

Impact of Strategic Planning on Performance of Public Sector Firms: The Moderating Effect of State Policies and Firm's Internal Challenges

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Abstract:- Strategic planning has been found to be a vital ingredient to organizational success. But the performance of ECG leaves much to be desired. Hence, this study examines the effect of strategic planning on firm performance. It also assesses the moderating effect of firm challenges and government policies on the relationship. Correlational and cross-sectional design were used. Cluster and simple random were used to sample 385 respondents. Finding showed that 77% of respondents agreed that effective strategy formulation improves firm performance, whilst 23% disagreed. This had a mean (\bar{x}) score of 4.47 and SD (σ) of 0.44. Strategy implementation had a \bar{x} score of 4.76 and SD of 0.43. Percentage wise, 97% agreed that efficient strategy execution improves firm outcomes, whilst 3% disagreed. In terms of strategy evaluation, 93% agreed that efficient project assessment improves performance outcomes, whilst 7% disagreed. This had a \bar{x} score of 4.78 and SD of 0.43. A significantly strong positive correlation was found between the study variables; strategy formulation and firm performance $r(385) = 0.976$, $p < 0.05$, strategy formulation and implementation $r(385) = 0.975$, $p < 0.05$, strategy formulation and evaluation $r(385) = 0.980$, $p < 0.05$, strategy implementation and evaluation $r(385) = 0.875$, $p < 0.05$, and strategy evaluation and firm performance $r(385) = 0.976$, $p < 0.05$. In terms of moderating effects, challenges of ECG significantly moderate the relationship between strategic planning and firm performance with a (P-value ≤ 0.05) at levels 8.0000, 0.0000, and 10.0000 (SD, Mean, +SD). Whilst government policies of free electricity to lifeline consumers during Covid-19 period in 2020 does not moderate the relationship between strategic planning and firm performance of ECG: (P-value ≤ 0.05) at levels 8.0000, 0.1520, and 10.0000 (SD, Mean, +SD).

Keywords:- Customer Satisfaction, Network Reliability, Operational Efficiency, Organizational Performance, Reduction in System Losses, Revenue Generation, Strategy Evaluation, Strategy Formulation, Strategy Implementation, Strategic Planning, Tariff.

I. INTRODUCTION

Public sector organizations are essential to socioeconomic advancement of respective countries in terms of the social services they provide to the citizens (Hughes, 2018). These services benefit both government, civil society, local communities, industry, academia, and the private sector (Arasa & K'Obonyo 2023). Electricity Company of Ghana (ECG) which is the focus in this research is not an

exception. For instance, ECG is mandated by Public Utility Regulatory Commission (PURC) Act 1997 (Act 538) to provide subsidized electricity to all lifeline customers. PURC (2023) described lifeline customers as those whose consumption fall within the 0 - 30kWh per billing cycle of 30 days. World Bank (2021) classified tariff respite policy of government to Ghanaians as a poverty alleviation strategy and encourage the state to do more.

However, the cost of subsidized electricity to lifeline consumers most at time affect ECG's performance negatively in terms of cost involved in power purchase and distribution. This is exacerbated by the internal and external challenges confronting ECG. Internally, the obsolete nature of equipment, technology and unfavourable tariff structure by PURC makes it challenging for ECG to make significant expenditure to advance ECG (Asumadu-Sarkodie, & Owusu, 2021; Keku et al., 2023). The system losses (i.e. technical and commercial), as well as state agencies' failure to pay their bills affect negatively on work efficacy and performance output of ECG (Kumi, 2017). This means strategic planning is central to ECG's performance in fulfilling its mandate and achieve intents that largely lend themselves to societal improvement (Soriakumar & Eresia-Eke, 2021). The failure of ECG due to poor strategy formulation, implementation and evaluations have far-reaching consequences for all Ghanaian, businesses, and the government. Hence, strategic planning is fundamental to the performance of ECG, and not just the private sector firms as acclaimed by many studies (Agwu, 2018; Håkansson & Ford, 2020). Sinnaiah et al. (2023) affirmed that strategic planning aids firms to grow and sustain competitive advantage in a complex business milieu. The main goal of strategic planning is to boost worker productivity, minimize expenses, and maximize profits (Abeyathna & Priyadarshana, 2019). Abdullahi and Said (2021) said strategic planning eliminates inefficiency in response to changing circumstances like scarcity of resources, and funding gaps. Strategic planning allows organisations to outline objectives, and devise tactics for executing and evaluating firm's performance (Elliott et al., 2020). Through strategic planning, firms identify and align critical resources in order to take full advantage of market opportunities (Daudi & Mbugua, 2018).

The essence of examining strategic planning on ECG performance was informed by the various management snags threatening the existence of ECG. For instance poor output (Tengey et al., 2022), inefficiency (Fiasorgbor et al., 2022), inadequate internal control (Mireku et al., 2022), lack of long-term energy forecasting (Amankwaa & Gough,

2021), the necessity for creative approaches (Henao-Garcia and Montoya, 2021), and the requirement to fully adopt tactical principles to enhance services delivery (Sawaneh, 2022; Sinnaiah et al., 2023).

