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THE JOINT INFLUENCE OF LEAGILE STRATEGY,
STRATEGIC PARTNERSHIP, AND FIRM
INNOVATION ON COMPETITIVE ADVANTAGE: A
STUDY OF CONSTRUCTION INDUSTRY IN
NAIROBI CITY COUNTY, KENYA

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THE JOINT INFLUENCE OF LEAGILE STRATEGY, STRATEGIC PARTNERSHIP, AND FIRM INNOVATION ON COMPETITIVE ADVANTAGE: A STUDY OF CONSTRUCTION INDUSTRY IN NAIROBI CITY COUNTY, KENYA

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Abstract

This study assessed the joint influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage of construction companies in Nairobi City County, Kenya. Using a cross-sectional descriptive survey and stratified sampling procedure, a sample size of 323 was obtained. Information was collected from 260 construction companies via structured questionnaires and analyzed by applying descriptive analysis and linear regression models. Statistical software for social sciences version 22 was used for data analysis. The hypothesis was tested and observations revealed there was a significant positive joint influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage. The study, therefore, concluded that leagile strategy, strategic partnership, and firm innovation influence competitive advantage in the construction companies in Nairobi City County, Kenya.

Key Words: Leagile Strategy, Strategic Partnership, Firm Innovation, Competitive Advantage, Supply Chain

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Introduction

Competition has increased compelling businesses to become more aggressive, responsive, and focused on gaining and sustaining competitive advantage to survive. The very essence of business is to create competitive advantage that comes at a low cost of production or market differentiation (Hines, 2001). Shortened product life cycles, pressure on prices, and the excessive cost of research and development for improved products have complicated the competitive arena for today's businesses, which find it challenging to effectively compete for profits. Adequately satisfying the high levels of customers' quality and service demand is overwhelming, weakening the companies' capability to differentiate from competitors. Today companies deal with a variety of products and operate in diverse marketplaces rendering no specific strategy appropriate for all categories of goods and markets (Hilletoth, 2008). These symptoms support why business companies must search for innovative and alternate approaches to realizing competitive advantages (Christopher & Gattorna, 2005). Leagile strategy, strategic partnership, and firm innovation are some of the strategies companies adopt to the achievement of competitive advantage.

Leagile strategy (LS) is an amalgamation of both lean and agile models through the utilization of the customer order decoupling point (CODP) model whereby a supply chain (SC) switches from one paradigm to the other (Goldsby et al., 2006). Leagile strategy is achieved by holding strategic inventory in uncompleted form and then quickly reconfiguring them once actual demand is established. Leagile strategy is the incorporation of agility and leanness in a supply chain (SC) through the utilization of customer order decoupling point (Naylor et al., 1997). Lean strategy enables coordination inside and amongst companies by focusing on achievement of efficiency, elimination of waste, overstretch

and value creation (Womack & Jones, 2003) as well as supporting a smooth schedule (Qi et al., 2009). Lean and agile philosophies are mutually supportive supply chain strategies (McCullen & Towill, 2001; Gunasekaran et al., 2008). Lean activities aim at improving process efficiency and maintaining firm competitiveness in a stable and predictable environment (Cousins & Menguc, 2006). The lean strategy concentrates on the removal of waste, attaining low-cost delivery of standardized and stable products.

However, the lean strategy poses some drawbacks when applied to the supply chain; it cannot provide suitable responsiveness to customer demands externally which mostly requires flexibility in product design, planning, scheduling, and distribution (Vonderembse et al., 2006). Although beneficial to firms, lean strategy has been disapproved for being devoid of human integration and characteristic of repetitive manufacturing procedures (Hines, Holweg & Rich, 2004). On its own, leanness may not be a sufficient condition for the organization to meet the precise needs of the customers more rapidly (Agarwal et al., 2007; Christopher & Towill, 2000). The modern view is that agile strategy has been highlighted as a substitute and the subsequent phase of leanness (Richards, 1996). Once leanness has been achieved, the supply chain must fight to achieve agility (Marion-Jones et al., 2000).

Strategic partnerships (SP) herein also referred to as strategic alliances, coalitions, collaborations, joint ventures, coalitions, associations or agreements are long-term mutually beneficial relationships amongst companies that promote joint efforts in planning and solving problems (Gunasekaran et al., 2011). Strategic partnerships warrant stoppage of inter-company competition and usage of newfound synergistic strengths to develop new products and enter fresh markets to enhance growth and profits (Dacin et al., 1997). The functions of SP include offering part of a service, supply of materials, supporting a resolution, provision of labor, funding, and

technical backing on product usage among others (Maase & Doorst, 2007). Firms combine resources under SP to jointly attain compatible goals that cannot be achieved with ease individually (Wittmann et al., 2009). Strategic partnerships play vital roles in ensuring firms' survival and provide usage of critical resources which permit achievement as well sustenance of competitive advantages under environmental turbulence (Cobeña et. al., 2017). Lubello et al. (2015) posit partnerships are essential avenues through which businesses are guaranteed advancement of knowledge and complementary assets accessibility.

According to the Oslo Manual, Organization for Economic Co-operation and Development (OECD, 2005), firm innovation is the creation and implementation of fresh or greatly enhanced products, marketing techniques, business practices, processes, external affiliations, and improvement of procedures by organizations. Innovation facilitates firms to differentiate their products, and exploit market opportunities and is considered the main competitive advantage creation component (Porter, 1999). Product innovation is the improvement and application of fresh or greatly enhanced products. It embraces the fabrication of innovative products, altering their existing design and exploitation of changed manufacturing components (Kirill, 2018). Process innovation is an approach to doing jobs differently in an enhanced way to increase efficiency and effectiveness (Davenport, 1993). Fitfield (2000) argues to be successful, process innovation requires a conducive environment, the building of capacity, and ensuring customers' wants directs the development. The improvement and application of fresh or greatly enhanced marketing systems is referred to as marketing innovation.

