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Sustainable Buying and Buyer Performance: Evidence from a Ghanaian Perspective

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ABSTRACT: *Purpose- The purpose of this paper is to examine sustainable buying and its impact on buyer performance using Colleges of Education. This paper is a quantitative analysis based on seven Colleges of Education. Non*-probability sampling techniques are used for choosing the unit of analysis. Also, data was collected through a well-structured questionnaire. *The study found that the aspects of sustainable buying (Env, Soc, Eco) lead to improved buying performance. The study identified that buying performance is affected by e-buying systems, communication, organizational culture, business strategy, and size of organization, information available and monitoring. The study further discovered that the benefits of sustainable buying are improved quality of products, market expansion, increased intangible savings, reduced harmful emission of gas, value for money and increased efficiency in energy consumption. The study established the challenges of sustainable buying to be ineffective leadership, inadequate buying policies, budgetary constraint, inadequate compliance inspectors, lack of supplier collaboration and lack of capacity. Research limitations- the sample size is still limited and in future a quantitative analysis should be used. The study is limited in terms of the geographical area. The findings of the study are more likely to be held for other schools in all emerging market contexts. However, the applicability of these findings to other contexts needs further investigations. While interest on sustainable buying is increasing in emerging markets, there is little written on sustainable buying and its impact from the perspective of researchers from such market. Therefore, the impact of sustainable buying on buying performance has not been investigated so far.*

KEYWORDS: Ghana, sustainable buying, buyer performance, Constraints, Benefits, Emerging Markets, Schools

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INTRODUCTION

Scholars in international business have researched on several aspects of buying management covering corporate social responsibilities, competitiveness of buying and sustainable development (Mitra and Datta, 2014; Halpem and Kidalov, 2013; Rimmington, Smith and Hawkins, 2006; Islam, Murad, McMurray and Abalala, 2017). Though such studies are valuable contributions to the procurement literature, relatively few of them focus specifically on sustainable buying. However, little is known in sustainable buying and even those works conducted in the area of sustainable buying were done in developed economies like Europe, Asia and other developed countries (Walker and Brammer, 2012; Thomson and Jackson, 2007; Lember, Kalvet and Kalvet and Kattel, 2010; Erridge et al., 2012). Also, few of such works were done in the Sub-Saharan Africa countries such as Nigeria and Ghana (Akenroye, Sabitu and Eyo, 2013). Nonetheless, most of the studies focused on the adoption of sustainable buying without looking at the impact of sustainable buying. This demonstrates that the area is under-researched and hence, there is a gap that needs to be filled with literature on the aspect of sustainable buying and its impacts on buying performance.

Furthermore, researchers such as Kisten (2016) and Aldenius and Khan (2017) have established that sustainable operations have gained interest from scholars as well as practitioners. This is because firms face the challenge of gaining the competitive edge in the current competitive business environment, hence, firms need It to ensure that they gain as well as to sustain their competitive edge over time They, therefore, proposed that there should be further research that concentrates on sustainable buying, to broaden the scope of knowledge in the area.

Furthermore, Authors like Walker, Miemczyk, Johansen and Spencer (2012) further emphasized that sustainable buying is the current focus of purchasing and supply management. Though, other scholars like Grandia et al., (2015) argued that implementing sustainable buying is a difficult task for buying managers, particularly in the public sector. Preuss (2009) added that sustainable buying in the public sectors has received less attention as compared to the attention given to it by the private sector. Other research works conducted in the area of sustainable buying indicated that there is a lack of clear definition of sustainable buying (Lehtinen, 2012; Walker et al., 2012). Therefore, they recommended that studies must focus on addressing this gap within the procurement literature, which this study seeks to address.