II. RESEARCH HYPOTHESES

The study is guided by the following Hypothesis,

- Ho1a: There is no direct link between strategy formulation and ECG performance.
- Ho1b: There is a direct link between strategy formulation and ECG performance.
- Ho2a: There is no direct link between strategy execution and ECG performance.
- Ho2b: There is a direct link between strategy execution and ECG performance.
- Ho3a: There is no direct link between strategy evaluation and ECG performance.
- Ho3b: There is a direct link between strategy evaluation and ECG performance.
- Ho4a: Government policies do not moderate the link between strategic planning and ECG performance.
- Ho4b: Government policies moderate the link between strategic planning and ECG performance.

III. LITERATURE REVIEW

A. Concept of Strategic Planning

Strategic planning is the process of developing corporate strategies, putting them into practice, and assessing how they affect organizational goals (Awonusi, 2022; Gomera & Mishi, 2018). According to Awino et al. (2021), strategic planning is a methodical procedure that aids businesses in prioritizing tasks and concentrating resources to guarantee staff members, leadership, and stakeholders collaborate for the attainment of shared objectives. From the aforementioned academics' points of view, it can be concluded that strategic planning is an ongoing process within an organization that makes use of the skills at hand to track the firm's envisioned path, prioritize tasks, distribute resources wisely, align shareholders and staff with the organization's objectives, and make sure those objectives are supported by facts and reasoned execution.

Ariel et al. (2023) added that the essence of formulating, executing, and evaluating firm's strategy is first and foremost scrutinizing inner strengths and weaknesses of the firm as well as the outside risks and prospects influencing the firm's operations now and in the future. This suggests that it is vital for the leadership of ECG to strategically examine the strengths, weaknesses, opportunities and threats of the company in order to plan for improved performance. The various steps in strategic planning have been explained below:

- **Strategy-Formulation** is the method by which top management articulate the focus of a firm and the actionable steps to reform the performance of the firm. In terms of ECG, this process gives room for leadership to scrutinize and allocate its scarce resource (i.e. human and materials), prioritize them on need bases, and align them for goal achievement. Said and Abdullahi (2022) alluded that this step is essential for determining the

attainability of firm goals, and pave way to educate employees so they know the firm's mission, vision, and objectives set (Said & Abdullahi, 2022).

- **Strategy-Implementation** is basically putting the plan into action for the purpose of achieving firm's goals (Harvard business school, 2023). Primarily, strategy execution is getting the work done well (Miller, 2020). The ability of ECG leadership to execute critical decisions effectively, efficiently, and consistently is a prerequisite for ECG's success. Therefore, ECG's ability to translate strategies formulated into action effectively will help the company to turn its fortune.
- **Strategy Evaluation** is the process by which business determines the effectiveness of their strategy and put corrective measures in place for best results (Bahru, 2022). Nonetheless, continuous evaluation enables managers, and board of directors to keep a close eye on firm's operational efficiency, identify threats, and opportunities for informed decision-making (Babafemi, 2019). According to Azhar and Ahmad (2019), continuous evaluation is a key driver for firm performance improvement.

B. Strategic Planning and ECG Performance

The goal of ECG is to help Ghana's economic and social growth by offering high-quality, dependable, and safe electrical services (Power Africa, 2018). Despite sporadic difficulties with its electricity service delivery over time, the firm is able to accomplish this goal (Sarkodie, 2019). By the end of 2024, ECG wants to be a customer-focused energy service firm that is viable economically (ECG, 2023; Mahama, 2023).

However, given Ghana's present financial crisis, it will be extremely difficult for ECG to remain a customer-driven energy service provider that is also economically viable. Therefore, according to Sarkodie (2019), ECG can only succeed if it develops and employs value-creating business strategies in reaction to shifts in the industry. Accordingly, ECG's tactical viability hinges on the pace of technological diffusion, or how quickly new technologies are developed and applied to improve productivity (Amewu, 2020). According to Amewu (2020), ECG's market domination and revenue will increase with the implementation of novel initiatives that improve the reliability and customer-friendliness of its services. Innovative policies delineate business strategies that guarantee the replacement of outdated technology with new ones, so ensuring dependable supply of electricity to consumers (Boakye-Appiah, 2019).

When it comes to ECG, planning strategically means utilizing methods that rivals and counterfeiters who have been short-changing the company finds hard or prohibitively expensive to replicate. On the other hand, this is a significant issue that ECG management faces. Empirical research supporting this claim showed that in 2020, ECG suffered GH¢1, 308,582 in power theft. The poor performance of ECG in generating income for the state is also due to the fact that many tools and technology are out-of-date (Amewu, 2020). Considering a viable business plan for ECG, which is cash trapped necessitates thinking strategically and making best decisions. ECG needs cash

infusion to improve its performance, according to studies done by energy economists who examined the company's performance (Aboagye et al., 2021; Ackah, 2023). Through fewer system losses, power interruptions and outages, and increased network resilience, this will assist ECG in replacing outmoded tools and improve operating efficiency (Acheampong et al., 2021; Kumi, 2022).