Marketing innovation calls for the identification of prospective markets and determining how best they should be served (Swaminathan & Mitchell, 1996). Organizational innovation searches for new business models, management

techniques, strategies, and structures (Hamel, 2006). The formation of a new or improved organizational culture with better business practices, workplace arrangements, and improved external and internal relationships is referred to as organization innovation. This type of innovation is realized through efficiency and effectiveness of administrative efforts, better remuneration, and relations with employees. Superior innovativeness of a firm occurs when it maximizes all the dimensions of innovation activity (Zahra & George, 2002).

Firm-level competitive advantage (CA) is a yardstick for measuring competitiveness and demonstrating a company's industry position (Porter, 1985). Competitive advantage refers to a set of capabilities enabling businesses to demonstrate better performance than rivals (Bobillo et al., 2010). Competitive advantage is explained from a supply chain management's (SCM) standpoint as being ahead of competitors in terms of the product price, quality, delivery dependability, innovation, and time to market (Li et al., 2006; Zhang, 2001; Koufteros et al., 2002). The concept of competitive advantage could be viewed as an outcome (Sachitra, 2017). The important competitive advantages are determined by both internal and external success factors of a firm (Wong et al., 2010). Thatte (2007) suggests that firm-level factors which should be considered when measuring competitive advantage are price, quality, delivery dependability, product innovation, and time to market. The measurements of competitive advantage can be categorized as cost-based, product-based, and service-based (Ismail et al., 2010). Competitive advantage can be operationalized using the price/cost, quality, delivery dependability, and exploit market opportunities (Newbert, 2008; Sigalas et al., 2013).

Construction supply chains consist of large projects which interconnect hundreds of different suppliers of raw materials, components, and a wide range of services (Dainty et al., 2001). The supply chain entities

consist of manufacturers, suppliers, transporters, warehousing firms, retailers, and customers. Within an organizational setup, the supply chain consists of all functions involved in receiving and filling customer orders such as new product development, marketing, operation, distribution, finance, customer service, etc. (Chopra & Meindl, 2007). The construction sector in Kenya is recognized as one of the key drivers of the country's economic growth, an immense contributor to GDP, offers significant opportunities for export expansion, and draws major investors into the country. The construction industry has a high potential of propelling Kenya toward becoming Africa's industrial hub and provides formal employment and the much-needed inducement for the agricultural sector's growth. Yet, the performance of construction companies in Nairobi City County is dismal.

The major internal concerns of construction companies are the deployment of resources, use of technological innovations, and adoption of management strategies that focus on flexibility, efficiency, responsiveness, quality, cost savings, integration, and innovation. Externally, construction companies face rapidly changing complex environments, globalization, and steep competition. According to Construction Industry Capacity Survey (CICS, 2014), a well-concerted effort, comprehensive strategy, and investment are needed to enhance capacity development in Kenya's construction companies (CICS, 2014). Conducting this study among construction companies' supply chains in Nairobi City County, Kenya may help in unearthing if leagile strategy, firm innovation, and strategic partnerships assist in delivering value, alleviating the myriad problems, and eventually increasing their chances of survival in the tumultuous environment. *Therefore, the objective of this study is to assess the joint influence of Leagile Strategy, Strategic Partnership, and Firm Innovation on Competitive Advantage in the Supply Chains of Construction Companies in Nairobi City County.*

Literature Review

Bruce et al. (2004) argued that leagility is a strategy for optimization of the management of the supply chain by conjoining lean and agile strategies. Hines (2006) established leagile strategy (lean & agile) is a key success factor for present-day businesses and non-profit making organizations. Arasa, Mwaura, and Ngui (2016) studied the relationship between SC lean, agile, and leagile strategies and achievement of competitive advantage in seed manufacturing companies in Nairobi City County, revealing they influenced competitive advantage if well executed by managers. This study was focused on investigating the influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage in the supply chains of construction companies in Nairobi City County. Tanvir and Yoshi (2012) surveyed the apparel industry in Bangladesh, India to unravel the impact of leagile manufacturing system on industrial upgradation revealing a positive influence. The present study assessed the influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage in the supply chains of construction companies in Nairobi City County.

Rahimnia and Moghadisian (2010) conducted a case study of a specialized hospital in Iran to determine the applicability of leagile strategy revealing the concept of leagility is applicable in hospitals. This study investigated the joint influence of leagile strategy, strategic partnership and firm innovation on competitive advantage in the supply chains of construction companies using a cross-sectional survey design. Piotrowicz et al. (2021), reviewed the metrics and developed a framework for measuring leagile supply chain. The scholars revealed the metrics common to both lean and agile strategies were related to time, quality, and customer satisfaction. They held that lean and agile should not be looked at as distinct supply chain strategies. Rather, lean and agile are interlinked because both are focusing on customer satisfaction and quality. The present

study focused on determining the influence of leagile strategy, strategic partnership, and firm innovation jointly on competitive advantage.

Andrew (2020) assessed the effect of leagile supply chain management on the operation performance of hotels in Mombasa County, Kenya finding they were averagely implemented. Ambe (2012) carried out an investigation aimed at establishing the application of supply chain best practices and strategies using survey methodology in light vehicle manufacturing firms in South Africa revealing they employed leagile strategy. The study focused on the employment of SC best practices and strategies. This study determined the common influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage in the supply chains of construction companies in Nairobi City County, Kenya.

