

Effect Of Green Procurement Practices on Financial Performance

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Abstract

The study's predictor variable was green procurement and its relationship with financial performance and the mediating effect of green purchasing behaviour. It could be said that, green procurement is a component/dimension of sustainable procurement. It is however, recommended that, future researchers must consider investigating the effect of sustainable procurement on firm financial performance. Again, the study conceptualized financial performance as the dependent/predicted variable. However, future studies and researchers are recommended to consider the effect of sustainable procurement on green performance as a predicted variable instead of financial performance. Finally, the current study adopted the manufacturing sector as a case study. the reason was that, it is that sector which predominantly procures goods and materials for further production. Though the study found positive relationship between green procurement financial performance. However, future studies are therefore recommended to conduct a comparative analysis between the manufacturing and service sector on sustainable procurement and its effect on green performance.

Keywords: Green Procurement Practices, Financial Performance, Green Purchasing Behaviour

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1.0 INTRODUCTION

With increasing attention to environmental pollution, such as, climate change, resource depletion, loss of biodiversity, and air pollution within the competitive business environment, companies today have restricted their actions that may cause threat to the environment (Arlow and Gannon, 2015). In view of that, managing the various risks that arise from environmental and social factors has become more important than ever before and that, sustainability and green procurement practices has gained more prominence as both a concept and practice (Arlow and Gannon, 2018). According to Song et al. (2018), one of the main objectives of firms in today's competitive business environment is to achieve financial performance.

As a result of globalization, procurement professionals have more options regarding what to procure, where to source, how to source and from whom to source. The relevance of financial performance will rise as customers' attention turns more and more toward environmental improvement. This is especially true for businesses which see environmental improvement as a

social objective rather than just a matter of cost, risk, and public perception (Guang et al., 2012). Corporate responsibility and environmental awareness are being recognized by a growing number of businesses as essential business imperatives.

Environmental programs have evolved into a source of competitive parity rather than being an expensive inconvenience (Reuter et al. 2010; Hollos, Blome, and Foerstl 2012). Due to the significance of these environmental goals, the importance of green procurement has increased (Meehan and Bryde 2011). Across all industries, more businesses are integrating green procurement into their daily operations. Many businesses are adopting green procurement practices because of the expansion of environmental regulations as well as increased legitimacy pressure from different stakeholders (Rusinko 2017).

According to Klassen and Vachon (2013), manufacturing and service companies can lessen their overall environmental effect in two ways: either by increasing their investment in environmental technologies or by moving their focus from pollution control to pollution prevention. Prior studies have tried to stay up with practice by identifying important antecedents that may motivate such actions considering the growing importance of green procurement practices (Pagell et al., 2010; Curkovic and Sroufe 2011). According to Curkovic and Sroufe (2011), green procurement adoption requires firms to be more sustainable with their procurement activities, which at the long run reduces the operational cost, hence, improves the financial performance of firms. Most studies have linked growing stakeholder pressure and financial performance to the adoption of green practices (Paulraj 2019).

While talking about the instrumental role of green procurement practices in achieving financial performance, it is important to acknowledge the key role of green purchasing behaviour. Qu et al. (2021) posits that, green purchasing behaviour is a set of practical guidelines to improve the sustainability of procurement practices. Also, Xie et al. (2019) states that, green purchasing is a declaration of intent which is signed by organisation intending to improve the sustainability of their practices. Since green procurement practices is resource driven, management commitment and behaviour to allocate the needed financial and non-financial resources to pursue will be essential (Arlow, 2018). While green procurement is important, and the interaction role of green purchasing behaviour are all critical in driving financial performance, it is important to empirically examine these relationships, hence, this study seeks to examine the mediating effect of green purchasing behaviour in the relationship between green procurement practices and financial performance.

2.0 MATERIALS AND METHODS

There are three main research designs available to the current researcher, including exploratory, explanatory, and descriptive. However, the study adopted both the descriptive and explanatory research designs. Also, the study adopted the quantitative data collection approach to collect data from the sampled respondents. The primary source of data is deployed and that, structured questionnaires were administered to gather data with the help of google form. The population size of the of the study was 140 manufacturing firms in the Greater Accra region. Accordingly, the study used a convenience sampling technique to select 100 firms to represent the sample size of the study. More so, the researcher adopted the IBM SPSS, version 26 and SEM to analyse the data in a form of descriptive and inferential statistics.

2.1 Green Procurement

Corporate responsibility and environmental awareness are being recognized by a growing number of businesses as essential business imperatives. Environmental practices and initiatives

have evolved into a source of competitive edge rather than being an expensive inconvenience (Reuter et al., 2010; Hollo et al., 2012). Due to the significance of these environmental goals, the importance of green procurement has increased (Meehan and Bryde, 2011). Several businesses are engaging in green procurement practices as a result of the increase in environmental policies as well as increased legitimacy pressure from different stakeholders (Rusinko, 2017). According to Klassen and Vachon (2017), manufacturing and service companies can lessen their overall environmental effect by increasing their investment in environmental technologies and moving their focus from pollution control to pollution prevention. It's interesting how many businesses prioritize their own distribution systems and manufacturing processes.

The fact that a coordinated effort is required to address the sustainability challenge has been widely acknowledged, but businesses have only lately started to engage in green procurement that covers the upstream supply chain (Awasthi et al., 2010). The upstream supply partners and procurement, a crucial boundary-spanning function, jointly affect the environmental impact of the focal firm in a number of ways, including environmental pollution from inbound logistics, environmental impact of supplied materials, energy consumption and emissions in the production process, and eco-efficiency of the product throughout its life cycle (Lee and Klassen, 2018; Ross and Jayaraman, 2019). Numerous phrases have been used in literature to describe green practices that apply to the full upstream supply chain or only the first-tier suppliers. Green procurement practices are identified by phrases like sustainable procurement, and green supply chain management, among others. In earlier literature, the term green procurement has been defined in various respect (Zhu et al., 2018; Sigala, 2018; Xu and Gursoy, 2015).

According to Zhu et al. (2018), green procurement is the development of cooperative methods with suppliers to produce goods and services that are environmentally beneficial. Suppliers play a significant role in determining the price, caliber, and profit margin of the items and services that the buyer offers to its customers. There is a paucity of research discussing the relationship between green procurement and financial success in the tourism industry, despite the importance of green buying in supporting firms' sustainable strategies. According to Xu and Gursoy (2015), green procurement is a major environmental tactic employed by the procurement department. The procurement department serves as a liaison between internal departments and outside vendors. It especially aids other functional areas like marketing and sales to achieve service criteria and purchase standards that meet consumers' expectations.

Additionally, it promotes the business' ability to develop interorganizational trust and mutual dependency to build internal resources and skills that improve the quality of the relationship with suppliers (Shi and Liao, 2013). Therefore, firms that implement special procurement guidelines that oblige suppliers to follow environmental standards may experience a drop in costs and an increase in sales, which will ultimately influence financial performance. One advantage of green purchasing is thought to be cost reductions throughout the supply chain. For instance, hotels that practice environmental preservation are more likely to conserve materials and use fewer resources (Garcia-Rodriguez and Armas-Cruz, 2017; Kularatne et al., 2019). Additionally, Sigala (2018) posit that, green procurement increases dependability and effectiveness.

For instance, research by Pagell et al. (2017) shows that, businesses that adopt ecologically friendly purchasing practices encourage more integrated supply chains. Because of this, as the supply chain becomes more integrated (Carter and Jennings, 2012; Vachon and Klassen, 2018), suppliers are more likely to live up to the expectations of the buying firm, which benefits

dependability and, in turn, financial success. However, it is projected that green procurement would increase businesses' competitive edge and create new capabilities, which will have an influence on sales (Dyer and Hatch, 2016).