Generally, buying officers are obliged to comply with all sustainable regulations (Oruezabala and Rico, 2012). This is because it affects the purchasing function positively if done effectively. However, scholars have argued that despite the several benefits gained because of sustainable buying, it seems that the actual potential of it in terms of buying performance has not been realized fully (Chan, He and Wang, 2012). They further suggested that little is known of

sustainable buying in an organization. Authors like Walker et al., (2012) and Thoumy and Vachon (2012), Erridge et al., 2012; Carswell, Connolly, Erridge, McAlister and McChasney (2009) argued that most of the works were done in the sectors like hospitals, constructions, and manufacturing organizations. However, few such works are done in the educational sector (Gough and Scott, 2007). Also, most of the works were conducted in developed economies like Northern Ireland, United Kingdom, and France (Walker et al., 2012; Thomas and Jackson, 2007; Brammer and Walker, 2011). In Ghana, few of such works have been done in the area of sustainable buying and they were conducted in sectors like construction and energy (Djokoto, Dadzie and Ohemeng-Ababio, 2014; Hensengerth, 2013) and even that, they focused on barriers of sustainable buying. Consequently, this has facilitated the need to investigate the impact of sustainable buying on buying performance. Specifically, the research addresses the following specific objectives:

- To assess the impact of sustainable buying on buying performance in various School.
- To investigate the benefits of sustainable buying practices to various School.
- To examine the challenges that affect sustainable buying practices in various School.
- To examine other factors that affect buying performance apart from sustainable buying.

LITERATURE REVIEW

Sustainable Buying

Sustainable buying considers social, economic, and environmental factors and it covers price and quality considerations of both products and services procured. This creates a situation where buying managers are faced with the need to comply with sustainable regulations (Rico, 2012; Kuhlman and Farrington, 2010; Moldan, Janouskova and Hak, 2012). It is currently integrated into policies made in all aspects of the economy (Finkbeiner, Schau, Lehmann and Traverso, 2010; Gibson, 2006). Sustainable buying was focused on, mainly on environmental aspects. Environmental factors cover recycling packaging (Bakir, 2013). Another study identified that green public buying is a critical tool used by policy makers to ensure It (Qiao and Wang, 2011; Zhu, Geng and Sarkis, 2013). Wang, Chan, and Li (2015) stated that sustainable buying is of significance to buying activities and it is an integral part of a firm's responsibilities and strategy (Young, Nagpal and Adams, 2016; Haake and Seuring, 2009).

Sustainable buying poses challenges to firms, though it is critical to the achievement of sustainable and responsible organizational practices (Silvius, 2017). From the point of view of Brindley and Oxborrow (2014) found that there are diverse views of organizations on sustainable practices including procuring green products. It is identified as a source of competitive advantage (Hsu, Chang, and Luo, 2017). Benefits derived from sustainable practices include improved technological innovation, improved social interventions, improved political interventions and the efficiency in the use of natural resources.

Furthermore, Kaur and Singh (2017) found that sustainable buying is key to performance due to the high level of carbon emissions, hence, there is the need to be environmentally responsible. Tseng, Wu, Ma, Kuo and Sai (2017) also argued that sustainable buying is key to improving performance of the industry. This is achieved through the effective and efficient use of resources and the management of time. Berzosa, Bernaldo and Fernandez-Sanchez (2017) and Adams, Martin, and Boom (2018) found that educational institutions play a crucial part in enhancing sustainability in buying and its development in the business environment. Arnold (2017) argued that sustainable buying basically concentrates on implementing sustainable requirements along the value chain. Therefore, firms should adopt sustainable buying (Roman, 2017).

Public Buying

Public buying is a process by which public authorities procure to meet the needs and goals of their institutions (Baldi, Bottasso, Conti and Piccardo (2016). Public buying is crucial to promoting innovation within firms. This is because it helps customers to make informed and wise decisions in the market (Uyarra, Edler, Garcia-Estevez, Gerorghious and Yeow, 2014). They affirmed that public buying directs its effort to the acquisition of products being tangible and intangible by both private and public organizations. Also, public buying aims at achieving accountability and fairness in trade (Spagnolo, 2012).

Also, Mansi (2015) advised that public buying activities enhance corporate social responsibility activities within an organization irrespective of the size of the firm. Despite these known benefits some scholars like Baldi et al., (2016) concluded in their study that public buying contributes largely to over-corruption. Notably, public buying has achieved success in achieving socially responsible goals rather than achieving environmental goals (Amann, Roehrich, EBig and Harland, 2014). Though, the same study suggests that practitioners should enforce public buying to achieve both environmental and social goals because of the strategic influence public buying has on such goals.