Gadzekpo (2018) blamed unlawful light-connections by some customers of ECG, aging-network, and electricity theft contribute negatively to appalling performance. For instance, ECG's overall losses at the end of the year, 2017 was 24.25%, an increase of 0.51% from 23.74% in the prior year 2016. It moves upward in subsequent years to date. Due to the systemic losses, ECG is experiencing a decline in investment return as its assets lose value (Alzaydi et al., 2018; Mireku et al., 2021). The country's fast urbanization, industrialization, and populace increase have all put significant strain on the long-term viability of the nation's energy needs (Nyasapoh et al., 2022). Hence, tactical planning is vital to ECG's ability to achieve better firm performance.

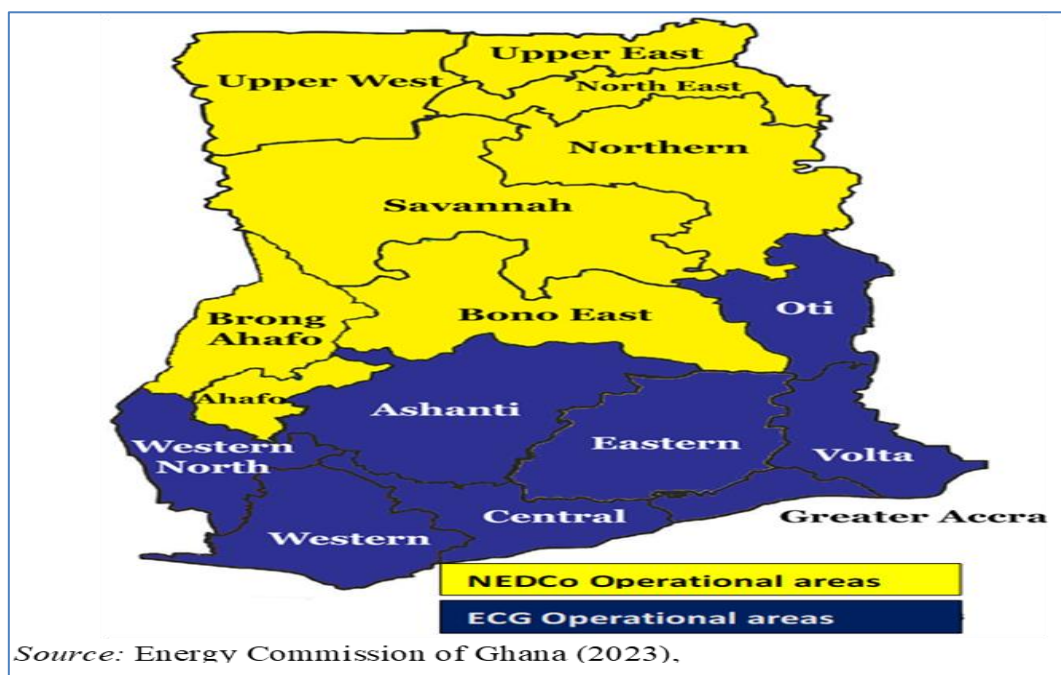
Past studies alluded to the fact that effective and deliberate planning improves firm outputs (Abeyrathna, & Priyadarshana, 2019; Barney, 2020; Ehrhardt & Brigham, 2021). This suggest that efficient strategic planning in ECG has the capacity to improve work outputs. By coordinating reclosures and sectionalizers, for example, the installation of new technologies such as VIT systems on network lines will aid in isolating high-fault-current, sensitive-earth-fault current (SEF), and open conductor-faults, thereby providing service to the remaining customers on the same line (ECG, 2023). In the past, everyone on that network-line would have experience service outage. This implies that the VIT and the SEF made it easy and quicker for ECG staff to locate faulty-lines and work on them timeously. Outage

Management System (OMS) device installation also help to segment and control outages on the network-lines in good time. Likewise, the installation of Geographical Information System (GIS), which contains gen of ECG clients. The GIS optimizes electric line routing, site location for new feeders, substations, load distribution and load forecasting in electricity distribution system of ECG (Energy Commission, 2021; ECG, 2019). These decisions were born out of strategic planning for ECG's improvement.

Again, efficient strategic planning helped ECG in resource mobilization, replacement of existing postpaid meters in commercial cities with smart-meters with a Meter-Management-System (MMS) abilities to detect faulty-to-tempered meters by a touch of a button from control-room. This prepaid meters improved revenue collection as the customers have to purchase electricity before they can use it, unlike the postpaid where the customer uses the electricity before paying which has resulted in the current ECG debts. Thus, many customers find it difficult to pay for power they have used already. Efficient strategic planning led to ECG-App introduction. The App made it easy for people using android/smart phones to buy electricity wherever they are without necessarily travelling to ECG offices. This brought major progress in ECG's revenue collection strategy (Energy Commission, 2022; Essandoh et al., 2021).

C. Nature of Electrical Power Distribution in Ghana

Energy Commission (2023) said electrical power supply and sale is carried out mainly by two major state-owned companies: Electricity Company of Ghana Limited (ECG) and Northern Electricity Company of Ghana (NEDCo). The Enclave Power Distribution Company Limited (EPC)– a privately owned firm distribute and sell electrical power to only the Free Zones Enclave at Tema Industrial Area (Ministry of Energy, 2022). The map of Ghana below shows the two companies' operational areas/coverage.



Source: Energy Commission of Ghana (2023).