Companies rely on the effectiveness procurement to reduce costs and increase output in today's fiercely competitive economy. The needs of today's enterprises, including environmental preservation, corporate transparency, employee benefits, and security concerns have led to an evolution in procurement practices over time. To attain ecological harmony, businesses must create environmentally conscious supply chains rather than relying just on economic success (Li et al., 2020). In addition to the conventional purchasing criteria, which only concentrate on cost, quality, and delivery, the concept of green procurement takes the issue of sustainability into account when procuring goods, works and services, according to Jimenez and Lorente (2018).

The following is based on a summary of the literature on green purchasing activities between the buyer and supplier, according to Eltayeb (2019) and Hamner (2016). According to Carter et al. (2020), these life-cycle issues should be considered as part of the purchasing and procurement process, and upstream supply chain participants should be asked to commit to waste reduction goals as well as to design and provide the purchasing firm with the materials and components identified through the design for disassembly and life-cycle analysis. Purchasing may possibly be a more potent change agent than any other business function, according to Bjorklund (2010), who argued that the purchasing function's growing strategic relevance has resulted in reducing the impact on the environment. According to Carter et al. (2020), green purchasing improves a company's performance in terms of net revenue and cost of goods sold.

A more comprehensive definition of environmental purchasing was offered by Zsidisin and Siferd (2018), and it is used in this study. green purchasing refers to a company's specific set of purchasing guidelines, initiatives, and alliances developed in response to environmental issues (Zsidisin and Siferd, 2018). The purchase of raw materials, including supplier selection, appraisal, and development, supplier operations, in-bound distribution, packaging, recycling, reuse, and resource conservation, as well as the firm's products' final disposal, are all addressed by these worries. Zsidisin and Siferd (2018) further posit that, manufacturing organizations that practice environmental purchasing can benefit from increased supplier engagement, cost savings, and reduced environmental impact, all of which may contribute to the performance of a sustainable supply chain.

A study conducted by Lemmet's (2012) posit that, there are many different environmental effects at different points in a product's life cycle. According to Vincent and Abbie (2011), in order to follow policies and best practices for green procurement, procurement activities should be carried out in a manner that complies with and exceeds all applicable legal and regulatory requirements, including those relating to the environment, society, health, and safety. The second objective is to minimize the negative effects on the environment while maximizing economic and social benefit by incorporating suitable sustainability standards into the procurement strategy. Thirdly, develop green procurement knowledge and expertise among stakeholders. Additionally, to strengthen the foundation for understanding policy and strategy while promoting sustainability in the marketplace by involving current and upcoming suppliers in best sustainability practices throughout the supply chain.

2.2 Financial Performance

Every organization must prioritize organizational performance since it is the only way for businesses to evaluate the results of combining financial and nonfinancial resources to accomplish their objectives. According to Zeng et al. (2010), measuring business performance enables them to ascertain whether predetermined goals have been met and to put plans in place to either maintain or improve it. This strengthens and sustains the company's ability to continue operating. Due to their primary goal of attaining better profit margins and enhancing shareholder wealth, corporations' performance has traditionally been assessed from a financial perspective.

However, the development of balancing scorecards and triple-bottom-line strategies has broadened the scope of performance measurement to include non-financial indicators including market, social, and environmental performance. The impact of green procurement on operational performance (Danso et al., 2019; Kuei et al., 2015; Testa and Iraldo, 2010), manufacturing performance (Al-Shboul et al., 2017), financial performance (Ruiz-Benitez et al., 2018; Chien and Shih, 2017). In the literature that is now available, some studies identified a favorable association between green practices and performance, while others discovered a negative correlation, and still others discovered no relationship at all, both in the short and long terms.

Environmental performance is defined as a company's capacity to reduce pollution, solid waste, use of hazardous materials, and the frequency of environmental accidents (Zhu et al., 2017). The degree to which businesses can pool their financial and nonfinancial resources to lessen the negative effects of their operations on the environment and ensure environmental sustainability by cutting back on air pollution, the use of harmful materials, and environmental accidents is known as their environmental performance.

The ability of combining tangible, intangible, and nonfinancial resources to meet specified corporate financial goals is known as financial performance. Since it is the primary driver behind the creation of a profit-making business, financial performance measurement is crucial to an organization. Based on the availability of data access and the primary reason a firm exists, the study embraced return on equity, return on investment, gross profit margin, net profit, return on assets, and other metrics (Li et al., 2018). Existing research points to a constant link between environmental and financial performance. Spicer (2018) asserts that there is a strong correlation between financial performance and green procurement.

2.3 Green Purchasing Behaviour

During the recent industrial revolution, green ideas and environmentally friendly practices were introduced into industry to increase its energy efficiency and reduce its waste production (Wilson and Chatterton, 2016). Industry greening has drawn a lot of attention recently since it makes it simpler for businesses to implement environmental strategies. Therefore, businesses must create innovative plans and proactive methods to meet international environmental standards (John et al., 2018). As a result, one of these techniques is green behaviour. This requires that, firms become committed to sustainable supply chain management practices. Environmental proactivity is defined as the voluntary application of activities and initiatives targeted at adopting and practicing green and sustainable procurement in enhancing environmental performance (González-Benito and GonzálezBenito, 2016) According to numerous academics, green purchasing behaviour is a voluntary attempt to practice green procurement which goes above and beyond what is required by law and other regulations (Aragón-Correa and Rubio, 2017).

Again, Hart (2019) posits that, the concept of green purchasing behaviour requires firms to adopt environmental preventive procedures for decreasing materials, energy, and wastes, as well as environmental strategies for products and processes. Green purchasing behaviour is considered as critical practice in an organizational setting in practicing green procurement in enhancing organizational performance (Tang et al., 2018). In a green purchasing behavior, the desire to meet an individual's need to protect the environment and reduce environmental hazards drives the search for rewards greater than sacrifices (Peattie, 2010). (Chen and Chang, 2012).

According to the consumer decision-making literature, the decision-making process underpinning green purchasing behaviors can be characterized as a complicated system of options that enables businesses to eliminate options and choose the best option for their purposes (Cohen et al., 2014; Lee et al., 2019). Businesses that practice green purchasing are more inclined to purchase goods and services from companies that have experienced few or no environmental disputes to reduce environmental risk. According to Andersson et al. (2013), green purchasing behavior is any quantifiable responsible environmental behavior that aids businesses in being environmentally sustainable. The adoption of policies promoting more ecologically friendly business operations and organizational greening strategy are well-established in the literature, and employees' green purchasing behavior is a key factor (Paille et al., 2013; Renwick et al., 2013). Accordingly, any firm that wants to increase its environmental performance typically needs to match employees' green behavior with the organization's green organizational goals and culture (Sarkis et al., 2017).

The preservation of the natural environment is one of the most important challenges that humanity must deal with (Babiak and Trendafilova, 2017; Wahba, 2018). In view of this, businesses can significantly contribute to lowering the global environmental effect of today's society if they are concerned about how they affect the environment (Carballo-Penela and Domenech, 2020). In effect, controlling the environment has also become a key element in today's competitive scenarios in a globalized society (González-Benito 2016). According to Wilson and Chatterton (2016), for firms to maintain healthy environment and economy, there is the need to adhere to global commitment to preventing environmental degradation and promoting sustainable development for future generations. This normally refers to as environmental proactivity.

On the other hand, environmental reactivity is defined as making only the bare minimum changes necessary to comply with rules and put in place pollution controls (Sharma and Sharma, 2017). Businesses with green behaviour intention adopts and strictly enforce environmental ethics to attain a high level of production while utilizing scarce resources and implementing green technology and strategies to reduce environmental expenses, according to Freeman (2016). Simultaneously, product value will be enhanced, and environmental mitigation costs would be reduced. Finally, in the face of stiff global competition in the business environment, firms with green behaviour intention for green innovation ensures a company's long-term existence (Freeman, 2016). In the present literature, several scholars have defined the term green behavior intention, and a few are listed below.