According to Auriol, Straub and Flochel (2016) concluded that public buying has been the area with a high corruption level in developing economies and Ghana is of no exception. They concluded that the activities of public buying have risen over the long run. For instance, Statistics show that Paraguay had public buying operations totaling 6% of the country's gross domestic product. In the same vein, Torvien and Ulkuniemi (2016) argued that public buying is influenced by social, economic as well as political events in the business event. Another study like Caloghirou, Protogerous, Panagiotopolous (2016) also claimed that public buying activities account for 20% of the buying budget in the European countries but they concluded that findings on public buying as a driver to innovation remain inconsistent.

According to Witjes and Lozano (2016), Public buying involves the following stages, namely, the preparation stage, specification stage, the sourcing stage, and the utilization stage. Public buying is observed as an effective strategy that promotes innovation (Edler and Georghiou,

2007) as well as ensuring sustainable supply chain (Bostrom, Jonsson, Lockie, Mol and Oosterveer, 2015). Moreover, Loader (2015) stated that challenges of public buying include the competence of public professionals and contract size.

Sustainable Public Buying in Ghana

According to the Public Buying Authority (2017), sustainable buying is a process where organizations meet the needs of society and involve customers. The Buying Amendment Act, (2016) (Act 914) emphasizes that delivery, operation, maintenance, use, re-use, recycling options, disposal, and suppliers' capabilities to address the consequences via supply chain. The report shows that the market is ready and has the highest potential to respond to such changes or initiative. The survey admitted that there are various sustainable goods on the Ghanaian market. The Public Buying Amendment Act (2016) (Act 914) focuses on economic, social and a bit of attention on environment issues though, it does not fully capture the aspect of the environment. Below are the few issues that are looked at in terms of environmental issues:
Other issues that are focused on in the Act are on social issues. These are:

- Equal opportunity
- Occupational health and safety
- Child labour
- Physically challenged.

However, it records that the above social issues are not part of the buying Act (663) but are for supplier compliance. The Act 2016 (Act 914) amended integrates economic, social and environmental issues into the law by reframing the act of buying to be "to secure a judicious, economic and efficient use of public funds and to ensure that public buying is carried out in a fair, transparent, non-discriminatory, environmentally and socially sustainable manner". The Act 2016 (Act 914) further ensures that tenderer qualifications are modified on sustainable criteria like ethical and environmental standards.

Buying Management

Batenburg and Versendaal (2008) mentioned that buying as a business function is a strategic area of performance management and maturity dimensions like strategy, e-technology, process, information, monitoring, and organization largely affect it. Studies such as Kumar, Ozdamar and Ng (2005) found that the measuring of performance in buying enhances competitive advantage in the long run. Several studies, including Biron, Farndale and Paauwe (2011) and Caniato, Luzzini and Ronchi (2012) noted that in measuring buying performance, indicators like cost, time, quality, flexibility, innovation and it are the current measures to be used.

Sustainable Buying

According to Meehan and Bryde (2014), "sustainable buying is a means of pursuing environmental, economic and social goals via the process of purchasing and supply". Berry and McCarthy (2011), Walker and Phillips (2009) and Grob and Benn (2014) added that "*sustainable buying is a process whereby organizations meet their needs for goods and services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organizations but also to the society and the economy by minimizing damage to the environment". Essentially, it is important to note that sustainable buying is a subset of sustainable buying (Islam et al., 2017) whiles A*kenroye et al., (2013) concluded that in most developed economies, it is a feature of the buying process. However, in emerging economies like Nigeria and Ghana, sustainable buying is a new concept.

