the respondents agreed that suppliers had the power to determine the prices of the goods/services they supply firms (Strongly agree 46.00%; agree 19.7%; Mean = 3.99; standard deviation = 0.97). The measure of dispersion around the mean of the statements was 0.97 indicating the responses were varied. The respondents also indicated that buyers had the power to demand higher quality products (Strongly agree 51.3%; agree 23.90%; mean of 3.98 and a standard deviation of 1.33. The measure of dispersion around the mean for the statements was 1.33 indicating the responses were varied.

The findings further revealed that new entrants are competitors to current companies within an industry (strongly agree = 50.4%; Agree = 17.9%; mean = 3.76 and standard deviation 1.55). The measure of dispersion around the mean was 1.55 indicating the responses were varied. The findings further revealed that firms mminimize the threat of substitute products by creating unique product offerings that satisfy specific needs so customers are not easily swayed by substitute

products. (strongly agree = 16.2%; Agree = 57.3%; Mean = 3.67 and standard deviation of 1.03). The measure of dispersion around the mean of the statements was 1.03 indicating the responses were varied.

It was also established that firms use competitive rivalry as a measure of the extent of competition among firms in the industry. Competitive rivalry impacts on profits, leads to price cutting, increased advertising expenditures, or spending on service/product improvements and innovation ((strongly agree = 33%; Agree = 5.6%; Mean 3.82; standard deviation = 1.01). The measure of dispersion around the was 1.01 indicating the responses were varied.

The study findings agreed with Hermundsdottir and Aspelund (2021) who did research on sustainability and firm competitiveness in order to identify factors that mediate/moderate the interconnection. The study established that national market, industry and firm-level factors have a moderating effect on the relationship. In conclusion, the study established that industry characteristics can moderate the relationship between sustainability innovation and competitiveness.

Additionally, the descriptive statistical findings on industry characteristics agreed with Iyer et Al., (2020) who conducted a meta-analytic review of impulse buying to try to understand the relationship between impulse buying and its determinants. The study sought to examine industry characteristics as a contextual moderator in the study. Based on existing studies, Iyer et Al., (2020) established industry characteristics as a moderator to the study.

Regression Analysis
The research employed multiple regression analysis to determine the linear statistical relationship between the independent and dependent variables. According to Singh et al. (2019), regression analysis helps explain the statistical relationship between variables thus enhancing the ability of the study to make substantive conclusions and recommendations. The statistical objective of regression analysis is to show high R^2 and significant t-values, thus rejecting the null hypothesis of no influence (Singh et al., 2019). Parameters with an absolute t-value greater than 1.96 indicate a significance level of 0.05 (i.e. p<0.05) (Singh et al., 2019).

Market Penetration Strategy

The study sought to establish the influence of market penetration strategy on competitiveness of ISO certified manufacturing firms in Kenya. From this, the first hypothesis of the study was drawn:

H_{O1}: *Market penetration strategy has no significant influence on competitiveness of ISO Certified Manufacturing firms in Kenya.*
To test for this hypothesis, a univariate regression model was adopted. The model was of the form:
$$Y = \beta_0 + \beta_1 X_1 + e$$
Model summary, Analysis of Variance (ANOVA), and regression coefficients were used to show whether to reject or fail to reject the null hypothesis. The results are as shown in Table 1.4.

Table 1.4: Regression Model Results on Market Penetration Strategy.
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.702[a]	.493	.488	.65815

a. Predictors: (Constant), Market penetration strategy

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	48.343	1	48.343	47.53	.000[b]
1	Residual	49.813	49	1.017		
	Total	98.156	50			

a. Dependent Variable: Competitiveness of ISO certified manufacturing firms in Kenya.
b. Predictors: (Constant), Market Penetration strategy

Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.141	.157		7.277	.000
1	Market Penetration strategy	.560	.053	.702	10.564	.000

a. Dependent Variable: Competitiveness of ISO-certified manufacturing firms in Kenya

The results revealed that the R-square(R^2) for the model was 0.493. This implied that market penetration strategy has 49% impact on the variation in the competitiveness of ISO Certified Manufacturing firms in Kenya.

The ANOVA results showed that at an F-statistic of 47.53, the significance of the model was at 0.000. This being less than the standard P-value of 0.05, the study drew that the model could significantly predict the relationship between market penetration strategy and competitiveness of ISO Certified Manufacturing firms in Kenya.

The regression coefficient results are as shown. The results revealed that the Beta (β) coefficient for market penetration was 0.560. From the results, the model was presented as follows:
$$Y = 1.141 + 0.560X_1 + e$$
The findings implied that a unit change in market penetration strategy could influence up to 56% of competitiveness of ISO Certified Manufacturing firms in Kenya. Further, the results showed that the P-value for the model was 0.000 which is less than the standard p-value of 0.05. This implied that there was a significant relationship between market penetration strategy and competitiveness of ISO Certified Manufacturing firms in Kenya. The study therefore rejected the null hypothesis that market penetration strategy does not significantly influence the competitiveness of ISO Certified Manufacturing firms in Kenya. A conclusion drawn that market penetration strategy has a significant influence on the competitiveness of ISO Certified Manufacturing firms in Kenya. These findings were in line with the findings of Chandola and Fu (2017) in the study on the market penetration strategy of smartphone companies from China for the India Market that established that market penetration strategy influences organization competitiveness.