Strategic partnerships are a primary form of cooperative strategy in which firms combine some of their resources to create competitive advantages (Uddin & Akhter, 2011). Strategic partnerships are vehicles through which companies pool resources and expertise to jointly solve problems or develop innovations (Maurrassee, 2013). Strategic partnerships assist companies to deal with intense competitive pressures in an industry and attain competitive advantages in the marketplace (Varadarajan & Cunningham, 1995). Lew and Sinkovics (2013) surveyed the effect of strategic unity at the international level on competitive advantage in high technology industries (Mobile Computing Market). It was concluded strategic alliance is a source of product development, winning international market share, and competitive advantages for the organization.

Barata (2016), studied the effect of collaborative supply chains on operational performance. The findings indicated that collaborative supply chains consisting of information quality, sharing information, alignment of incentives, and joint decision-making significantly influence operational performance. The current study

concentrated on the influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage. Hisnindarsyah (2020) did a case study on the effect of partnership strategy on competitive advantage mediated by market area and moderated by health service innovation in hospitals in Indonesia: Hospital case in Ambon, Indonesia. The results revealed that partnership strategy and health service innovation had a direct effect on competitive advantage. Whereas market area had no significant effect on competitive advantage. However, the investigation utilized a case study that was conducted in hospitals, focusing on health service innovation as the moderating variable. The current study employed a quantitative survey methodology concentrating on the construction industry and investigated the joint influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage. The strategic partnership constructs in this study were capital, technological, and management partnerships.

A firm is considered to be innovative if it continuously develops new products using fresh organizational methods (Pelegrin & Antunes, 2013). The knowledge developed by the practice of innovation can be a source of competitive advantages for organizations (Zawislak et al., 2017). Innovation is a process of change, such as any organizational activity that can be managed with the goal of bringing future competitive advantages to companies that practice it (Paiva et al., 2008). Soltani (2007) asserts competitive advantage is not obtainable randomly without a plan but companies should move with scientific thought and frameworks to attain it. Leaning on the company's innovative abilities influences competitive advantage. Yadegari (2005) introduced innovation, quality, efficiency, and responsiveness to customers as the four aspects of competitive advantage. Innovation helps companies introduce changes to products, ideas, and markets with added value to customers (Mohammadian, 2014). The elements of product innovation comprise flexibility, new technical specifications, easy

usage for existing products, reduction in production costs, and increase in quality for the existed products, all of which are geared towards increasing customer satisfaction (Gandi et al., 2011).

Atiang' and Nafula (2020) analyzed innovation's influence on firm competitiveness finding a positive association among SMEs in Kenya. The present study examined the joint influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage in Construction Industry supply chains in Nairobi City County. Dowlatabadi and Saaneiyan (2015) researched to analyze innovation effectiveness on competitive advantage using the entrepreneurship approach among carpet industrialists. They found a relationship exists between marketing innovation and competitive advantage promoted by entrepreneurship. Palmer et al (2015) conducted a study on innovation in small businesses unearthing that performance, market and product innovativeness affect competitive advantages.

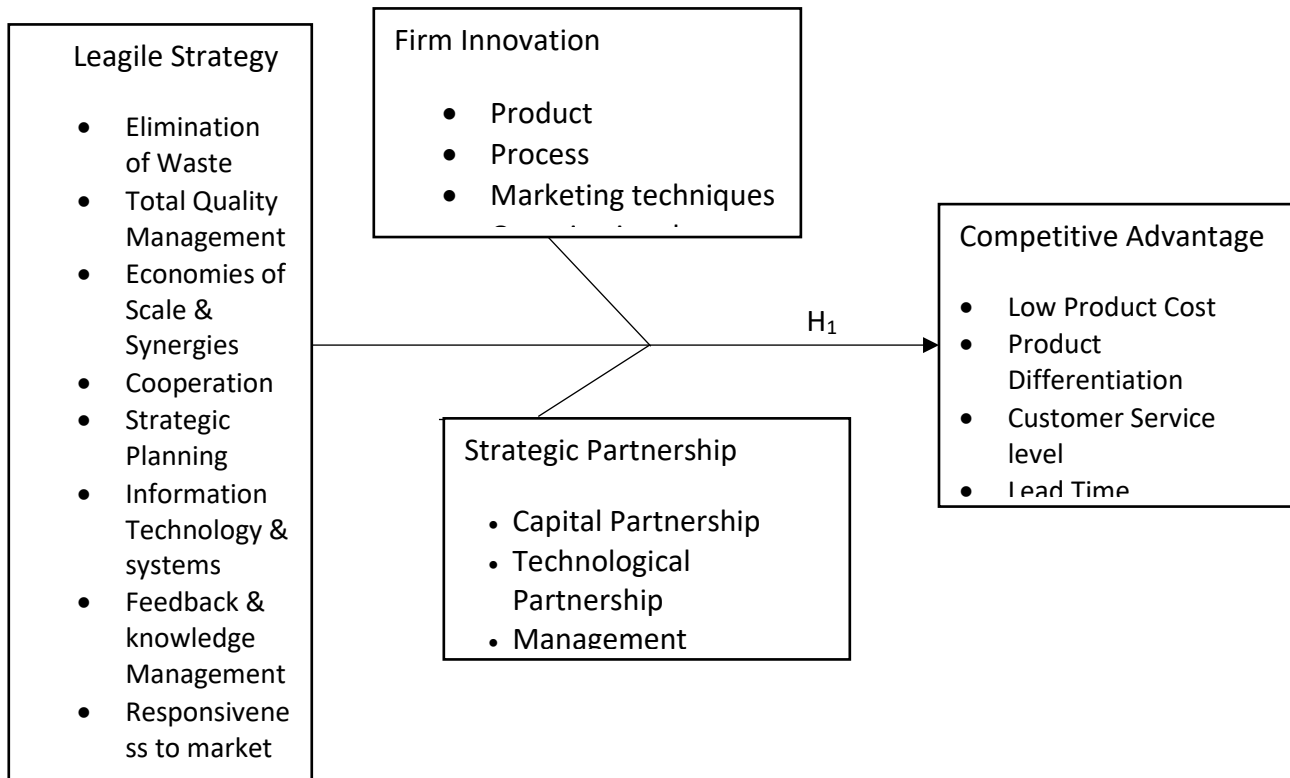
Reguia (2014) studied the association between product innovation and competitive advantages by appraisal of literature revealing a positive significant effect. Haghighi and Kimiagary (2015) explored the impact of product innovation on sales and achievement of competitive advantage in women's clothing companies in Tehran, Iran. The results showed that there was a significant relationship between product innovation and competitive advantage aspects comprising efficiency, quality, innovation, and response to customers. The present study explored the joint influence of