Gimenez and Tachizawa (2012) and the World Commission on Environment and Development (1987) emphasized that sustainability in buying should be extended to suppliers. In measuring sustainability buying in terms of its performance, measures like the following are used (Ahi and Searchy, 2015):

- "Quality
- Gas emission
- Green house
- Energy use
- Energy consumption"

Miemczyk et al., (2012) postulated that sustainable criteria such as environment, green, pollution, energy use, recycling, ethics, diversity, social standards, human rights, and child labour are used to evaluate buying activities. In addition, Lehtinen (2012) argued that the influence sustainability has on buying processes, particularly public tendering process is challenging. He attributed the challenges faced with the increased economic pressure on the public sector. Nevertheless, he suggested that sustainability criteria should be included in the buying process. They further indicated that the dimensions of sustainability in buying include ecological, economic, and social factors.

Literature further provides empirical evidence to the fact that factors like transparency, organizational culture and business strategy influence the adoption of sustainable buying in the public sector (Preuss, 2009). He also admits that leadership style influences the implementation of sustainable buying. Similarly, Haake and Seuring (2009) recognized "*sustainable buying as a set of supply chain management policies, actions taken, and relationships formed in response to concerns related to the natural, environmental and social issues with respect to design, acquisition, production, distribution, use, reuse and disposal of firm's goods and services".*

In a similar vein, Walker et al., (2012) found that e-buying and communication improves environmental, labour, health, and safety aspects of sustainable buying. On one hand, Blome, Hollos and Paulraj (2014) found that market performance of the buying firm and management commitment affect sustainable buying. Kistein (2016) in his work concluded that clear policies, strong technical expertise, strategic partnership, and the potential to export locally manufactured goods influence sustainable buying.

Sustainable buying mainly focuses on the environmental aspect of buying. Environmental factors cover two areas like recycling and packaging (Bakir, 2013). Qiao and Wang (2011) and Zhu, Geng and Sarkis (2013) identified that policymakers to ensure sustainability in buying critically use the green aspect of public buying. Also, Wang and Li (2015) postulated that sustainable buying is of significance to buying activities. Young, Nagpal and Adams (2016) and Haake and Seuring (2009) concluded that sustainabilty is an integral part of a firm's responsibilities and strategy.

Also, sustainable buying has received attention over time and private institutions deal with sustainable buying voluntarily (Chiarni, Opoku and Vagnoni, 2017). Aktin and Gergin (2016) postulated that sustainable buying is meeting the needs of companies focusing on the optimum monetary value, whereas eliminating the negative impacts on society and environment. Uttam and Roos (2015) added that sustainable buying is considering environmental and social issues in the process of procuring goods and services. On the other hand, Witjes et al., (2016) emphasized that it focuses on environmental and socioeconomic concerns.

Ruparathna and Hewage (2015) found that an environmental criterion for sustainability is the most used. Nevertheless, Large, Kramer and Hartmann (2013) found that companies place value on ecological and social factors. In addition, sustainable buying is the means of implementing environmental, economic, and social goods through purchasing and supply (Meehan and Bryde, 2014). They suggested that sustainable buying determines an organizational impact. Mansi (2015) mentioned that sustainable buying covers areas such as economic development, philanthropy; community development practices; product responsibility; environment; diversity; safety and human rights.

Green Public Buying

Green buying has gained importance in developing economies, including Asia (Geng and Doberstein, 2008). Green buying aims at decreasing impacts of environment on the lifecycle of products (Testa, Iraldo, Frey and Daddi, 2012; Rainville, 2017). Scholars like Bratt, Hallstedt, Robert, Broman and Oldmark (2013) and Pacheco-Blanco and Bastante-Ceca (2016) emphasized that green public buying has a huge potential in achieving sustainable production and consumption across the globe. Another study conducted by Zhu, Geng and Sarkis (2013) affirmed the fact that green buying practices are an essential device for implementing sustainable

buying in terms of production, consumption as well as disposal. Testa, Annunziata, Iraldo and Frey (2016) promote the purchases of environmentally friendly products and value for money. Ahsan and Rahman (2017) outlined the following as challenges:

- Inadequate management support
- Lack of incentives for green purchase
- Inadequate financial support
- Lack of green preferences in purchasing
- Lack of understanding of green policy
- Shortage in green suppliers
- Lack of supplier collaboration