Map 1: The map of Ghana shows the two companies' operational areas/coverage

D. Impact of Government Policy on ECG Performance

State policies have effect on profitability of ECG as demonstrated by Olanipekun and Asaley (2020), Ministry of Energy Ghana (2019), and Asiedu et al. (2019) studies. For instance, in Ghana, some of the policy directives ensure that ECG does not burden consumers, particularly lifeline customers with high-cost tariffs. Currently, government through the PURC set tariff for lifeline consumers at 0- 30 kWh per month (PURC, 2023). The implication is that lifeline consumers whose consumption fall within will not pay full cost of power used. The difference would have to be paid for by the state. However, the government is unable to pay the difference to ECG to recover cost. This is adversely affecting revenue generation of ECG to pay Independent-Power-Producers (IPPs). Currently ECG owes IPPs \$1.4 billion debt (Apetorgbor, 2023). Parliament House, MMDAs, MoD, GES, MoF and other government agencies owe ECG GHc 5.7 billion, or US\$ 478,733,166, in debt (Mensah, 2023). The state also give tariffs relief to multinational companies doing business in Ghana. All these tariff reliefs worsen the fiscal performance of ECG. Consequently impacting operational efficiency negatively in the sector (Energy Commission, 2022; Apetorgbor, 2023; Mensah, 2023). The reviews suggest that some of the government policy interventions are rather creating a lot of difficulties to ECG’s performance efficiency (Ministry of Energy Ghana, 2022).

E. Impact of Internal and External Challenges on ECG Performance

Internally, Ministry of Energy (2020) and ECG (2023) alluded that the obsolete nature of the distribution system equipment and lack of advanced technology contribute to the high Technical and Commercial losses being recorded by ECG. Technical-losses occur in the system of distribution as a result of obsolete equipment, overhead wires, transformers and cables used to transfer power. Commercial losses are caused by factors such as power thefts, illegal connections, errors in meter reading, estimating un-metered supply of energy and defective meters (Ministry of Energy,

2020). This implies that lack of advanced technological equipment is making it difficult for ECG to detect these problems on the spot and correct them before they result in losses to the company.

Externally, Fiasorgbor et al. (2022), attributed ECG’s financial constraints to PURC low tariff measures, government inability to pay subsidies for lifeline consumers and government agencies, shortages of fuel, low-water-levels of dams in sometime past, transmission grid constraints, and voltage instability. World Bank, (2021) asserted that poor tariff structure will compound the financial constraints of ECG making it difficult for the company to make significant investments to improve the sector. Ghana loses between \$320m to \$924m in production-yearly as a result of unresolved electricity challenges. This analysis suggests that ECG needs to re-visit its plans and strategize to improve firm performance without looking up to the government as has been the case. This is because government itself is in economic mess straggling to come out currently (IMF, 2023). This implies that ECG leadership needs to resort to proficient strategic planning to realign its scarce resource for best performance. Acheampong et al. (2021) reiterated ECG is distressed with system losses, operational inefficiency because of poor investment in the electricity distribution service as it is unable to recover cost of distributing electricity to consumers. Forex loss as a result of paying power producers in dollars whist electricity is sold in Ghana Cedis has compounded the low performance snags (Energy Commission, 2023).

F. Hypothesized Conceptual Mode of the Study

The model demonstrates the relationship that exist among strategic planning and ECG output of work. It has established that strategy formulation, execution and assessment have direct relationship with firm’s performance in terms of operational-efficiencies, system loss reduction, network-reliability and consumer satisfaction (ECG, 2022), as seen in figure 1 below.