leagile strategy, strategic partnership, and firm innovation on competitive advantage. Kariuki and Nafula (2020) analyzed innovative strategies' influence on the performance of cement manufacturing firms in the Athi River Zone finding a positive and significant association. Yet, conducting further studies on the joint influence of leagile strategy, strategic partnership, and firm innovation on competitive advantage could reveal different outcomes. Nyeadi et al. (2018) surveyed the impact of innovation on firm productivity of service and manufacturing firms in Ghana establishing a positive influence. The secondary data had been obtained from World Bank Enterprise Survey on Ghana in 2013. For data collection, they employed face-to-face interviews preceded by a random sampling procedure. The present study collected primary data, utilizing a stratified and simple random sampling technique, in the supply chains of construction companies in Nairobi City County, Kenya.

2.2 Research Hypothesis: The research hypothesis was expressed as $H0_1$, *Leagile strategy, Strategic Partnership, and Firm Innovation have no significant joint influence on Competitive Advantage in the Supply Chains of Construction Companies in Nairobi City County.*

2.3 Conceptual Model: The conceptual model in Figure 1 depicts a visual and schematic representation of the relationships among variables of interest in this study which is, the joint influence of Leagile Strategy, Strategic Partnership, and Firm Innovation on Competitive Advantage.

Figure 1: The Conceptual Model



Research Design, Population and Sampling Technique

This research applied a quantitative descriptive research design using a cross-sectional survey strategy. Quantitative research is the process of collecting, analyzing, interpreting, and writing the results of a study (Creswell, 2002). Quantitative studies principally assume a positivist view highlighting the importance of generalizability and reliability (Henn et al., 2006). The total population consists of 4,015 individual companies in the supply chains of construction companies in Nairobi City County. The population comprises of three strata namely; (1) 3,787 contractors registered under NCA 1-8 in 2018 obtained from the National Construction Authority of Kenya offices on 5th August 2019, and (2) 112 construction manufacturing companies in the sectors of

building, construction, and quarrying, who are members of Kenya Association of Manufacturers (KAM) sourced from the directory of 2018 and (3) 116 end-user construction companies drawn from the Kenya Property Developers Association (KPDA) membership website of 2019. This investigation utilized a stratified random sampling procedure whereby first the proportions were determined, then simple randomization of the sample within each stratum was executed until the proportionate sub-sample size was realized. To obtain the number of firms in each stratum, stratified random sampling was utilized to ensure a proportionate allocation of sample sizes. The study determined the sample size of 4,015 firms by utilizing the formula proposed by Mugenda and Mugenda (2003). The resultant sample size for each stratum is as shown in Table 1.

Table 1: Sample size for the strata

Stratum	Population size	Calculation	Sample size
Construction companies (NCA1-8 Contractors, 2018)	3,787	$3787 \times 323 / 4015$	305
Construction companies (KAM members 2018)	112	$112 \times 323 / 4015$	9
Construction companies (KPDA members 2019)	116	$116 \times 323 / 4015$	9
Totals	4015		323

Rate of Response

In this study, all three categories of construction companies responded and thus were represented avoiding chances of bias. Not all the targeted firms that received questionnaires responded to the survey. Some of the firms did not respond

due to company policy and lack of ample time, while others did not give reasons at all. A total of two hundred and sixty (260) questionnaires were satisfactorily completed and returned. A computation of the ratio was realized as illustrated below.

$$\frac{260}{323} \times 100 = 80.5\%$$

The proportion of the response rate per stratum of the three categories of construction companies is tabularized below.