Benefits of Sustainable Buying

Sustainable buying helps firms to derive numerous benefits. Some of these benefits are value for money, sustain economic development, promotes intangible savings and innovation, supports technology transfer, reduce poverty rates, expands local market, improve supplier capacity, enhances competition, job creation, wealth creation, and reduction in harmful emission and improves working condition (Public Buying Authority, 2017); sustainable development (Preuss, 2009; Ball and Bebbington, 2008); economic development (Adham and Siwar, 2012); improved performance (Zhu, Sarkis and Lai, 2012); superior performance (Akenroye, 2013); value for money and sustainable buying (Caldwell, Walker, Harland, Knight, Zheng and Wakeley, 2005); reduction in carbon emission (Basu, Bai and Palaniappan, 2015).

Other authors like Nijaki and Worrel (2012) concluded that it is used to enhance economic and environmental objectives including creating jobs. Sonnion (2009) further concluded that buying policies ensure economic, environmental, and social benefits of sustainable development. Furthermore, a recent study by Grandia (2016) concluded that sustainable buying reduces the negative aspects of production and consumption.

Challenges of Sustainable Buying

Sustainable buying poses several challenges to buying managers and this challenges include financial constraint, lack of capacity, lack of sustainable buying compliance inspectors and resistance to changes from service providers, budget holders and politicians (Public Buying Authority, 2017); lack of policies on sustainable buying, financial constraints, lack of buying policies, lack of effective leadership and the lack of supplier collaboration (Islam et al., 2017); lack of awareness **(**McMurray, Islam, Siwar and Fien, 2014**)**; additional cost, lack of knowledge, lack of professional capacity, lack of governmental incentives, lack of public awareness and lack of green technological space (Saleh and Alalouch, 2015).

Measures of Buying Performance

There are several measures of buying performance and these measures include reduction in the cost of raw material and services which can allow companies to competitively market the price of their finished goods; reduced buying costs and improved achievement of buying organizational goals (Kakwezi and Nyeko, 2014; Mutai and Okello, 2016; Frimpong, 2017); (Muma et al., 2014; Osuga et al., 2015); the level of price variance, level of contract utilization, expiration management, supplier performance, buying cycle time and variability, payment processing time, buying cost and staff training (Rorich et al., 2015); cost reduction, enhanced profitability, assured supplies, quality improvements and competitive advantage (Kamotho, 2014) and savings (bailey, 2005).

Literature suggests that efficiency and effectiveness are the main determinants of performance. Sundqvist, Backlund and Chroneer (2014) argued that efficiency and effectiveness serves as basis for internal improvements in terms of time, cost, quality and external improvement particularly, customer satisfaction. Here, Lee, Rho and Yoon (2015) and Dehghani, Gharooni and Arabzadeh (2014) suggested that efficiency is the process of attaining predetermined goals of an organization and Dehghani et al., (2014) emphasized that it is the 'degree of movement towards the predetermined goals as well as the extent to which the activities of an organization help to achieve its goals. Also, in measuring organizational effectiveness and efficiency, Sundqvist et al., (2014) used time, cost, and quality as measures in their study.

Mitra and Datta (2014) acknowledged that there are two dimensions of performance namely, economic performance and competitiveness. They further measured performance with variables like quality, productivity, efficiency, innovation, cost-savings, market penetration of new products, acquisitions of new customers, profitability, and growth. Berry and McCarthy (2011) indicated that there are qualitative and quantitative measures used in comparing actual outcomes against standards. They further mentioned that measures of performance include safety, responsiveness, cost, comfort, asset performance, reliability, and sustainability.

Literature further recognized that there are several factors that affect efficiency and effectiveness (Gregory, Hanes, Armenakis and Shook, 2009; Zheng, Yang and McLean, 2010; Parhizgari and Gibert, 2004). For example, Gregory et al. (2009) concluded that though organizational culture influences firm effectiveness, this relationship is further mediated by culture. Also, Zheng et al., (2010) admitted that knowledge management mediates the impact of organizational culture on organizational effectiveness. Additionally, capability and efficiency is found to contribute significantly to effectiveness (Jin, Kanagaretnam, Lobo and Mathieu, 2013).