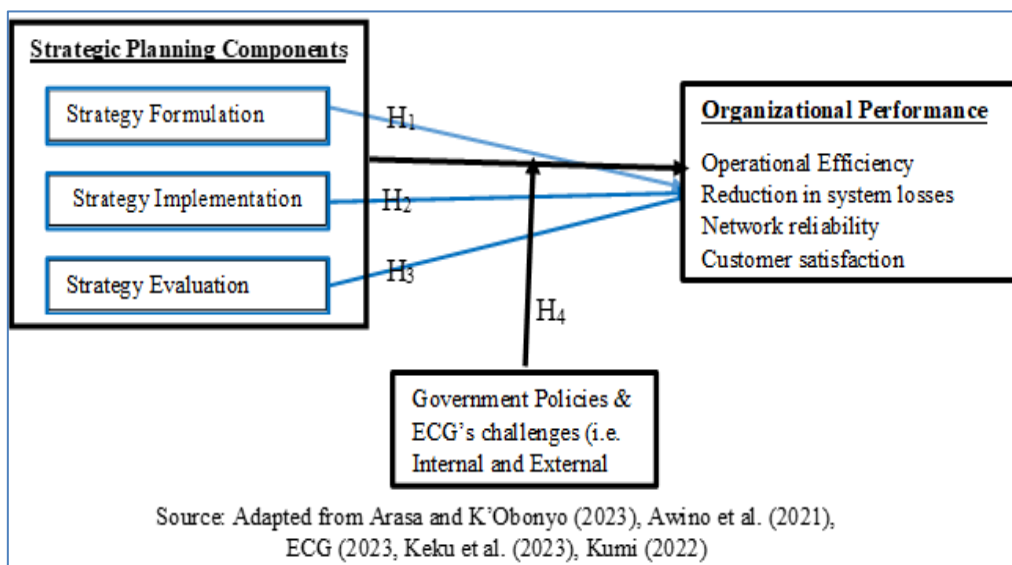


Fig. 1: The Relationship between Strategic Planning and ECG Performance

IV. METHODOLOGY

Quantitative approach involving correlational and cross-sectional designs (Creswell, 2022). Correlational design enables the study to measure the relationship between the study variables (Bernard, 2022; Creswell & Creswell, 2018). The data was collated once (Wang & Cheng, 2020). Single-stage-cluster was used to group participants in their geographical area whilst simple random was used to select the 385 participants from Headquarters of ECG-Accra, Aflao, Anloga-Keta, Akatsi South, Akatsi North, Ho, Hohoe, Kpando and Kpeveoperational areas. Sample size was calculated with Yamane (1967) statistical approach at 95% confidence level, 0.05 margin of error: [Sample size = $N/(1+Ne^2)$]. The questionnaire was rated on a 5-point Likert (1932) scaled of Strongly Disagreed to Stronglyagreed and coded: 1-to-5individually. Theinter-item-reliability was 0.89 (Barbera et al., 2021; Taber, 2018) which was more than 0.70 Cronbach alpha. Participants were assured their names will not be disclosed (Grove et al., 2021; Easterby-Smith et al., 2021). SPSS-version 20, Process-version 4.2.2 and Microsoft Excel 365 were used to analyse data collated.

V. RESULT AND DISCUSSIONS

A. Demographic Background of the Respondents

The analysis of the background of respondents showed that 74% were males whilst, 26% were female. For age range, 30% were between 20 -30, 34% were between 31 -40, 23% were between 41 -50 and 13% were between 51- 60. Educationally, 13% hold master’s degree, 35% hold first degree, 31% hold HND/Diploma, 21% hold professional certificate in electronics/electrical engineering technician part 1. In terms of experience, 20% were less than 2-years in the work, 32% were between 3-5 years, and 26% were 6-9 years whilst 22% had 10-years and above work experience in ECG.

B. Skewness, Kurtosis and Normality Test for the Study Variables

The Shapiro-Wilk test showed that the significant values obtained were greater than 0.05, signifying data was normally distributed. Skewness and kurtosis values in the table also showed normaldistribution with values falling -1.96 to +1.96.

Table 1: Descriptive Statistic of Normality, Skewness and Kurtosis

	Tests of Normality									
	Kolmogorov-Smirnov ^a			Shapiro-Wilk			Skewness		Kurtosis	
	Statistic	df	Sig.	Statistic	df	Sig.	Statistic	Std. Error	Statistic	Std. Error
Strategy Formulation	0.177	385	0.200	0.981	385	0.857	0.44	0.277	-0.440	0.248
Strategy Implementation	0.166	385	0.200	0.853	385	0.766	0.428	0.277	0.443	0.248
Strategy Evaluation	0.151	385	0.200	0.891	385	0.857	0.519	0.277	0.389	0.248
Government Policies	0.385	385	0.200	0.701	385	0.689	-0.365	0.277	-0.384	0.248
ECG’s Internal Challenges	0.402	385	0.200	0.891	385	0.858	-0.398	0.277	-0.541	0.248
Organizational Performance	0.977	385	0.200	0.852	385	0.776	0.453	0.277	0.378	0.248
a. Lilliefors Significance Correction										
b. This is a lower bound of the true significance										
<i>Source: Researcher’s construct generated from SPSS Version 20</i>										

Concerning strategy formulation, the weighted average mean score was 4.47, and the weighted average standard deviation score was 0.44 which was very close to the mean. This implies participants’ strongly-agreed that strategy-formulation has a greater effect on ECG’s organizational performance. The respondents’ views were supported by Abdalla, (2021) who noted that ECG’s leadershipcapacity to

shape the vision and mission of ECG and translate them into action improves work output. In terms of percentages, 77% of respondents agreed that effective strategy formulation by ECG top management team led to improved organizational performance, whilst 23% disagreed. The results have been presented in table 2 below.