Table 2: Response Rate

Stratum	Sample	Response	Response Rate (%)
Construction companies (NCA1-8 Contractors 2018)	305	243	79.6
Construction companies (KAM members of 2018)	9	9	100
Construction companies (KPDA members of 2019)	9	8	88.8
Totals	323	260	80.5

Response rate was 80.50%, hence, the high rate of response inferred that the information

collected was adequate to evaluate the research objectives. Discourses have been advanced by

scholars on the acceptable response rate in social science research. There is no agreement in the literature on the desirable response rate (Rogelberg & Stanton, 2007). Some scholars suggest a minimum response rate ranging from 30 to 80 percent of the sample size. An argument advanced by Cook et al. (2000) and based on

Method of Data Analysis

Data for this study were analyzed using Statistical Package for the Social Sciences (SPSS) version 22. SPSS is a computer program for statistical analysis which is aimed at generating both descriptive and inferential statistics. Descriptive statistics such as the mean, standard deviation, frequencies, and percentages were computed to summarize the essential features, patterns of behavior, and characteristics of these study variables. Inferential statistics covering correlation and regression models were used to test the hypotheses with a view of inferring the sample into the larger population. To test the form of relationships that exist between the variables of

meta-analysis, reiterated that a survey should put more emphasis on response representativeness than the rate. Orodho (2009) states that a rate of response which is above 50 percent is both representative and sufficient for obtaining inferences about the study's outcomes on the general population.

this study, simple and multi-linear regression analyses were employed. To find the extent and the direction of the relationship that exists between two variables, Pearson's correlation coefficient (r) were utilized. The hypothesis was tested using appropriate statistical methods.

Results of the Findings

The findings of the study were revealed vide both descriptive and inferential statistics.

Descriptive Statistics:

Demographic Information of Respondents: The study measured the demographic aspects of the respondents such as level of education, years of service, current position held, duration of operation, and area of specialization.

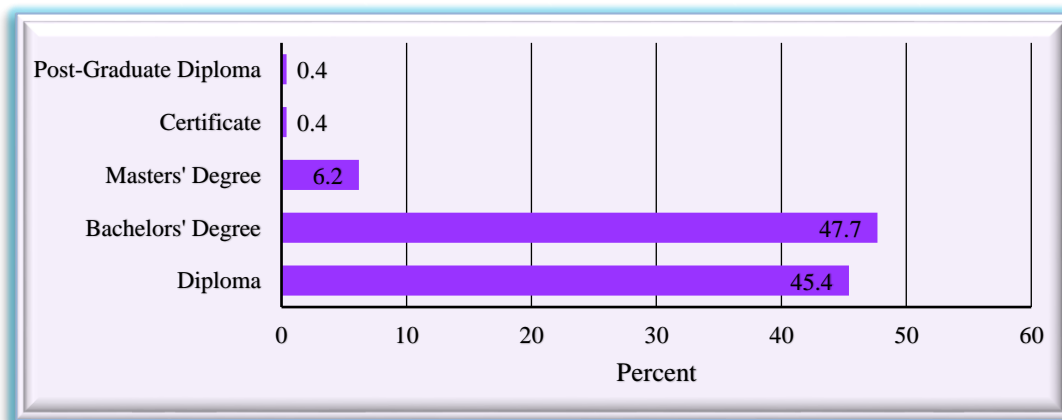


Figure 2: Level of Education

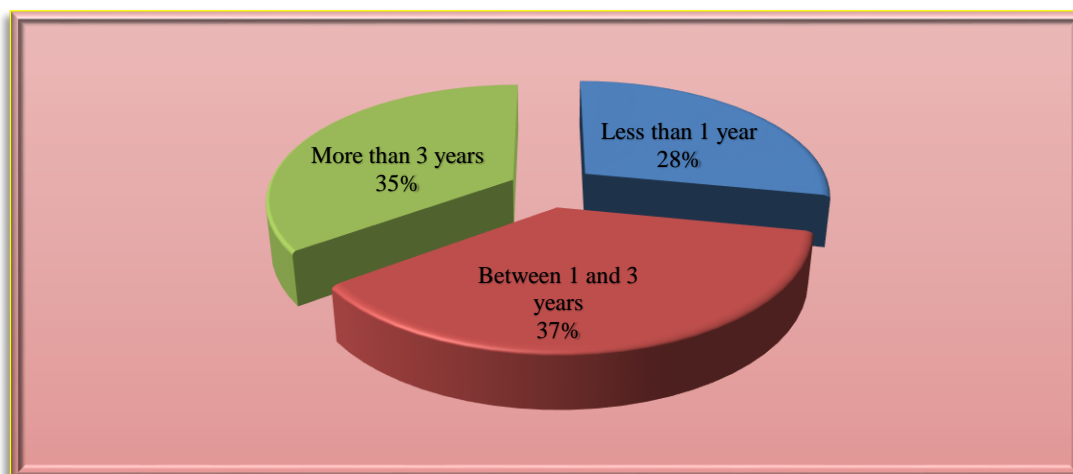


Figure 3: Years of Service

Table 3: Position of Respondents

Position	n	Percentage
Director	36	13.8
Manager	70	26.9
Project Manager	121	46.5
Sales Administrator/Executive	14	5.4
Accountant	5	1.9
Administrator	1	.4
Human Resource	3	1.2
CEO/MD	3	1.2
Site Supervisor	3	1.2
Engineer	2	.8
Licensed Electrician	1	.4
Finance Officer	1	.4
Total	260	100