Overall Regression Model
The study carried out an overall regression model analysis (multivariate) to establish the effect of market penetration strategy on competitiveness of ISO Certified manufacturing firms in Kenya. The findings are shown as per the model summary, ANOVA test and the regression coefficients on Table 1.5 below.

Table 1.5: Overall Regression Model Results (Unmoderated)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.892[a]	.795	.787	.42408

a. Predictors: (Constant), market penetration strategy.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	78.014	4	19.503	44.53	.000[b]
1	Residual	20.142	46	.438		
	Total	98.156	50			

a. Dependent Variable: Competitiveness of ISO-certified manufacturing firms.

b. Predictors: (Constant), market penetration strategy,

Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.093	.135		.687	.494
	Market Penetration Strategy	.311	.041	.390	7.658	.000

a. Dependent Variable: Competitiveness of ISO-certified manufacturing firms in Kenya

The Model Summary result revealed that the R-square for the model was 0.795. This implied that market penetration strategy, could lead up to 79.5% variation of the competitiveness of ISO Certified manufacturing firms in Kenya.

The ANOVA results are as also as shown. The results revealed that the F-statistic for the model as 44.53 at a significant level of 0.000. This being less than the standard p-value of 0.05 implied that the model could significantly predict the relationship between market penetration strategy and the competitiveness of ISO Certified manufacturing firms in Kenya.

The regression coefficients results are also as herein shown. The results led to the following model:

$$Y = 0.93 + 0.311X_1 + e$$

The findings implied that a unit change in market penetration strategy influenced up to 31.1% of the competitiveness of ISO-certified manufacturing firms in Kenya.

Optimal Model

The study sought to establish the moderating effect of Industry characteristics on the relationship between market penetration strategy and competitiveness of ISO-certified manufacturing firms in Kenya. From the objective, the following null hypothesis was drawn:

H_{O2}: Industry characteristics have no significant moderating influence on market penetration strategy and competitiveness of ISO Certified Manufacturing firms in Kenya.

The model for the moderating effect was:

$$Y = \beta_0 + \beta_1 X_1 * Z + Z * Z + e$$

Where Z is the moderator (Industry characteristics), β_0 =Constant associated with the regression model β_1, =Parameters; X_1 =Market Penetration Strategy. *e-* Error Term

The results are shown in Table 1.6 below

Table 1.6 Results of the Overall Moderated Model (Moderated)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.934ᵃ	.872	.866	.37646

a. Predictors: (Constant), Industry characteristics, Market Penetration strategy * Industry characteristics.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.709	5	21.342	61.152	.000ᵇ
	Residual	15.731	45	.349		
	Total	122.440	50			

a. Dependent Variable: Competitiveness of ISO-certified manufacturing firms in Kenya.
b. Predictors: (Constant), Industry characteristics, market penetration strategy * Industry characteristics.

Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.325	.224		1.449	.150
	market penetration strategy * Industry characteristics	.442	.046	.445	9.588	.000
	Industry characteristics	-.094	.065	-.050	-1.448	.150

a. Dependent Variable: Competitiveness of ISO certified manufacturing firms in Kenya.
b. Predictors: (Constant), Industry characteristics, market penetration strategy.

The R^2 for the overall model before the moderation was 0.795 and introduction of the moderator, it increased to 0.872. This was an implication that following the introduction of Industry characteristics as the moderator, the strength of the aspect of market penetration strategy towards the variation of the competitiveness of ISO certified manufacturing firms in Kenya increased by 0.077, an equivalent of 7.7%. This was an indication that Industry characteristics had a moderating effect on market penetration strategy and competitiveness of ISO certified manufacturing firms.

The ANOVA results on the other hand revealed that following introduction of the moderator, the model was statistically significant at a F-statistic of 61.152 and a P-value of 0.000<0.05. This led to the decision to reject the null hypothesis of the study that industry characteristics had no significant influence on market penetration strategy and competitiveness of ISO Certified Manufacturing firms in Kenya.

The regression coefficients are also as shown. From the coefficients, the new model now became:

Y=0.325+ 0.442X₁+ 0.224

The findings implied that the moderator (Industry characteristics) had a moderating effect on the relationship between market penetration strategy and the competitiveness of ISO-certified manufacturing firms in Kenya. However, the findings revealed that industry characteristics have no direct relationship with the competitiveness of ISO- certified manufacturing firms in Kenya. The P-value under the regression coefficients also revealed that the influence of industry characteristics on market penetration strategy and competitiveness of ISO- certified manufacturing firms in Kenya was insignificant.