Table 2: Significance of Strategy Formulation on Organizational Performance

(a) Strategy Formulation Likert scaled items	Frequency (%)		Mean	Std. (σ)	Decision
	A	SA			
Leadership regularly shape vision and mission to inform strategy development for improved organizational performance	87(23%)	298 (77%)	4.77	0.42	Agreed
Leadership develop goals/objectives to gauges staff performance in quality, reliable and safe electricity service provision to customers	104 (27%)	281 (73%)	4.73	0.45	Agreed
All staffs are involve in decision-making process and has input into how things are done (Bottom-up approach), to enhance performance.	121 (31%)	264 (69%)	4.69	0.47	Agreed
Operational plan and budgets are aligned with strategy to ensures funds are allocated wisely for growth	98 (25%)	287 (75%)	4.75	0.44	Agreed
Strategic decisions are sometimes not reflective of ECG’s mission due to governmental interference , e.g. PDS deal	87(23%)	298 (77%)	4.77	0.42	Agreed
Management consistently develops and update corporate strategy: network reliability, reducing system losses, operational efficiency and customer services to meet market niche and employee performance	104 (27%)	281 (73%)	4.73	0.45	Agreed
Management developed succession plan to ensure vacant positions are filled with highly qualified personnel	121 (31%)	264 (69%)	4.69	0.47	Agreed
ECG’s corporate strategy is akin to its mission in improving organization performance	68(18%)	317 (82%)	4.82	0.39	Agreed
**Sample size (N) =385, **Cum. Std. Dev. = 0.44 **Decision - Weighted Average (Cum. ‘Mean’) for decision-making= $37.95/8 = 4.74375 = 4.74$ Mathematically;					
$\text{Cumulative Mean} = \frac{4.77 + 4.73 + 4.69 + 4.75 + 4.77 + 4.73 + 4.69 + 4.82}{8}$ $= \frac{37.95}{8} = 4.74375 = 4.74$					

Source: Field data, June, 2019

With regards to strategy implementation, the weighted average mean-score was 4.76, and the weighted average standard-deviation score was 0.43 which was very close to the mean, signifying participants’ agreed that efficient strategy execution has a greater effect on ECG work output. Ahmed and Mukhongo (2021) alluded that efficient strategy

implementation improves firm performance. In terms of percentages, 26% agreed and 71% strongly agreed. Combing agreed and strongly agreed values indicate that 97% agreed that efficient strategy implementation improves organizational performance, whilst 3% disagreed. The results have been presented in table 3 below.

Table 3: Significance of Strategy implementation on Organizational Performance

(a) Strategy Implementation	Frequency (%)			Mean	Std. (σ)	Decision
	A	SA	SD			
ECG has a policy manual that guides strategy executions	100 (26%)	275(71%)	10 (3%)	4.94	0.31	Agreed
ECG updates its policies to reflect current trends in technology application	87(23%)	298(77%)	-	4.78	0.42	Agreed
ECG allocate financial, human and material resources to strategy implementations	104 (27%)	281(73%)	-	4.73	0.45	Agreed
ECG establishes distinct steps to accomplish both short and long term goals.	121 (31%)	264(69%)	-	4.69	0.46	Agreed
Leadership provide technical support in strategy implementations	98 (26%)	287(74%)	-	4.75	0.44	Agreed
ECG leadership provide clear communication to field staff on strategy implementation	87(23%)	298(74%)	-	4.77	0.42	Agreed
ECG’s current organizational structure support implementation of strategic initiatives	104 (27%)	281(73%)	-	4.73	0.45	Agreed
ECG top management is open to change in strategy implementation when the need arises	121 (31%)	264(69%)	-	4.68	0.47	Agreed
**Sample size (N) =385, **Cum. Std. Dev. = 0.43 **Decision - Weighted Average (Cum. ‘Mean’) for decision-making= 38.07/8 = 4.75875= 4.76 Mathematically;						
$\text{Cumulative Mean} = \frac{4.94 + 4.78 + 4.73 + 4.69 + 4.75 + 4.77 + 4.73 + 4.68}{8}$ $= \frac{38.07}{8} = 4.75875 = 4.76$						

Source: Field data, June, 2019

With respect to strategy evaluation and control, the weighted average mean-score was 4.78, and the weighted average standard-deviation score was 0.43 which was very close to the mean, suggesting respondents’ agreed that strategy appraisal and control has a greater effect on ECG work output. The respondents’ views were supported by Abdalla, (2021) who noted that top management ability to continuously assess power projects will enhance the quality of work done, for instance, the installation of an Outage Management System (OMS) to manage outages on the

network and the installation of Geographical Information System (GIS) to monitor the entire distribution network across the country will lead to fault detection quickly for corrective measures. This will improve operational efficiency, network reliability, and customer satisfaction (Mahama, 2023). Percentage, wise, 31% agreed and 62% strongly agreed. Putting agreed and strongly agreed values together showed that 93% agreed that efficient strategy evaluation improve organizational performance, whilst 7% disagreed. The results have been presented in table 4 below.

Table 4: Significance of Strategy Evaluation on Organizational Performance

Strategy Evaluation and Control Likert scaled items	Frequency (%)			Mean	Std. (σ)	Decision
	A	SA	D			
ECG assesses its strategy quarterly to ensure: consistency, consonance, feasibility, advantage, acceptable degree of risk and appropriate time horizon	87 (23%)	298 (77%)	-	4.77	0.42	Agreed
ECG assesses strategies using Performance Management System and Balanced Scorecard (BSC) to ensure projects executed are within; Cost, Timeline, Quality and Customer care	104 (27%)	281 (73%)	-	4.78	0.45	Agreed
ECG considers staff and customer satisfaction in evaluating organizational strategy	121 (31%)	240 (62%)	24 (6%)	4.68	0.46	Agreed
ECG identify where corrective action is necessary when strategic initiatives are failing	98 (26%)	287 (74%)	-	4.75	0.44	Agreed
ECG audit and appraises all strategic models implemented for performance efficiency	87 (23%)	298 (77%)	-	4.77	0.42	Agreed
ECG modifies strategies when the needed arises as a result of comprehensive appraisal	104 (27%)	281 (73%)	-	4.76	0.44	Agreed
ECG communicates/discusses appraisal results with staff and stakeholders	120 (31%)	150 (39%)	115 (30)	4.69	0.46	Agreed
ECG reviews timeframe, budgets and resource allocations for projects when the need arise	68 (18%)	317 (82%)	-	4.99	0.38	Agreed
**Sample size (N) =385, **Cum. Std. Dev. = 0.43 **Decision - Weighted Average (Cum. 'Mean') for decision-making= 37.94/8 = 4.77375= 4.78 Mathematically; $\text{Cumulative Mean} = \frac{4.77 + 4.78 + 4.68 + 4.75 + 4.77 + 4.76 + 4.69 + 4.99}{8}$ $= \frac{38.19}{8} = 4.77375 = 4.78$						