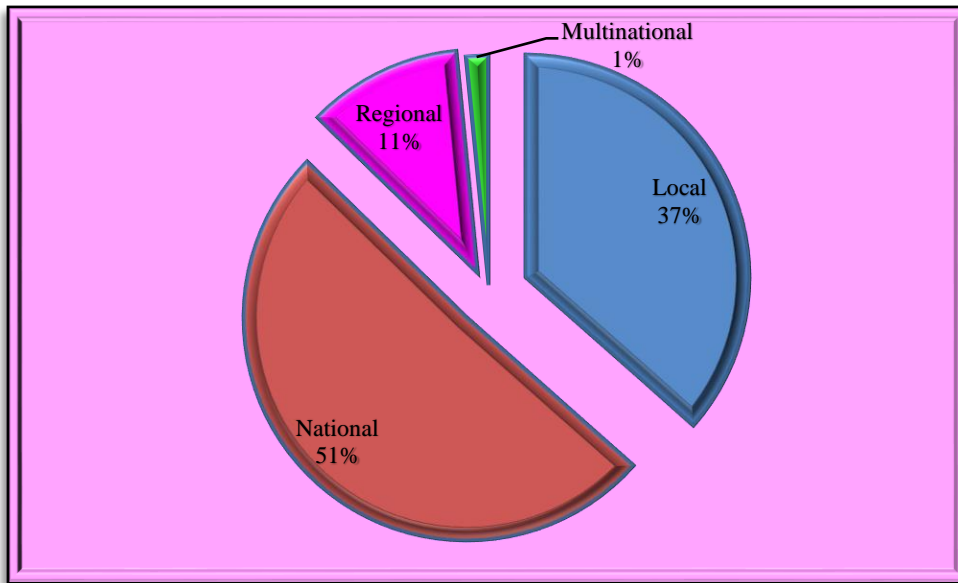


Figure 4: Company Ownership

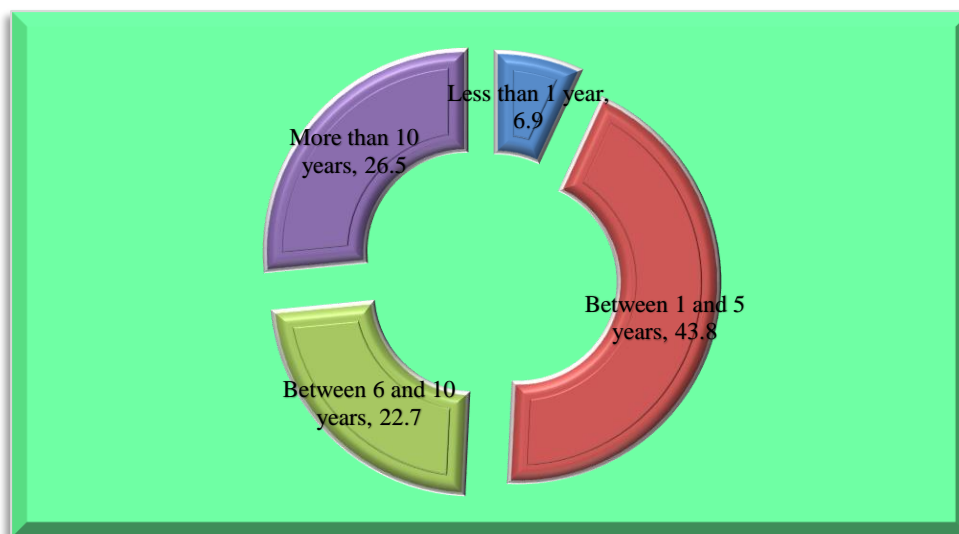


Figure 5: Duration of Operation

Table 4: Area of Specialization

Specialization	n	Percentage
Building Works	91	35
Road Works	40	15.4
Mechanical Engineering Service	17	6.5
Water Works	31	11.9
Electrical Engineering Service	14	5.4
All of these	17	6.5
Building and Road Works	29	11.2
Painting Works	1	.4
Manufacturing	9	3.5
Supply of Industrial & Construction Goods	2	.8
Building and Water Works	1	.4
Property Management	8	3.0
Total	260	100

Responses in Each Study Variable

This study’s objective assessed the joint influence of Leagile Strategy, Strategic Partnership and Firm Innovation on Competitive Advantage in the Supply Chains of Construction Companies in Nairobi City County, Kenya.

Responses on Leagile Strategy: Eleven descriptive statements on leagile strategy in these companies were asked on a 5-point Likert-

type scale ranging from 1= very small extent to 5= very large extent. The respondents were requested to state the extent to which they agreed that Leagile Strategy leads to competitive advantage in their companies using the 5-point Likert-type scale. The aim was to establish from the respondents whether leagile strategy leads to competitive advantage in the targeted construction companies and the revelations are shown in Table 5.

Table 5: Responses on Leagile Strategy

Variables	Mean	SD	CV%	Sk
Company keeps minimum inventory level to eliminate waste	3.71	.851	22.9	-.28
Company focuses on highest priority goals to eliminate waste	3.99	.740	18.5	-.16
Company delivers products and services that conform to customers' quality requirements	4.18	.781	18.7	-.57
Company practices continuous quality improvement	4.19	.762	18.2	-.45
Company practices economies of scale to achieve volume discounts	4.18	.816	19.5	-.77

Company maintains a large volume of managerial expertise	4.14	.863	20.8	-.56
Company maintains cooperation with suppliers and all service providers	4.19	.767	18.3	-.34
Company strategically plans its activities in advance	4.22	.752	17.8	-.55
Company operates using IT and market intelligence	4.17	.811	19.4	-.49
Company quickly responds to changes in customer's requirements	4.09	.793	19.4	-.30
Company maintains flexible workforce, processes and technologies	4.30	.801	18.6	-.77
Average	4.12	0.79	19.3	-.48

Response on Strategic Partnership: ight descriptive statements on Strategic partnership by these companies were asked on a 5-point Likert-type scale ranging from 1= very small extent to 5= very large extent. Those responding were requested to state the level of agreement to the statements that reflected strategic

partnership position in their companies using a 5-point Likert-type scale.