According to Steg and Vlek (2019), pro-environmental or green behaviour intention is where firms are committed to activities that produces as little harm to the environment as possible, or even benefits it. Examples of green behaviour intention, according to Steg and Vlek (2019) are the actions to minimizing energy consumption and waste. According to Cushman-Roisin (2019),

green oriented behaviour is a type of behavior in which the environment is protected from various types of pollution, such as air, land, water, and noise, and natural resources are properly maintained and utilised. Also, John et al. (2018) posits that, green purchasing behaviour of firms is intimately linked to the notions of sustainable development and sustainable consumer behavior.

Furthermore, it is a consumption pattern that is environmentally friendly for both present and future generations. Mudgal et al. (2019) also concurs that, green behavior intention is a concept that assigns both firms and consumers the necessary responsibility or co-responsibility for addressing environmental problems by adopting environmentally friendly behaviors such as using organic products, using clean and renewable energy, and researching goods produced by companies with zero, or nearly zero, environmental impact. Other studies also refer to green behaviour intention as firms deliberate attempt to work in an ecologically pleasant setting through engaging in environmentally beneficial activities. Businesses use a variety of strategies to improve their environmental performance and accomplish long-term goals, including green purchasing behavior. According to Ha et al. (2019), different dimensions are used to quantify green behaviors intention of firms in the global settings, these measures include reducing hazardous substance or waste emissions, reducing water, electricity, coal, or oil consumption, reducing raw material consumption, recycling waste and emissions, adhering to ISO 14001 standards (EMS) and among others.

2.4 Theoretical Review

The study is underpinned by the stakeholder theory, institutional dynamic capability theory

2.4.1 Stakeholder theory

According to Freeman et al. (2016), a stakeholder is any person, group, or institution connected to a business that influences the actions and objectives of the business or is in some way affected by it. According to the stakeholder hypothesis, a company must also consider the interests of its customers, employees, and the community in addition to those of its shareholders (Piacentini et al., 2020). Beyond the simply legal and commercial obligations that were traditionally thought to be the only obligations of an organization, this covers social, economic, and moral obligations. These statements make it clear that stakeholder theory adheres to the same concepts as the sustainable development idea and does, in fact, address the same components of corporate accountability for economic, social, and environmental actions.

The idea that managers must concurrently consider the legitimate interests of all relevant stakeholders when making business decisions characterizes the goal and strategic direction of the company. Any entity or person that can impact or be influenced by the achievement of an organization's goals is referred to as a stakeholder, according to Freeman (2017). According to Miles (2016), the organization should be seen as a group of stakeholders whose interests, needs, and opinions it should manage. Numerous studies have stated, the stakeholder theory is somewhat concerned with how a variety of actors in an organization's environment might affect that organization's green performance (Donaldson and Preston, 2018; Quin and Thomas, 2018; Mitchell et al., 2018).

The natural environment has been cited by contemporary writers as one of an organization's stakeholders because of its significance to the success of firms. Most raw materials are found in the form of minerals, naturally occurring chemicals, plants and plant products, animals or

animal derivatives, and others. Additionally, the environment serves as the pipe's sink. Thus, it is impossible to imagine the performance and prosperity of manufacturing companies without the natural environment. Controlling the supply of raw materials can lead to a competitive advantage and excellent performance, according to Porter (1980). The theory therefore states that, companies must actively and proactively control pollutants and emissions to protect this significant stakeholder, hence, leading to improved green performance.

2.3.2 Institutional Theory

Since 1930, institutional theory has been used to examine how businesses react to mounting environmental management demands (Bansal and Clelland, 2014; Jennings and Zandbergen, 2015). Because environmental concerns and organizational failure are becoming more widely known, institutional theory advises that businesses only achieve legitimacy by minimizing their environmental impact and acting responsibly toward society (Bansal, 2015; Bansal and Clelland, 2014). Businesses have adopted sustainable buying methods because of institutional pressure. They can be lowering the environmental impact of activities beyond what is required by rules or adhering to environmental policies that comply with regulations and industry standards (Sharma and Erramilli, 2014). Participating in a government-sponsored voluntary initiative that forms a voluntary agreement between government agencies and corporations, encouraging technological innovation and pollution reduction, can help businesses build positive relationships with regulators (Delmas and Toffel, 2018). Additionally, businesses can collaborate with both their customers and suppliers to improve their environmental performance through the sharing of ideas and information as well as comments and corrections (Nelson and Winter, 2012).

Innovative organizational structures are sanctioned to increase efficiency. In this case, organizations both new and old will accept the structural shape even if it does not increase efficiency. This means that organizations maintain legitimacy in the institutional context by formally accepting the "institutional myths" and using structural vocabulary like job titles, processes, and functions. Institutional theory places a special emphasis on the propensity for institutionalized organizational structures and procedures to be taken for granted, regardless of the implications for efficiency (Hoffman and Marc, 2021). A government can create an operational direction for an economy by using public procurement. The government encourages its vendors to think environmentally friendly by implementing green public procurement. This theory therefore affects the rest of the chain's suppliers and businesses; hence, the entire economy adopts green practices over time.

2.4.2 Resource-Base View

According to the resource-based view, businesses can only generate supernormal returns that are sustainable if they have superior resources that are safeguarded by an isolation mechanism that prevents the dissemination of those resources throughout the sector (Barney, 2011). The Resource-Based View (RBV) offers a solid theoretical framework for talking about how resources and skills affect a firm's performance. The idea sheds light on how internal resources, capacities, and performance are related. The main tenet of the RBV is that a firm's ability to gain a competitive advantage depends entirely on its heterogeneous resources, which are unique, priceless, and non-replaceable. One of the most significant models for environmental management, perhaps (Barney, 2011). Environmental innovations may also result in sophisticated, eco-friendly technologies, goods, and procedures. These ultimately reduce overall business expenses, guarantee long-term competitive advantage, and enhance financial

performance (Christmann, 2020). To study environmental concerns, researchers should use a resource-based perspective (Dowell et al., 2020; Hart, 2015).

2.5 Empirical Review

Alan et al. (2016) determined the moderating effect of supply chain agility on the relationship between strategic versatility and firm efficiency. The results of the study indicate that the relationship between strategic flexibility, manufacturing flexibility and firm performance is moderated by supply chain agility. Choi et al. (2016) determined the impact of collaborative capacity on the effects of GSCM practices on firm results. It was found that, collaborative capacity of an organization has a moderating effect on the relationship between green supply chain management activities and firm efficiency. De-Los (2019) reviewed the relationship between green performance and green procurement among Chinese manufacturing firms. Questionnaires were adopted to collect data from 120 respondents.

The study found that, green procurement positively impacts on green performance. Geissdoer et al. (2017) investigated the mediating role of competitive advantage in the relationship between sustainable procurement and performance firms in Germany. It was found that firm's competitive advantage mediates the relationship between sustainable supply chain practices and performance. Geissdoerfer et al. (2017) conducted a study on the relationship between green procurement and financial performance in Japanese manufacturing sector. The role of management commitment. It was found that, the relationship between green procurement and financial performance is positively moderated by top management commitment.

Genovese et al. (2017) assessed the relationship between green supply chain practices and financial performance of the firm in Canada. The study adopted a sample size of 231, where questionnaires were administered to gather data from the respondents. The study therefore found that, relationship between green supply chain practices and firm's financial performance is positively related. Huixiang et al. (2016) investigated the relationship between green procurement on green performance of organisations. It was found that, green procurement relates positively with firms' green performance.

Junujun et al. (2018) investigated the effect of sustainable supply chain management on the performance of the organisations in Pakistan. A sample size of 148 was adopted for the study. it was therefore found that, environmental and social practices of an organisation have an impact on the social and environmental performance of the firm. Mason (2017) further empirically examined the relationship between supply chain (SC) dynamic capabilities and enterprise performance (including economic, environmental, and social performance). It was discovered that creative SCs have a discernible positive effect on all dimensions of risk management capacity, which has a profound effect on competitive advantage enhancement. Matloub et al. (2020) assessed the critical success factors of circular economy in achieving sustainable supply chain performance in China.