Source: Field data, June, 2019

C. The Analysis of the Correlation between the Study Variables

Also, the study disclosed a direct positive link among the variables. For instance, strategy formulation and firm output has a correlation coefficient $r(385) = 0.976$, $p < 0.05$, indicating strong positive relationship. The link amid strategy-formulation and execution has a correlation coefficient $r(385) = 0.975$, $p < 0.05$, showing a significant strong positive link. The link between strategy-formulation and appraisal has a correlation coefficient $r(385) = 0.980$, $p < 0.05$, suggesting a significant strong positive association.

Also, correlation exist between strategy-execution and firm output with a correlation coefficient $r(385) = 0.897$, $p < 0.05$, suggesting a significant strong positive association. A correlation exists between strategy execution and evaluation with a correlation coefficient $r(385) = 0.875$, $p < 0.05$, showing a significant strong positive association. Lastly, the study found a correlation between strategy evaluation and firm performance with a correlation coefficient $r(385) = 0.976$, $p < 0.05$ suggesting a significantly strong positive relationship. The table 5 below shows the detailed analysis.

Table 5: The Correlation between Strategy Formulation, Strategy Implementation, Strategy Evaluation and Control, and Organizational Performance

Strategic management variables	SF	SI	SE	OP
Strategy Formulation (SF)	1			
Strategy Implementation (SI)	0.975**	1		
Strategy Evaluation (SE)	0.980**	0.875**	1	
Organizational Performance (OP)	0.976**	0.897**	0.976**	1
** Correlation is significant at the 0.01 level (2-tailed).				Sig. (2-tailed) = 0.000
** Correlation is significant at the 0.05 level (2-tailed).				N = 385

Source: Field data, June, 2019

The study found that "Internal Challenges of ECG" moderate the link amid ECG work output and strategic planning. The conditional effects of "strategic planning" at values of the moderator "ECG challenges" were thus observed to be significant (P-value ≤ 0.05) at levels 8.0000, 0.0000, and 10.0000 (SD, Mean, +SD) in Table 6, indicating that ECG challenges have an impact on the association

between the process of strategic planning and ECG output. This implies that the use of over-aged equipment affected the efficiency of ECG's strategies (Ankomah & Attuquaye, 2020). Also, illegal connections by customers, meter tempering have all resulted in commercial losses to ECG (Amewu, 2020; Apetorgbor, 2023). The table 6 below shows the analysis.

Table 6: The Conditional Effects of the Focal Predictor at Values of the Moderator (ECG Challenges)

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Product terms key:
Int_2 : Strategic management x ECG's Internal Challenges (CCHH)

Test(s) of highest order unconditional interaction(s):
R2-chng      F          df1      df2      p
X*Z          .0034      73.6085  1.0000  381.0000  .0000
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Focal predict: Stratmgt (X)
Mod var: CCHH (Z)

Conditional effects of the focal predictor at values of the moderator(s):
CCHH      Effect      se        t          P          LLCI      ULCI
8.0000    .3754      .0028     126.2874  .0000      .3518     .3528
10.0000   .3377      .0027     119.9240  .0002      .3224     .3331
10.0000   .3267      .0027     119.9240  .0001      .3224     .3331

***** ANALYSIS NOTES AND ERRORS *****
Level of confidence for all confidence intervals in output: 95.0000
    
```

Source: Field data, June, 2019

Table 7 below presents the controlling effect of state policies on the link between ECG's work output and tactical planning. It can be observed that Strategic planning at a value of the moderator 'State policies-free electricity to

consumers during covid-19 in 2020 does not affect the operations of ECG. Statistically, this was rated at (P-value ≤ 0.05) at levels 8.0000, 0.1520, and 10.0000 (SD, Mean, +SD).

Table 7: The Conditional Effects of the Focal Predictor” at Values of the Moderator (Govt. Free Electricity Policy during Covid-19 in 2020)

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Product terms key:
Int_1: Strategic management x Government free electricity policy (GGPP)

Test(s) of highest order unconditional interaction(s):
R2-chng      F          df1      df2      p
X*W          .0029      73.6085  1.0000  381.0000  .1520
-----
Focal predict: Stratmgt (X)
Mod var: GGPP (W)

Conditional effects of the focal predictor at values of the moderator(s):
GGPP      Effect      se        t          P          LLCI      ULCI
8.0000    .3574      .0028     126.2874  .1501      .3518     .3629
10.0000   .3278      .0027     119.9240  .0603      .3224     .3331
10.0000   .3278      .0027     119.9240  .7040      .3224     .3331

***** ANALYSIS NOTES AND ERRORS *****
Level of confidence for all confidence intervals in output: 95.0000
    
```