The study findings agreed with Hermundsdottir and Aspelund (2021) who did research on sustainability and firm competitiveness in order to identify factors that mediate/moderate the interconnection. The study established that national market, industry and firm-level factors have a moderating effect on the relationship. In conclusion, the study established that industry characteristics can moderate the relationship between sustainability innovation and competitiveness.

Additionally, inferential statistical findings agreed with Iyer et Al. (2020) who conducted a meta-analytic review of impulse buying to try to understand the relationship between impulse buying and its determinants. The study sought to examine industry characteristics as a contextual moderator in the study. Iyer et Al. (2020) employed industry characteristics as a moderator to the study. However, the point of divergence from this study was that, while Iyer et Al. (2020) established industry characteristics as a moderator in the study, with identity, price levels, advertising and distribution intensity being the sub-constructs. This study employed different understudies for industry characteristics when examining its moderating role on product development strategy and competitiveness.

Conclusion of the Study

Based on the study findings, the study concluded that market penetration strategy influences competitiveness of ISO certified manufacturing firms in Kenya. Market penetration strategy has significant influence on competitiveness of ISO-certified manufacturing firms in Kenya.

The study recommendations are in line with the objectives, findings and conclusions. The research recommended that management of ISO certified manufacturing firms in Kenya should put in place market penetration strategies as to enhance firm competitiveness. The study also recommends that in future, scholars and researchers should aim to test the relationship between market penetration strategy and firm competitiveness using different sub constructs to bring rigour and offer platforms for comparison of findings.

Contribution of the Study to Theory and Existing Knowledge
The study developed a conceptual framework underpinning future research work on market penetration strategy and competitiveness of ISO-certified manufacturing firms in Kenya. The study successfully tested the hypothesis related to the original conceptual framework developed in chapter two. The study contributed to the prioritisation of market penetration strategy as an avenue for the realization of competitiveness.

The majority of extant studies the researcher reviewed and cited in the empirical review are based on competitive advantage and performance. Not much was found to have been undertaken on competitiveness, more so from a regional perspective.

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Appendix II: ISO Certified Manufacturing Firms in Kenya

#	Organization	Location
1	East African Maltings Ltd	Nairobi, Kampala Road
2	Kenya Breweries limited	Nairobi, Thika Road, Garden City
3	New KCC – Dandora	Nairobi, Dandora
4	Trufoods Limited	Nairobi, Jogoo Road
5	New KCC - Cheese factory	Nairobi, Dakar Road, Industrial Area
6	Sous Chef Limited	Nairobi, City Park Drive, Parklands
7	Bidco Africa -Noodle Pant	Thika
8	Del Monte Kenya Limited	Thika
9	Golden Africa Limited	Athi River
10	New KCC - Kiganjo Factory	Nyeri
11	New KCC - Nyahururu Factory	Nyahururu
12	Kenya Tea Packers	Kericho
13	New KCC - Eldoret Factory	Eldoret
14	New KCC-Kitale Factory	Kitale
15	Kipkebe Tea Factory	Sotik
16	New KCC- Sotik	Sotik
17	Keritor Factory	Nyamira
18	Kipchabo Tea Factory Limited	Kapsabet
19	New KCC – Miritini	Mombasa
20	ASP Company Ltd	Nairobi, Embakasi Road
21	Steel Structures Limited	Nairobi, Kangundo Road, Umoja 2
22	Ardagh Glass Packaging Kenya (Formerly Consol Glass Kenya Ltd)	Nairobi, Kasarani
23	Nairobi Bottler Limited-Preform Plant	Nairobi, Umoja 2
24	Cylinder Works Limited	Ruiru, Exit 11Ruiru Town, Devki Street
25	Bidco Africa beverage and plastics plant	Thika
26	Almasi bottlers limited	Nyeri
27	Equator Bottlers Ltd	Kisumu
28	Afrimac Nut Company Limited	Shivachi Rd, Parklands, Nairobi.
29	East Africa Portland Cement Public Limited	Athi River, Machakos County, Kenya
30	Golden Africa Kenya Limited	Liberty Plaza, Mombasa Rd, Nairobi.
31	Goshen Farm Exporters Limited	Nairobi
32	Isuzu East Africa Limited	Enterprise Rd, Nairobi
33	Joopers Busy Limited	Kisumu, Kenya
34	Laikipia Permaculture Centre Limited	Nanyuki, Kenya
35	Orchard Juice Limited	Nairobi, Kenya
36	Osho limited	Nairobi, Kenya
37	Raka milk processors	Nyeri
38	Sarjim Holdings Limited	Nairobi, Kenya
39	Tropikal Brands	Nairobi, Kenya
40	Vert Limited	Nairobi, Kenya
41	Vokenel Enterprises Limited	Nairobi, Kenya

Source: KEBS, 2023