The study adopted a sample size of 328 respondents from the service industry. The study found that, the relationship between circular economy and sustainable supply chain performance is positively related. Navis et al. (2020) assessed the moderating role of green behaviour in the relationship between green procurement and green performance. The study adopted a sample size of 260 in collecting data. Green behaviour positively and significantly moderates the relationship between green procurement and green performance. Oh et al. (2018) conducted a

study on the assessment of the interaction effects of supply chain and Information Technology on financial performance in Belgian construction firms. Questionnaires were administered to 319 surveyed respondents. The study therefore found that, the relationship between supply chain capabilities and final performance is significantly moderated by the IT capabilities of the organization. Ramesh et al. (2019) also conducted a study on the relationship between corporate motives sustainable Supply Chain Management practices, and organisational performance. The study establishes a positive correlation between supply risk management and firm results.

Schulz et al. (2016) examined the relationship between the three pillars of sustainability, competitive advantage, and innovation. It was found that, adoption of the triple bottom line strategy results in increased competitive advantage. Sofia et al. (2017) investigated the impact of green supply chain practices on the performance of organisations in China. The study found that, the implementation of green supply chain practices impact positively the performance of firms in China. Surajit et al. (2018) examined the impact of internal green supply chain practices on green human resource management, supply chain environmental cooperation and firm performance among firms in Belgium. Questionnaires were administered to a sample size of 321.

Green human resource management and supply chain environmental cooperation significantly supports organisations performance. Wang (2018) investigated into the relationship between sustainable supply chain management and performance. The findings indicate that, a firm's internal SSCM activities have a beneficial effect on the firm's environmental and social efficiency. Yigit et al. (2018) examined the relationship between corporate motives sustainable Supply Chain Management practices, and organisational performance in the United States. The results revealed that, sustainable supply chain practices are key drivers of organisational environmental and financial performance

2.6. Hypothesis Development

2.6.1 Green Procurement and Financial Performance

Due to their primary goal of attaining better profit margins and enhancing shareholder wealth, corporations' performance has traditionally been assessed from a financial perspective. However, the development of balancing scorecards and triple-bottom-line strategies has broadened the scope of performance measurement to include nonfinancial indicators including market, social, and environmental performance. Existing research has looked at how green procurement affects financial performance (De Giovanni and Vinzi, 2012; Zhang et al., 2019; Ruiz-Benitez et al., 2018; Chien and Shih, 2017; De Giovanni and Vinzi, 2012; Zhu et al., 2017). Some of the research's findings showed a positive association, while others discovered a negative one. For instance, Ruiz-Benitez et al. (2018) and Zhang et al. (2019) conducted study on the effect of green procurement on financial performance.

The study concluded that green procurement techniques had a favorable effect on businesses' financial success. The ability of combining tangible, intangible, and nonfinancial resources to meet specified corporate financial goals is known as financial performance. Since it is the primary driver behind the creation of a profit-making business, financial performance measurement is crucial to an organization. Some of the important metrics are return on equity, return on investment, gross profit margin, net profit, and return on assets (Li et al., 2018). Therefore, numerous research point to a constant link between financial performance and green buying. Spicer (2018) asserts that there is a strong correlation between financial performance and green procurement. The study therefore hypothesizes that;

H₁: Green procurement relates positively and significantly with financial performance

2.6.2 Green Procurement and Green Purchasing Behaviour

According to numerous academics, green purchasing behaviour is a voluntary practice to practice green procurement which goes above and beyond what is required by law and other regulations (Aragón-Correa and Rubio, 2017). Again, Hart (2019) posits that, the concept of green purchasing behaviour requires firms to adopt environmental preventive procedures for decreasing materials, energy, and wastes, as well as environmental strategies for products and processes. Green purchasing behaviour is considered as critical practice in an organizational setting in practicing green procurement in enhancing organizational performance (Tang et al., 2018).

According to Chen and Chang (2012), the decision-making process underlying green purchasing behaviors can be characterized as a complex system of possibilities. Lee et al. (2019), to lower environmental risk, businesses that engage in green purchasing are more likely to choose products and services from suppliers who have had little to no environmental litigation. Mudgal et al. (2019) also concurs that, green behavior intention is a concept that assigns both firms and consumers the necessary responsibility or co-responsibility for addressing environmental problems by adopting environmentally friendly behaviors such as using organic products, using clean and renewable energy, and researching goods produced by companies with zero, or nearly zero, environmental impact. Based on the existing literature, therefore hypothesizes that,

H₂: Green procurement positively and significantly relates with green purchasing behaviour.

2.6.3 Green Purchasing Behaviour and Financial Performance

It is well-established in the literature that, employee commitment to environmentally friendly behavior is crucial to an organization's greening plan, and the adoption of regulations that will result in more environmentally friendly company practices (Daily et al., 2012; Paille, Boiral, and Chen, 2013; Paille, 2017). Any organization that wants to increase its environmental performance typically needs to match the employee's green behavior with the organization's green organizational goals and culture. Businesses with green behaviour intention adopts and strictly enforce environmental ethics to attain a high level of production while utilizing scarce resources and implementing green technology and strategies to reduce environmental expenses, according to Freeman (2016). Simultaneously, product value will be enhanced, and environmental mitigation costs would be reduced. Finally, in the face of stiff global competition in the business environment, firms with green purchasing behaviour for green procurement innovations reduces the cost of operations, hence, improve the financial performance of firms.

H₃: Green purchasing behaviour positively and significantly relates with financial performance

H₄: Green purchasing behaviour mediates the relationship between green procurement and financial performance positively and significantly.

2.7 Research Methods

2.7.1 Research Design

There are different types of research design, which are descriptive, explanatory, and exploratory. The current study therefore adopted the explanatory research designs in collecting and analysing the research data. Descriptive study design, according to Bryman (2019), is the systematic collection of data in standardized form from a defined population or sample to help determine the scope and the extent of the research variables, including supply chain integration,

information technology and competitive advantage. Again, the descriptive statistics will inform the study on the means and the standard deviations of the responses, indicating the extent to which firms practice supply chain integration, information technology adoption and achievement of competitive advantage. Also, the explanatory design is that type of research which determines the cause-and-effect relationship between variables of a given study. In other words, the explanatory design will help examine the relationship between green procurement, green purchasing behaviour and financial performance.

2.7.2 Population of the Study

According to Berman (2017), population refers to the entire number of products, subjects, or people being studied/investigated. The study's population consists of the food and beverage firms in Ghana. The target population on the other hand is the aggregate of cases about which the researcher would like to make generalisations (Polit and Beck, 2014). However, the target population of the study is the food and beverage firms in Greater Accra and Ashanti regions of Ghana, consisting of 130 firms (MoTI, 2022).

2.7.3 Sampling Technique and Sample Size

Sampling is a method of picking individuals or a subset of the population to make statistical inferences and estimate population characteristics (Bryman, 2019). There are various types of sampling techniques, however, the current study adopts a Convenient sampling to select a sample size of 110 firms. The choice of the convenience sampling technique was appropriate because it enabled the researcher select firms that were readily available to respond to the questionnaires.

2.7.4 Sources of Data

There are two main sources of data. These are primary and secondary data. The current study therefore adopts primary source for data collection. Primary data is the original and unique material gathered by the researcher directly from a source. There are various tools/instruments for collecting and gathering primary data, including, observation, surveys, questionnaires and interviews, experimentation and among others. The choice of the primary data for the study is based on its authenticity, specific existence, and up-to-date data whereas secondary data is based on existence literature and prior studies. Again, primary data is very accurate since it is essentially objective and explicitly obtained from the original source. Hence, its adoption will enhance the accuracy of the data collection and analysis.