In addition, Hollos, Blome and Foerstl (2012) claimed that collaborating efforts between suppliers and firms affect buying performance. Other scholars like Janda and Seshadri (2001) postulated that the various strategies used in purchasing affects buying performance. Also, the

planning process of buying influences the actual performance of buying in an organization (Kiage, 2013).

The Impact of Sustainable Buying on Buying Performance

Empirical evidence suggests that sustainable buying translates into increased buying performance. For instance, Luzzinin, Brandon-Jones, Brandon-Jones, and Spina (2015) in a similar study found that sustainable buying relates to buying performance positively. Another study by Uttam and Ross (2015) also recognized that sustainable buying leads to competitive advantage. Hoejmose, Roehrich, Grosvold, Marglaras, Gallear and Fotopoulous (2014) concluded sustainable buying influences performance in terms of efficiency, flexibility, responsiveness, and product quality.

Other scholars like Su, Horng, Tseng, Chiu, Wu, and Chen (2016) found that sustainable buying improves material savings. Golini, Longoni and Cagliano (2014) also added that sustainable buying leads to superior performance. Sustainable buying is found to safeguard the lives of customers, which in turn leads to customer satisfaction (Gunasekaran and Spalanzani, 2012). Oruezabala and Rico (2012) concluded that sustainable buying impacts on how suppliers are managed in an organization. Also, it affects how the supply networks are managed in totality (Crespin-Mazet and Dontenwill, 2012).

Dimensions of Sustainable Buying

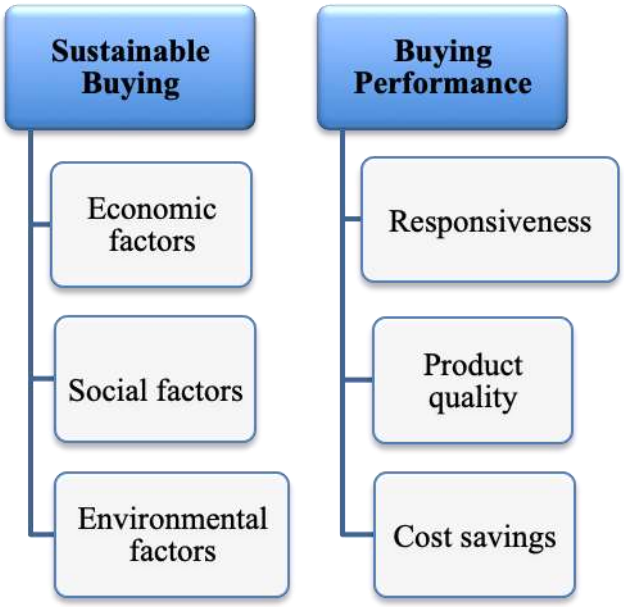
Jaehn (2016) mentioned that the three dimensions of sustainable buying are economic, social and ecological dimensions. Stindt (2017) argued that the dimensions of sustainable buying include three main dimensions namely, economic, social, and ecological factors.

Environmental Factors: Environmental factors measures include pollution prevention (Rusinko, 2007); use of energy, land and resources (Gerbens-Leenes, Moll and Uiterkamp, 2003; Borghi, Gallo, Strazza and Borghi, 2014); climate change, waste reduction, reduction in resources depletion (Zhou, Ang and Poh, 2008; Feng, Chu, Ding, Bi and Laing, 2015; Borghi et al., 2014; Zhou, Sun and Zhou, 2014); green competency, environmental efficiency and green image, energy efficiency and reduction in greenhouse gas (Brodt, Kramer, Kendall and Feenstra, 2013; Borghi et al., 2014).

Social Factors: Social factors measures include access to health, education and other key services, equity for future generations to benefit from the activities of the current generation (Mckenzie, 2004; Ashby, Leat and Hudson-Smith, 2012); cultural integration, healthcare, social security and corporate social responsibility (Hutchins and Sutherland, 2008; Behoit, Norris, Valdivia, Ciroth, Moberg, Bos and Prakash, 2010); sense of future, sense of community belonging, corporate social responsibility; child labour and green packaging (Reuter, Foerstel, Hartmann and Blome, 2010).