The aim was to establish the extent to which strategic partnership was practiced in the supply chains of construction companies in Nairobi City County. The outcome of the responses is shown in Table 6.

Table 6: Responses to Strategic Partnership

Variables	Mean	SD	CV%	Sk
The company maintains long-term mutually beneficial agreements with raw material suppliers	4.10	.853	20.8	-.411
The company maintains long-term mutually beneficial agreements with financial service providers	4.27	.706	16.5	-.568
The company maintains long-term mutually beneficial agreements with capital service providers	4.35	.826	19.0	-1.09
The company maintains long-term mutually beneficial agreements with professional service providers	4.22	.808	19.1	-.78
The company maintains long-term mutually beneficial agreements with IT, service providers	4.28	.836	19.5	-1.18
The company effectively communicates within and networks with other companies in the industry	4.28	.816	19.1	-.773
The company easily integrates with other companies in the network/industry	4.30	.746	17.3	-.542
The company maintains long-term mutual beneficial agreements with management and advisory consultants	4.16	.973	23.4	-.937
Average	4.25	0.82	19.35	-0.79

Responses on Firm Innovation: Eight descriptive statements on Firm Innovation by these companies were asked on a 5-point Likert-type scale ranging from 1= very small extent to 5= very large extent. Those responding were requested to state the level of agreement to the statements which reflected firm innovation

position in their companies using the 5-point Likert-type scale.

The aim was to establish the extent to which firm innovation was adopted in the supply chains of construction companies in Nairobi City County, Kenya. The responses are shown in Table 7.

Table 7: Responses on Firm Innovation

Variables	Mean	SD	CV%	Sk
Company develops and implements new products continuously	3.89	.891	22.9	-.340
Company continuously develops new processes	4.08	.736	18.0	-.531
Company uses new advertisement and promotional methods for its products and services	4.13	.869	21.0	-.826
Company uses new techniques of delighting customers continuously	4.11	.828	20.1	-.704
Company continuously carries out research	4.12	.886	21.5	-1.01
Company continuously acquires new IT system	4.35	.799	18.4	-1.08
Company continuously create culture that encourage suggestion of new ideas	4.02	.829	20.6	-.439
Company continuous create organization structure that matches corporate and innovation goals	4.33	.790	18.2	-1.23
Average	4.13	0.83	20.11	-0.77

Responses on Competitive Advantage: Nine descriptive statements on Competitive Advantage by these companies were asked on a 5-point Likert-type scale ranging from 1= very small extent to 5= very large extent. Those responding were requested to state the extent to which they agreed the statements reflected the

Competitive Advantage position in their companies using the 5-point Likert-type scale. The aim was to establish the extent to which competitive advantage was achieved in the supply chains of construction companies in Nairobi City County, Kenya. The responses are reflected in Table 8.

Table 8: Responses on Competitive Advantage

Variables	Mean	SD	CV%	Sk
Company offers comparatively lower prices than competitors	3.86	.891	23.1	-.31

Company has been reducing its overall costs more than its competitors	3.88	.850	21.9	-.42
Company focuses on offering benefits to customers more than competitors	4.17	.738	17.7	-.35
Company offers high product variety than competitors	4.04	.760	18.8	-.33
Company offers products and services with unique features than competitors	4.06	.776	19.1	-.30
Company offers products and services with superior qualities than competitors	4.18	.782	18.7	-.38
Company offers specially high service level to its customers	4.13	.809	19.6	-.42
Company ensures speedy delivery to customers	4.25	.731	17.2	-.48
Company maintains short lead times	4.37	.720	16.5	-.74
Average	4.10	0.89	19.2	-0.31

Regression Analysis and Hypothesis Testing

A regression model was used which involved regressing competitive advantage on the composite variable (leagile strategy, strategic partnership and firm innovation). The model was, thus, represented as follows:

$$CA = \beta_0 + \beta_1 X^* + \varepsilon$$

Where:

CA = Competitive Advantage (Dependent variable)

X* = Composite Leagile Strategy, Strategic Partnership and Firm Innovation

β_0 = Regression constant

β_1 = Regression coefficient for Composite Variable

ε = Error term

In this procedure, the model summary for the joint effect was as show in Table 9.

Table 9: Results of Model Summary of the Joint Influence of Leagile Strategy, Strategic Partnership and Firm Innovation (Composite Variable) on Competitive

Model Summary					
R	R ²	Adjusted R ²	Std. Error	F Change	Sig.
.179	.032	.028	.986	8.537	.004

Dependent Variable: Competitive Advantage
 Predictors: (Constant), Composite Variable

Outcomes from Table 9 recorded R² = 0.032 which was converted to 3.2%. This inferred that the composite variable explains 3.2% of the total variations in competitive advantage and other factors describe the remaining 96.8%. In other

words, 3.2 % of adjustments in competitive advantage of a company is due to changes in the composite variable. The observed standard error for this explained variation was found to be 0.986, while the corresponding p-value = 0.004.

The corresponding p-value of 0.004 implied that the explained variation is significant since $0.004 < 0.05$. The second part of the regression

showing the results of ANOVA for the joint effects model was as exposed in Table 10.