2.7.5 Data Collection Instrument

Data collection instruments are the tools that are used to collect data for a given research. There are various types of data collection instruments, namely; questionnaires, interviews, surveys, observations, and experiments. The current study therefore adopted closed-ended questionnaires to collect data from the study respondents.

2.7.6 Data Analysis

The data will be analysed through descriptive statistics such as frequencies, percentages, mean, standard deviation, skewness and kurtosis with the help of SmartPLS4, version 23 to assess the extent of green procurement adoption, green purchasing behaviour and financial performance. Again, the Structural Equation Modelling (SEM) was used to test for the relationships and correlation between the study variables.

2.7.7 Validity and Reliability

According to Saunders et al. (2009), validity and reliability are the key characteristics in quantitative research that reflect quality and rigour in design. A well written research paper will indicate how validity and reliability have been assessed. There are similar issues within qualitative research. Validity in quantitative research refers to the accuracy and truth of the data and findings that are produced. It also refers to the concepts that are being investigated; the people or objects that are being studied; the methods by which data are collected; and the findings that are produced (Saunders et al, 2019). There are several different types of validity which all contribute to the overall credibility of the research. They also define reliability as the consistency and dependability of a measuring instrument, i.e., it is an indication of the degree to which it gives the same answers over time, across similar groups irrespective of who administers it. It should be noted that, the threshold for measuring the validity of the measures of a study is 0.5, while the Cronbach's alpha of 0.70 is the minimum threshold to determine the level of reliability of the measuring instruments.

3.0 RESULT

Out of the 110 responses, 17 individuals, representing 15.5 percent were between 20-30 years old; 23 individuals representing 20.9 percent were within the ages of 31-40 years old; 59 individuals were within the ages of 41-50 representing 53.6 percent while 11 individuals were also above 50 years, representing 10 percent. This result indicates that, even though, most respondents were between the ages of 41 and 50, no significant research is studied to determine how this age distribution affected the outcomes. The replies are thought to be evenly distributed throughout the age categories because there is a good representation from all age groups. The purpose of sharing this data is to demonstrate why it was ethically inappropriate to include minors in the study and why it was not ethically appropriate to include adults who would not be able to make thoughtful responses.

3.1 Work Experience

On the experience of the respondents, out of the 110 responses, 21 individuals have less than 5 years working experience, representing 19.9 percent; 32 individuals also have 6 to 10 years working experience, representing 29.9 percent while 57 individuals, representing 58.2 percent. This result shows that, majority of the respondent are experienced on the job. By implication therefore, it can be reasonably assumed that, these employees are familiar with the procurement and supply chain activities and hence, the information they provide can be regarded as a true reflection of what pertains in the organization

3.2 Educational Background

Out of 110 responses, 48 individuals, representing 43.6 percent have either a Diploma or first Degree; 39 individuals also have second Degree (Masters), representing 35.5 percent; 17 individuals, representing 15.5 percent have professional qualification and 6 individuals also have other academic qualifications, representing 5.4 percent. This result implies that, majority of the respondents had high enough capacities to understand the requirements of the questionnaire of the study and therefore their responses can once again be accepted as true reflection of what pertains in the organization as far as green procurement practices is concerned.

3.3 Managerial Level

Out of the 110 responses, 53 persons, representing 48.2 percent are top managers; 27 individuals are also line managers, representing 24.5 percent while 30 individuals, representing

27.3 percent. The result shows that, the respondents are key stakeholders and critical to the adoption of green procurement, hence, their responses are considered relevant to the analysis.

3.4 Position held by Respondents

Out of the 110 responses, 51 individuals are Supply Chain Managers, representing 46.4 percent; 36 of them, representing 33.6 percent are also Logistics Managers and 22 individuals, representing 20 percent. By implication, the adoption and implementation of green procurement is critical to the firms, since these individuals are part of the strategic decision makers.

3.5 Reliability and Validity Test

The reliability analysis is conducted to measure the consistency of the variables and the validity analysis is run to measure the accuracy of the variables in measuring the constructs. Cronbach alpha value and the composite reliability were used to measure the reliability of the constructs. The Cronbach alpha value and composite reliability determine how consistent the metrics are in measuring the variables.

Firstly, Hair et al. (2013) posits that, the acceptable threshold for measuring the reliability of variables is 0.7. It could be seen that, seven (7) measurement items were used to measure the extent of green procurement adoption. Again, seven (7) measurement items were used to gauge green purchasing behaviour while seven (7) items were also used to measure financial performance.

Secondly, in assessing the validity of the data obtained, the study first uses confirmatory factor analysis to determine the factor loadings of each item to its latent variable. Each item is expected to load above 0.50 to be valid. Furthermore, in measuring the convergent validity, the average variance extracted value (AVE) was used and the values are expected to be greater than the acceptable value of 0.5 (Hair et al., 2013).

Lastly, the discriminant validity was analysed using the Fornell-Larcker criterion. The correlation of each item with itself should be greater than the correlation with all other variables.

Table 4.2 Cronbach Alpha, Composite Reliability, and Average Variance Extracted

Construct	Number of items	Cronbach Alpha (CA)	Composite Reliability (CR)	AVE
Green Procurement	7	0.781	0.785	0.517
Financial Performance	7	0.791	0.791	0.512
Green Purchasing Behaviour	7	0.704	0.798	0.566
Total	21			

Source: Field data, 2020

Table 4.2 above gives the score of the variables for Cronbach Alpha, Composite Reliability, and AVE.

Firstly, green procurement had a Cronbach Alpha of 0.781, financial performance had a Cronbach Alpha of 0.791 while green purchasing behaviour also had a Cronbach Alpha of 0.704.

Secondly, green procurement had a composite reliability of 0.785, financial performance also had a composite reliability of had 0.791 while green purchasing behaviour also had a composite reliability of 0.798. Based on the above values, it could be said that, all the three (3) variables had loaded above the 0.70 threshold and therefore shown strong internal consistency. The data gathered for the study is therefore reliable. For the Average Variance Extracted (AVE), green procurement had 0.517, financial performance also had 0.512 while green purchasing behaviour had 0.566. based on the above results, it could be said that, all the three variables scored above the 0.50 threshold, implying that, all the variables are valid.

Table 4.3: Fornell - Larcker Criterion

Construct	GP	FP	GPB
Green Procurement	0.887		
Financial Performance	0.712	0.743	
Green Purchasing Behaviour	0.725	0.736	0.796

Source: Field data, 2020

With reference to the discriminant validity, Fornell-Larcker Criterion was used. Whereas the convergent validity measures how accurate the latent variables measure the main variable, the discriminant validity measures ensure the latent factors do not measure the other variables compared to its own latent variables. With the Fornell-Larcker criterion, the square root of each variable's AVE must correlate with its self-stronger than the correlations with other latent variables.

As shown in Table 4.3 above, green procurement had a correlation coefficient of 0.887 with itself, and had a correlation of 0.712, and 0.725 green purchasing behaviour, and financial performance respectively. Financial performance also had a correlation coefficient of 0.743 with itself and had a correlation of 0.712 and 736 with green procurement and green purchasing behaviour respectively. Lastly, green purchasing behaviour had a correlation coefficient of 0.796 with itself and had a correlation of 0.725 and 0.736 with green procurement and top financial performance respectively. Thus, each of the variables had a higher correlation with itself than the correlation with other variables, hence, each variable is valid.