Economic Factors: these factors measure issues like Gross National Product, growth rate, innovation, competitiveness, relative market share, returns, profits, liquidity (working capital) (Spangenberg, 2005).

The Conceptual Framework



Source: Walker et al., (2009)

Conceptual Framework

It is important to note that that this research will focus only on motivations and challenges from the franchisee's perspective. From the literature reviewed, it can be acknowledged that there are five main motivations for franchising and these have been conceptualized in the model below. It can be observed from the above conceptual framework; it can be observed that sustainable buying affects buying performance. The researcher conceptualizes that sustainable buying may or may not affect buying performance. He further measured sustainable buying based on economic, social, and environmental factors whereas buying performance is measured with responsiveness, cost savings and product quality.

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RESEARCH METHODS

Research Design

Study Population

Population is the "*entire set of units for which the survey data are to be used to make inferences*" (Cox, 2008). It is also "*the finite set of elements to be studied*" (Lee, 2008). Population is also "*the entire collection of entities the researcher seeks to understand in order to make inferences*" (Litt, 2010). The population for this study comprised all buying professionals who are directly involved in public buying activities in School in Ashanti Region covering 7 Colleges of education in the region out of the 38 Colleges of Education nationwide including, Offinso College of Education, St. Louis College of Education, Akrokerri College of Education, St. Monica's College of Education, Wesley College of Education, Mampong Technical College of Education and Agogo Presbyterian College of Education.

Sample Size and Sampling Technique

A sample is "the number of units that are chosen from which data are gathered" (Shapiro, 2008). Therefore, sample is a subset of a population (Huck, Beavers, and Esquivel, 2010). In studying this nature, there is the need to choose a reasonable number of respondents to form the target sample so concise research could be carried out with reasonable probability of success. A sample size of fifty (50) officers were selected from the each of these schools in Ashanti region in Ghana. This is understandable bearing in mind that not a greater number of persons are involved in buying practice in School. Table 3.1 below presents the breakdown of the sample size.

Table 3.1: Breakdown of Sample Size

Number	School	Sample
1.	Offinso College of Education	7
2.	St Louis College of Education	8
3.	Akrokerri College of Education	7
4.	St. Monica's College of Education	7
5.	Wesley College of Education	8
6.	Mampong Technical College of Education	6
7.	Agogo Presbyterian College of Education	7
Total		**50**

Source: Field Survey (2017)

In the view of Stangor (2007), sampling is "*selection of people to participate in a research project, usually with the goal of being able to use these people to make inferences about a larger group of individuals*". Also, sampling is the "*process of examining a portion of a larger group of potential participants to use the results to represent the entire population*" (Fritz and Morgan, 2010). Any sampling process therefore presupposes the existence of a population from which the sample will be drawn. There are two basic sampling criteria used in the research field. These are probability and non-probability sampling (Stangor, 2007; Opoku, 2007). Probability sampling is a sampling technique that provides the assurance that the results are accurate and fair whereas non-probability sampling is a technique used without knowing whether the chosen sample represent the entire population or not (Hussey, 2010).

It is necessary to note that the choice as to probability or non-probability sampling is usually determined by the nature and composition of the working universe or population from which the sample will be drawn, and the nature of the study or research being carried out. The researcher adopted non-probability sampling method thus convenience sampling method. Convenience sampling is also known as accidental sampling. It is "*the selection of a sample of participants based on how convenient and readily available" (Sa*lkind, 2010). This method is adopted by the researcher with the aim of getting the right kind of information from respondents as they are well vexed and connected with buying practices in the school.