Table 10: The results of ANOVA for the Joint Influence of Leagile Strategy, Strategic Partnership and Firm Innovation (Composite Variable) on Competitive

ANOVA					
	Sum of Squares	df	Mean Squares	F-statistic	Sig.
Regression	8.297	1	8.297	8.537	.004
Residual	250.723	258	.972		
Total	259.019	259			

Dependent Variable: Competitive Advantage

Predictors: (Constant), Composite Variable

Source: Field Data (2021)

From Table 10, the results of ANOVA showed an F-value of 8.537 and a p-value of 0.004. The p-value is used to check for regression model fittingness to the collected data. It is indicating the model correctly fits the collected data because the result of the corresponding p-value is less than 0.05. The p-value was found to be 0.004 which implied that the regression model of competitive advantage on the composite

variable correctly fits the collected data. It can also be seen from Table 10, that the observed F-ratio (= 8.537) is more than 3.87, evidence of the significance of the model fit. The results of the regression coefficient part were depicted in Table 11. It showed the relationship was obtained using results in the regression coefficients section.

Table 11: Regression Coefficients: Composite Variable and Competitive Advantage

Regression Coefficients				
	Beta	Std. Error	t-statistics	Sig.
(Constant)	.00018	.061	.003	.997
Composite Variable	.179	.061	2.922	.005

Dependent Variable: Competitive Advantage

Predictors: (Constant), Composite Variable

From Table 11, the findings showed that the constant term for the joint effects model was observed to be insignificant because $\beta = 0.000$, and the p-value = 0.997. This was inferred since the p-value (= 0.997) was greater than 0.05. For composite variable, regression coefficient was observed to be 0.179, SE = 0.061, t-statistics = 2.922 and p-value of 0.005. The p-value = 0.005 implied that the composite variable, as a predictor variable, significantly influenced competitive advantage in the supply chains of construction companies. Based on that observation, the null hypothesis H_{01} was rejected at 5% and a conclusion was made that leagile strategy, strategic partnership, and firm innovation jointly influence competitive advantage in the supply chains of construction companies in Nairobi City County. In comparing the observed t-statistics = 2.922 with tabulated t-value = 1.968, the null hypothesis H_{04} was rejected at 5% confidence level. Therefore, the decision of rejecting the null hypothesis implied that joint improvement in leagile strategy, strategic partnership, and firm innovation results in an improvement in the competitive advantage of a company by 0.179 units. Based on the observation, consequently, competitive advantage was expressed as a function of the composite variable as follows: the joint effects model was expressed as follows:

$$\text{Competitive Advantage} = 0.00018 + .179 X^*$$

Discussion of findings

The findings presented in this study indicate how the implementation of a blend of strategies could lead to a competitive advantage in companies. The outcomes infer that joint improvement in leagile strategy, strategic partnership, and firm innovation results in enhancement in competitive advantage of a company by 0.179 units. These findings support the suggestions by Porter (1985) that competitive advantage as a key determinant of superior performance arises from either Monopoly, Ricardian, or Schumpeterian rents. The characteristics inherent in the blend of leagile strategy, strategic partnership, and firm

innovation contained the essential procedures, capabilities, and knowledge for innovation leading to the attainment of competitive advantages. The study's outcome is in line with those of Arasa, Mwaura, and Ngui (2013) who studied the relationship between SC lean, agile, and leagile strategies and achievement of competitive advantage in seed manufacturing companies in Nairobi City County, revealing they influenced competitive advantage if well executed by managers. This study found out that leagile strategy, strategic partnership, and firm innovation influence competitive advantages in the supply chains of construction companies in Nairobi City County. The results back the empirical attestation by Phelps (2010) who discovered that those companies which are in strategic alliances have better access to innovation firms and that technological networks enhance exploratory innovation leading to competitiveness. The findings are in congruence with those of Pono et al., (2020) who investigated the effect of supply chain strategy on competitive advantage and company performance in 210 business units in Indonesia. The study revealed that supply chain strategy has a significant effect on competitive advantage as well as company performance. The findings of this study also support the tenets of Dynamic Capability theory as suggested by Augier and Teece (2009). The adoption of leagile strategy, strategic partnership, and firm innovation enable the construction companies to possess the right capabilities for attaining competitive advantage. According to Adegbite et al. (2018), some of those dynamic capabilities are marketing, superior product development, decision making at a strategic level, and alliancing processes. These capabilities of intelligently seizing fresh environmental opportunities, reconfiguring, and protecting information as well as complementary assets, are necessary for the achievement and sustenance of competitive advantage and were inherent in the variables of this study (leagile strategy, strategic partnership, and firm innovation).

Conclusion and Recommendations

The study established how leagile strategy, strategic partnership, and firm innovation have a positive significant influence on competitive advantage in the supply chains of construction companies in Nairobi City County. The construction companies should recognize, understand and apply a blend of these strategies with capabilities of enhancing efficiency, competitiveness, and survival. Hence, businesses need to adopt leagile strategy, strategic partnership, and firm innovation because the practice leads to the achievement of competitive advantage of construction companies in Nairobi City County, Kenya.

It is recommended that using similar conceptualization, future studies are carried out in a context different from the supply chains of construction companies in Nairobi City County. The current investigation employed a quantitative descriptive research technique using a cross-sectional survey strategy. The use of longitudinal strategy in a future study may show whether the findings vary over time. Structured questionnaires were utilized as the research instrument and Statistical Package for the Social Sciences (SPSS) version 22 for inferential data analysis in the study. It is suggested that future investigations should focus on using dissimilar research designs, and data analysis tools. A mixed-methods approach including both questionnaire and observation could generate different disclosures too. Another recipe for future research is that competitive advantage is also determined by other factors besides leagile strategy, strategic partnership, and firm innovation. It is commended for upcoming studies to concentrate on discovering other factors contributing to the achievement of competitive advantage besides leagile strategy, strategic partnership, and firm innovation in the supply chains of construction companies in Nairobi City County and beyond.

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