Table 4.4: Cross-Factor Loadings

Code	Items	FP	GP	GPB
FP1	Our firm generates higher sales and revenue for adopting green procurement practices	0.595	0.47	0.453
FP2	Our firm's return on investment (ROI) is higher	0.572	0.427	0.388
FP3	Our firm's return on asset (ROA) is higher in the last few months	0.498	0.309	0.335
FP4	Our firm's return on capital employed (ROCE) is a higher	0.505	0.399	0.397
FP5	Our firm generates increased profit margin for adopting green procurement practices	0.648	0.463	0.513

FP6	The liquidity ratio of my firm is increased in the last few years	0.638	0.442	0.468
FP7	Our firm generates enough shareholder dividends	0.634	0.391	0.44
GP1	Our procurement department employs sustainable supply chain partners for supplying goods and services.	0.481	0.692	0.616
GP2	Our purchasing department participates in the design of products for disassembly	0.411	0.611	0.422
GP3	Our purchasing department participates in the design of products for recycling or reuse	0.32	0.576	0.415
GP4	Our purchasing department actively contributes to the reduction of packaging material	0.538	0.673	0.435
GP5	Our purchasing department seeks suppliers with low energy consumption	0.425	0.500	0.365
GP6	Our purchasing department asks suppliers to commit to waste reduction goals	0.418	0.649	0.416
GP7	My firm procures vehicles and trucks for transporting raw and finished goods	0.341	0.425	0.289
GPB1	The involvement of purchasing department in responsible purchasing has been motivated by the example of senior management	0.399	0.398	0.577
GPB2	Our involvement in green purchasing has been driven by top-down initiatives	0.364	0.376	0.581
GPB3	Our top managers organise training and education for its employees on green procurement practices	0.39	0.417	0.505
GPB4	My firm motivates green procurement committed employees	0.507	0.475	0.687
GPB5	Our procurement department reduces pollution and environmental unfriendly activities for its procurement	0.44	0.462	0.659
GPB6	My firm adopts modern technology for practicing green procurement	0.434	0.44	0.536
GPB7	My firm adopts green standards for procurement of goods and services	0.535	0.47	0.650

Source: Field data (2020); Note: GP = Green Procurement, FP = Financial Performance, GPB = Green Purchasing Behaviour

The cross-factor loadings which is by far a popular validity test measures the correlation between each latent variable and the main variable or construct. The valid factors are the factors that load the highest correlations with its main variable. For financial performance, the items were coded FP1, FP2, FP3, FP4, FP5, FP6 and FP7 scores 0.595, 0.572, 0.598, 0.505, 0.648, 0.638 and 0.634 respectively. This shows that, the items for financial performance loaded highest correlation with itself than the correlation with other constructs, hence valid for the analysis. For green procurement, the items were coded GP1, GP2, GP3, GP4, GP5, GP6 and GP7 had scores of 0.692, 0.611, 0.576, 0.673, 0.500, 0.649 and 0.425 respectively. It could be seen that, all the items loaded highest correlation with itself than the correlation with other constructs, hence, valid for the analysis.

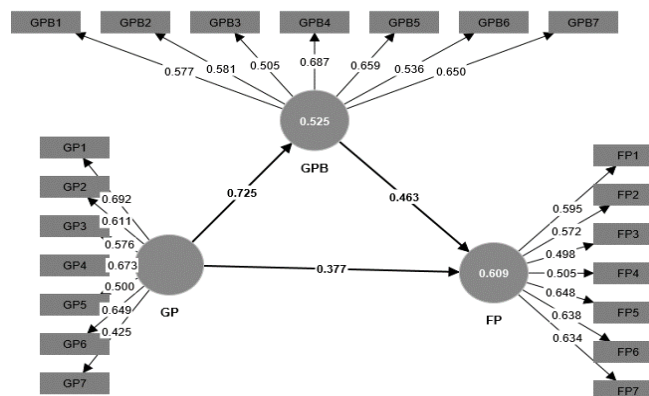
Lastly, the green purchasing behaviour was coded GPB1, GPB2, GPB3, GPB4, GPB5, GPB6 and GPB7 with highest scores 0.577, 0.581, 0.505, 0.687, 0.659, 0.536 and 0.650 respectively. This again indicates that, the variables loaded highest correlations, hence, valid for the analysis.

4.0 DISCUSSION

4.1 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a statistical technique used to verify the factor structure of a set of observed variables. CFA allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists. Figure 4.1 illustrates the loadings of each construct. According to Figure 4.1 below, 6 items designed to measure green procurement loaded above 0.5 and were therefore included in the analysis, however, the value for GP7 loaded below 0.5, hence, was not included in the analysis. Again, all the 7 items for measuring green purchasing behaviour loaded above 0.5. Lastly, all except FP3 loaded below 0.5 and was not included in the analysis.

Figure 4.1: Confirmatory Factor Analysis



4.2 Descriptive Statistics

The score of each individual variable used to measure the three primary study constructs is reported using descriptive statistics. The Likert scale, which ranges from 1 to 7, was used to gauge how much agreement there was, and the score is compared to the scale to determine how frequently the indicators of the variables occur in the manufacturing sector. With a scale of 1-7. Note: (1-1.99 = strongly disagree, 2.0-2.49 = disagree, 2.50-2.99 = somehow disagree, 3.0-3.99 = not sure, 4.0-4.99 = somehow agree, 5.0-5.99 = agree and 6.0-7.0 = strongly agree). The subsequent sections describe each construct in detail:

4.2.1 Green Procurement

Green procurement practices are identified by phrases like sustainable procurement, and green supply chain management, among others. In earlier literature, the term green procurement has been defined in various respect (Zhu et al., 2018; Sigala, 2018; Xu and Gursoy, 2015). According to Zhu et al. (2018), green procurement is the development of cooperative methods with suppliers to produce goods and services that are environmentally beneficial. It should be noted that, six (6) measurement items were used to gauge the extent of green procurement adoption and implementation by firm. The statistical results of “green procurement” are presented in the table 4.5 below.

Table 4.5: Descriptive Statistics Results for Green Procurement

Items	Min	Max	Mean	S.D
1. Our procurement department employs sustainable supply chain partners for supplying goods and services.	1	7	4.345	1.76
2. Our purchasing department participates in the design of products for disassembly	1	7	4.091	1.692
3. Our purchasing department participates in the design of products for recycling or reuse	1	7	4.409	1.845
4. Our purchasing department actively contributes to the reduction of packaging material	1	7	4.445	1.766
5. Our purchasing department seeks suppliers with low energy consumption	1	7	4.273	1.848
6. Our purchasing department asks suppliers to commit to waste reduction goals	1	7	4.573	1.821
Composite Score	1	7	4.356	1.77

Source: Field data, 2020

The descriptive statistics results for green procurement are presented in Table 4.5. According to the table, the procurement department employs sustainable supply chain partners for supplying goods and services (Mean = 4.345, SD = 1.76). Secondly, the firm's purchasing department participates in the design of products for disassembly (Mean = 4.091, S.D = 1.692). Also, the purchasing department participates in the design of products for recycling or reuse (Mean = 4.409, S.D = 1.845). Again, the purchasing department actively contributes to the reduction of packaging material (Mean = 4.445, S.D = 1.766). Further, the purchasing department seeks suppliers with low energy consumption (Mean = 4.273, S.D = 1.848). Finally, the purchasing department asks suppliers to commit to waste reduction goals (Mean = 4.573, S.D = 1.821). The study therefore found that, green procurement has a composite mean of 4.356 and a standard deviation of 1.77. This shows that, the average firm that participated in the study adopts green procurement to some extent on the 7-point Likert scale.

4.2.2 Green Purchasing Behaviour

Green purchasing behaviour is considered as critical practice in an organizational setting in practicing green procurement in enhancing organizational performance (Tang et al., 2018). According to numerous academics, green purchasing behaviour is a voluntary attempt to practice green procurement which goes above and beyond what is required by law and other regulations (Aragón-Correa and Rubio, 2017). Again, Hart (2019) posits that, the concept of green purchasing behaviour requires firms to adopt environmental preventive procedures for decreasing materials, energy, and wastes, as well as environmental strategies for products and processes. The statistical results are presented in Table 4.6 below.