Source: Field Data, June, 2019

Table 8: Hypothesis Testing and Interpretation

Hypothesis Testing		β	t-value	P-value
H1	Strategy formulation \rightarrow Organizational Performance	0.239	436.583	0.001
H2	Strategy Implementation \rightarrow Organizational Performance	0.225	427.205	0.000
H3	Strategy Evaluation \rightarrow Organizational Performance	0.402	436.583	0.000
H4(a)	Government Policies \rightarrow Organizational Performance	0.323	126.2874	1.501
H4 (b)	ECG Internal Challenges \rightarrow Organizational Performance	0,318	119.9240	0.002
Level of Significance: 0.05		Sample Size=385		

Source: Field Data, June, 2019

The table 8 above presents hypothesis testing outcomes and interpretation using PROCESS micro version 4.2 developed by Hayes (2022) bootstrapping at the level of 0.05 significance.

➤ *Hypothesis One*

Ho1a: There is no significant link between strategy formulation and performance of ECG.

With regards to hypothesis one, the analysis showed that strategy formulation has regression coefficient (0.239), t-score (436.583), with a p-value of 0.001 at 5% significant level. Statistically, the results implies that effective strategy formulation has a significant positive effect on organizational performance of ECG ($\beta=0.239$, $t=436.583$, $p<0.001$). Hence, the hypothesis Ho1a is rejected. Consequently, it can be concluded that top management efficiency in strategy formulation could improve organizational performance of ECG.

➤ *Hypothesis Two*

Ho2a: There is no significant link between strategy implementation and performance of ECG.

Also, the analysis of strategy implementation showed a positive regression coefficient (0.225), t-score 436.583, and a p-value of 0.000 at 5% significant level. Statistically, the result implies that strategy implementation has a significant positive effect on organizational performance of ECG ($\beta=0.225$, $t=427.205$, $p<0.000$). Hence, the hypothesis Ho2a is rejected. Accordingly, it can be concluded that effective and efficient strategy implementation by Electricity Company of Ghana top leadership could improve organizational performance of ECG in terms of reducing technical and commercial losses in the system, operational efficiency, network reliability, and customer satisfaction (Mahama, 2023).

➤ *Hypothesis Three*

Ho3a: There is no significant link between strategy evaluation and performance of ECG.

Similarly, the analysis of strategy evaluation showed a positive regression coefficient (0.402), t-score 436.583, and a p-value of 0.000 at 5% significant level. Statistically, the result implies that strategy evaluation has a significant positive effect on organizational performance of ECG ($\beta=0.402$, $t=436.583$, $p<0.000$). Hence, the hypothesis Ho3a is rejected. In view of this, it can be concluded that effective and efficient strategy evaluation by leadership of Electricity Company of Ghana could improve organizational performance of ECG in terms of customer satisfaction reducing technical and commercial losses, network reliability, and operational efficiency (Mahama, 2023).

➤ *Hypothesis Four*

Ho4a: Government policies do not significantly moderate the link between strategic planning and performance of ECG.

The analysis of the government policies, for example, free electricity to citizen during Covid-19 in 2020 showed a positive regression coefficient (0.323), t-score 126.2874, and

a p-value of 1.501 which is greater than 5% significant level. This suggests that the government policy of free electricity to citizen during Covid-19 period in 2020 does not have significant positive effect on organizational performance of ECG ($\beta=0.323$, $t=126.2874$, $p\geq 1.501$). Hence, Ho4a is accepted. The result implies that the views hold by energy experts like Ackah (2022), and Kumi (2022) that the free electricity cost would increase ECG's debt portfolio hugely was not supported by this study findings.

Conclusively, effective and efficient strategy formulation, execution and evaluation by top management of Electricity Company of Ghana would have significant positive effect on organizational performance of ECG. These findings were in line with the views of Boakye-Appiah (2019) and Mahama (2023), who asserted that efficient strategic planning will reduce system losses, improve operational efficiency, network reliability, and customer satisfaction in workings of ECG. But, the government policies, for example, free electricity to citizen during Covid-19 in 2020.

VI. CONCLUSION AND RECOMMENDATIONS

In the light of this results, it is clear that efficient and dynamic strategy formulation, execution and appraisal would have direct positive effect on ECG performance. Thus, strategy formulation has significant positive effect on ECG performance. Strategy execution has significant positive effect on ECG performance. Strategy evaluation has significant positive effect on ECG performance. But, state policy-free electricity to citizen during Covid-19 in 2020 does not have significant positive effect on organizational performance of ECG ($\beta=0.323$, $t=126.2874$, $p\geq 1.501$). In terms of correlation, the research disclosed a highly positive relationship amongst the strategy formulation, execution and appraisal and ECG output. Also, internal challenges of firms which are not resolved affect negatively the long-term future of firms. The study recommends that strategic planning practices should be embraced in ECG as it will help improve performance whilst aligning material and human resource capability of the firm for future prospect.

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