Table 4.6: Descriptive Statistics Results for Green Purchasing Behaviour

Items	Min	Max	Mean	S.D
1. The involvement of purchasing department has been addressed by the example of senior management	1	7	4.891	1.631
2. Our involvement in green purchasing has been driven by top-down initiatives	1	7	4.627	1.705

3. Our top managers organise training and education for its employees on green procurement practices	1	7	4.773	1.682
4. My firm motivates green procurement committed employees	1	7	4.473	1.872
5. Our procurement department reduces pollution and environmental unfriendly activities for its procurement	1	7	4.727	1.601
6. My firm adopts modern technology for practicing green procurement	1	7	4.691	1.857
7 My firm adopts green standards for procurement of goods and services	1	7	4.491	1.736
Composite Score	1	7	4.668	1.731

Source: Field data, 2020

The table 4.6 shows the descriptive statistics results for green purchasing behaviour. Firstly, the involvement of purchasing department has been addressed by the example of senior management (Mean = 4.891, S.D = 1.631). Secondly, the involvement in green purchasing has been driven by top-down initiatives (Mean = 4.627, SD = 1.705). Also, our top managers organise training and education for its employees on green procurement practices (Mean = 4.773, S.D = 1.682). Again, my firm motivates green procurement committed employees (Mean = 4.473, S.D = 1.872). Furthermore, our procurement department reduces pollution and environmental unfriendly activities for its procurement (Mean = 4.727, S.D = 1.601). Moreover, my firm adopts modern technology for practicing green procurement (Mean = 4.691, S.D = 1.857). Finally, my firm adopts green standards for procurement of goods and services (Mean = 4.668, S.D = 1.731). In conclusion, the composite mean for green purchasing behaviour is 4.668 with a standard deviation of 1.731. This therefore indicates that, the average firm that participated in the study practices green purchasing behaviour at a moderate level on the 7-point Likert scale.

4.2.3 Financial Performance

The ability of combining tangible, intangible, and nonfinancial resources to meet specified corporate financial goals is known as financial performance. Since it is the primary driver behind the creation of a profit-making business, financial performance measurement is crucial to an organization. Based on the availability of data access and the primary reason a firm exists, the study embraced return on equity, return on investment, gross profit margin, net profit, return on assets, and other metrics (Li et al., 2018). Accordingly, the study presents the statistical results in the table 4.7 below.

Table 4.7: Descriptive Statistics Results for Financial Performance

Items	Min	Max	Mean	S.D
1. Our firm generates higher sales and revenue for adopting green procurement practices	1	7	4.600	1.608
2. Our firm's return on investment (ROI) is higher	1	7	4.355	1.852
3. Our firm generates enough shareholder dividends	1	7	4.9	1.695
4. Our firm's return on capital employed (ROCE) is a higher	1	7	4.373	1.763
5. Our firm generates increased profit margin for adopting green procurement practices	1	7	4.691	1.752

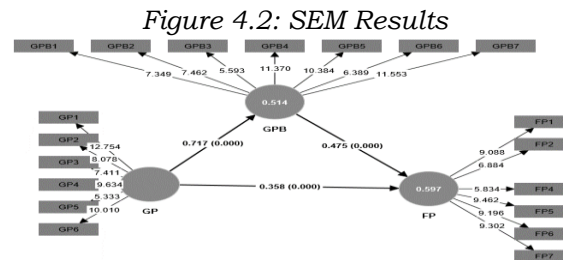
6. The liquidity ratio of my firm is increased in the last few years	1	7	4.555	1.698
Composite Score	1	7	4.579	1.728

Source: Field data, 2020

Table 4.8 shows the descriptive statistics results for financial performance. According to the table, our firm generates higher sales and revenue for adopting green procurement practices (Mean = 4.600, SD = 1.608). Secondly, our firm's return on investment (ROI) is higher (Mean = 4.355, S.D = 1.852). Also, our firm generates enough shareholder dividends (Mean = 4.90, S.D = 1.695). Again, our firm's return on capital employed (ROCE) is a higher (Mean = 4.373, S.D = 1.763). Furthermore, our firm generates increased profit margin for adopting green procurement practices (Mean = 4.691, S.D = 1.752). Finally, the liquidity ratio of my firm is increased in the last few years (Mean = 4.555, S.D = 1.698). According to the analysis, the average firm that participated in the study achieves a moderate level of financial performance with a composite mean of 4.579 and a standard deviation of 1.728 on a 7-point Likert scale.

4.3 Structural Equation Modelling

The PLS Structural Equation model was run to test the path coefficients of the direct relationship and indirect (mediation) relationship between the variables. A bootstrap of 5000 was run to calculate the path coefficients of the research model.



Note: GP = Green Procurement (Independent Variable); FP = Financial Performance (Dependent Variable); and GPB = Green Purchasing Behaviour (Mediator)

Figure 4.2 presents the results of the structural equation model to test the direct and mediation effect between the study variables.

According to the figure, green procurement has a positive and significant relationship with financial performance, given the path coefficient results $\beta = 0.358$, $t = 4.023$, $p < .01$. This indicates that, for every unit of green procurement implemented, an increase of 0.358 units of financial performance is achieved. With a $p < 0.01$, the result lends significant support for H1, which stated that, green procurement has a significant and positive effect on financial performance.

Again, the figure shows that, green procurement positively and significantly relates green purchasing behaviour, given the path coefficient results $\beta = 0.717$, $t = 16.152$, $p < .01$. This indicates that, for every unit of green procurement, an increase of 16.152 of green purchasing behaviour is realised. The result therefore lends support for H2, which stated that, green procurement has a significant and positive effect on green purchasing behaviour.

Further, the result shows that, the green purchasing behaviour impacts positively and significantly on financial performance, given the path coefficient results $\beta = 0.475$, $t = 5.174$, $p < .01$.

< .01. This indicates that, for every unit of green purchasing behaviour, an increase of 5.174 units of financial performance is achieved. The result therefore lends support for H3, which stated that, green purchasing behaviour has a significant and positive effect on financial performance.

Finally, the study further sought to examine the mediating effect role of green purchasing behaviour in the relationship between green procurement and financial performance. The SEM output shows a positive mediation effect of green purchasing behaviour, given the path coefficient results $\beta = 0.340$, $t = 4.762$, $p < .001$. This indicates that, for every unit of interaction between green procurement and green purchasing behaviour, there is an increase of 0.340 in financial performance. This result therefore lends significant support to H4 which stated that, green purchasing behaviour mediates the relationship between green procurement and financial performance.

4.4 Hypotheses Confirmation

From the prior literature reviewed, three hypotheses were developed for this study. The data gathered are analysed to confirm or refute each of these hypotheses. All the hypotheses were supported. The summary of the hypotheses' confirmation are presented in table 4.10 below

Table 4.9: Hypotheses' Confirmation

Hypothesis	Path	t-value	Coefficient (p-value)	Decision
H1	GP→FP	4.023	0.358(p<0.01)	Supported
H2	GP→GPB	16.152	0.717 (p <0.001)	Supported
H3	GPB→GP	5.17	0.475 (p <0.01)	Supported
H4	GP→GPB→FP	4.762	0.340 (p<0.01)	Supported

Source: Field data, 2020 Note: GP=Green Procurement; GPB=Green Purchasing Behaviour; FP=Financial Performance

4.5 Discussion of Findings

The findings made in this study is discussed in the context of the literature reviewed and also the theories adopted for this study. The detail discussion of the findings is presented below based on the objectives set for the study.

4.5.1 Green Procurement and Financial Performance

Due to their primary goal of attaining better profit margins and enhancing shareholder wealth, firms' performance has traditionally been assessed from a financial perspective. However, the development of balancing scorecards and triple-bottom-line strategies has broadened the scope of performance measurement to include nonfinancial indicators including market, social, and environmental performance. Existing research has looked at how green procurement affects financial performance (De Giovanni and Vinzi, 2012; Zhang et al., 2019; Ruiz-Benitez et al., 2018; Chien and Shih, 2017; De Giovanni and Vinzi, 2012; Zhu et al., 2017). Some of the research's findings showed a positive association, while others discovered a negative one.

For instance, Ruiz-Benitez et al. (2018) and Zhang et al. (2019) conducted study on the effect of green procurement on financial performance. The study concluded that green procurement techniques had a favorable effect on businesses' financial success. The ability of combining tangible, intangible, and nonfinancial resources to meet specified corporate financial goals is known as financial performance. Since it is the primary driver behind the creation of a profit-making business, financial performance measurement is crucial to an organization. Some of the important metrics are return on equity, return on investment, gross profit margin, net profit, and

return on assets (Li et al., 2018). Therefore, numerous research point to a constant link between financial performance and green buying. Spicer (2018) asserts that there is a strong correlation between financial performance and green procurement. Prior studies and literature above is consistent with the research findings, given the coefficient results $\beta = 0.358$, $t = 4.023$, $p < .01$.

4.5.2 Green Procurement and Green Purchasing Behaviour

According to numerous academics, green purchasing behaviour is a voluntary practice to practice green procurement which goes above and beyond what is required by law and other regulations (Aragón-Correa and Rubio, 2017). Again, Hart (2019) posits that, the concept of green purchasing behaviour requires firms to adopt environmental preventive procedures for decreasing materials, energy, and wastes, as well as environmental strategies for products and processes. Green purchasing behaviour is considered as critical practice in an organizational setting in practicing green procurement in enhancing organizational performance (Tang et al., 2018).

According to Chen and Chang (2012), the decision-making process underlying green purchasing behaviors can be characterized as a complex system of possibilities. Lee et al. (2019), to lower environmental risk, businesses that engage in green purchasing are more likely to choose products and services from suppliers who have had little to no environmental litigation. Mudgal et al. (2019) also concurs that, green behavior intention is a concept that assigns both firms and consumers the necessary responsibility or co-responsibility for addressing environmental problems by adopting environmentally friendly behaviors such as using organic products, using clean and renewable energy, and researching goods produced by companies with zero, or nearly zero, environmental impact. In other words, green procurement adoption requires that, management of firms behaves more greenly and to be environmentally conscious during procurement and supply chain practices. Given the coefficient results $\beta = 0.717$, $t = 16.152$, $p < .01$, it could be said that, the current result is consistent with and support the findings of prior studies.

4.5.3 Green Purchasing Behaviour and Financial Performance

It is well-established in the literature that, management commitment to environmentally friendly behavior is crucial to an organization's greening plan, and the adoption of regulations that will result in more environmentally friendly company practices (Daily et al., 2012; Paille, Boiral, and Chen, 2013; Paille, 2017). Any organization that wants to increase its financial performance typically needs to match the employee's green behavior with the organization's green organizational goals and culture. Businesses with green behaviour intention adopts and strictly enforce environmental ethics to attain a high level of production while utilizing scarce resources and implementing green technology and strategies to reduce environmental expenses (Freeman, 2016). Simultaneously, product value will be enhanced, and environmental mitigation costs would be reduced. Finally, in the face of stiff global competition in the business environment, firms with green purchasing behaviour for green procurement innovations reduces the cost of operations, hence, improve the financial performance of firms. The result from the current study is consistent with the above extant literature, given the path coefficient results $\beta = 0.616$, $t = 6.745$, $p < .01$.

4.5.4 Mediation Effect of Green Purchasing Behaviour

Finally, the study further sought to examine the mediating effect role of green purchasing behaviour in the relationship between green procurement and financial performance. The SEM

output shows a positive mediation effect of green purchasing behaviour, given the path coefficient results $\beta = 0.340$, $t = 4.762$, $p < .001$. This indicates that, for every unit of interaction between green procurement and green purchasing behaviour, there is an increase of 0.340 in financial performance. This result therefore lends significant support to H4 which stated that, green purchasing behaviour mediates the relationship between green procurement and financial performance. In support of the existing literature, Boiral, and Chen (2013) posits that, green procurement improves the financial performance of firms, however, the green purchasing behaviour in procurement activities positive mediates the relationship between green procurement and financial performance.

5.0 CONCLUSION

The main objective of the study was to examine the mediating effect of green purchasing behaviour in the relationship between green procurement and financial performance. Based on the literature reviewed and the results of the study. the following findings were presented. The first specific objective of the study was to examine the relationship between green procurement and financial performance. It was descriptively found that, the average firm adopts green procurement at a moderate level with a composite mean of 4.356. It was further found that, green procurement has a positive and significant relationship with financial performance.

Secondly, the objective specifically sought to examine the relationship between green procurement and green purchasing behaviour. From the descriptive statistics results, it is shown that, the composite mean for green purchasing behaviour is 4.356 with a standard deviation of 1.77, which indicates a minimal support for green procurement adoption. The study again shows that, green procurement positively and significantly relates with green purchasing behaviour.

The third specific objective of the study was to assess the relationship between green purchasing behaviour and financial performance. the study shows that, green purchasing behaviour had a composite mean of 4.668 with a standard deviation of 1.731, indicating a high extent to which green purchasing behaviour is implemented. Again, given the path coefficient results, it was found that, green purchasing behaviour significantly and positively impacts financial performance. The result therefore lends support for H3.

Finally, the study further sought to examine the mediating effect of green purchasing behaviour in the relationship between green procurement and financial performance. The SEM output shows a positive mediation effect of green purchasing behaviour, given the path coefficient results. This indicates that, for every unit of interaction between green procurement and green purchasing behaviour, there is an increase of 0.340 in financial performance. This result therefore lends significant support to H4 which stated that, green purchasing behaviour mediates the relationship between green procurement and financial performance. In support of the existing literature, Boiral, and Chen (2013) posits that, green procurement improves the financial performance of firms, however, the green purchasing behaviour in procurement activities positive mediates the relationship between green procurement and financial performance.

Based on the findings of the study, the following conclusions are highlighted. The study could conclude that, manufacturing firms in Ghana adopt green procurement for their procurement activities. Again, from the analysis of the study, it could be concluded that, there is a positive and significant link between green procurement and financial performance. Also, the study

concludes that, green procurement and green purchasing are positively and significantly related. Further, the study concludes that, green purchasing behaviour and financial performance are positively linked. Moreover, it could be said that, green purchasing behaviour positively and significantly mediates the relationship between green procurement and financial performance. these in the nutshell concludes that, all the three variables are positively and significantly related.

Form the findings and conclusions of the study the following recommendations are provided. It was found and concluded that, the green procurement practices increase the financial performance of manufacturing firms in Ghana, hence a positive relationship between the constructs. It is therefore recommended that, management of these firm invest more resources into green procurement practices so as to increase the extent of financial performance to higher level.

Again, the concept of sustainable and green procurement is a newly introduced procurement and supply chain practice, hence, the understanding and its implementation is low among firms in the manufacturing sector. It is therefore recommended that, management must train and educate employees and workers to appreciate the need to adopt and practice green procurement. The study's predictor variable was green procurement and its relationship with financial performance and the mediating effect of green purchasing behaviour. It could be said that, green procurement is a component/dimension of sustainable procurement. It is however, recommended that, future researchers must consider investigating the effect of sustainable procurement on firm financial performance.

Again, the study conceptualized financial performance as the dependent/predicted variable. However, future studies and researchers are recommended to consider the effect of sustainable procurement on green performance as a predicted variable instead of financial performance.

Finally, the current study adopted the manufacturing sector as a case study. the reason was that, it is that sector which predominantly procures goods and materials for further production. Though the study found positive relationship between green procurement financial performance. However, future studies are therefore recommended to conduct a comparative analysis between the manufacturing and service sector on sustainable procurement and its effect on green performance.

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