Data Collection Instrument

The researcher relied predominately on primary source of data collected via questionnaires. The questions are grouped into categories to collect data on demographic data, assessing the impact of sustainable buying on buying performance in School and challenges in achieving sustainable buying. The first part of the questionnaires, which focused on demographic data, included the gender, age, and level of education, position in a buying unit of School. The second part collected information about sustainable buying in the school using a Likert scale. Respondents are asked to rate on a scale of 1– 5; "1" rating indicated strongly disagree of the required information whilst "5" indicated that the respondents strongly disagree. Validity and reliability are usually done to check accuracy of the instrument used. In this study, an expert in the area of procurement checked the questionnaire and the researcher further used five persons from each of the schools to test its reliability. Some errors were found and checked accordingly. It was later corrected to suit the respondents and the environment within which the research is been conducted.

Data Analysis

This section deals with the methods of analysis of the data. The quantitative method was used to analyze the data. The results were computed into percentages and subsequently presented in the form of pie charts, bar charts and tables. Data was analyzed using Statistical Package for Social Sciences (SPSS 21.0) and other relevant software such as Microsoft Excel are the main tools employed to analyze the data to help interpret results. The results of all the objectives except objective one was analyzed using mean and

standard deviations and subsequently presented in tables. On the other hand, the first objective was analyzed using a regression analysis.

Below is the regression equation for the analysis:

$$ProPer = \alpha + B_1 Env + \beta_2 Soc + \beta_3 Eco + \varepsilon \text{ ----------(1)}$$

$$ProPer = 1.619 + 0.011Env - 0.005Soc - 0.007Eco \text{ ……(2)}$$

Where $ProPer$ is Buying performance, Env is Environment Factors, Soc is social factors, Eco is Economic factor and ε is the error term and α is the constant. The dependent variable is Buying performance, whereas the independent variables are Economic, Environmental and Social factors measuring the It of buying.

With regards to ethical issues, the respondents did not give the researcher any problem whatsoever. Hence, the outcome of the result of not affected by the results. The researchers sought permission from the school governing body as well as Heads of Buying Units in the various schools. Ethical issues such as confidentiality, personal data protection, consent and respect of research respondents or subjects are rigorously observed. All research participants had their permissions sought and their privacy for answering the question is assured and permitted. This means respondents' individuality and right not to assist in the study is respected.

EMPIRICAL RESULTS

Demographic Characteristics of Respondents

This section looks at demographic characteristics like work experience, gender, number of years in the industry and the organizational position of the respondents. Frequencies were used to analyze the demographic characteristics of respondents. The results are further presented in the table.

Table 4.1: Demographic Characteristics

	Responses	Frequency	Percent
Work Experience	Below 5 years	12	23.9
	5-10 years	20	40.2
	11-15 years	4	8.0
	Above 15 years	2	4.0
	No indication	12	23.9
Total			**100.0**
Organizational Position	Top management	12	24.0
	Middle management	19	38.0
	Lower-level management	9	18.0
	No Indication	10	20.0
Total		33	100.0
Gender	Male	33	66.0
	Female	17	34.0
Total			100.0

Source: Field Survey, 2017

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The Impact of Sustainable Buying on Buying Performance

The first objective of the study seeks to examine the impact of sustainable buying on buying performance. The researcher conducted a reliability test to measure the internal consistency between the variables. He further used regression analysis to find the impact of sustainable buying on buying performance.

Reliability Test

Table 4.2: Reliability Statistics

Criteria	Cronbach's Alpha	N of Items
Sustainable Buying		
Environmental Factors	.822	7
Social Factors	.622	4
Economic Factors	.831	7
Buying Performance		
Cost Saving	.651	3
Responsiveness	.629	3
Quality	.712	4

Source: Field Survey (2017)

From the above table 4.2, the test for internal consistency for measuring sustainable buying constitutes 18 variables in all. Thus, environment factors comprise of 7 variables recording an Alpha value of 0.822. Also, social factors have 4 variables recording an Alpha value of 0.622 whereas economic factors consist of 7 variables also recording an Alpha value of 0.831. This demonstrates a high overall consistency among the 18 variables indicating that such a set of variables are sufficiently reliable and valid and needs no amendment and can be maintained without deleting. Regarding measuring the level of consistency for buying performance, 10 variables are used. Here, cost saving as a component measuring buying had 3 variables and it recorded an Alpha value 0.651; responsiveness with 3 variables also recorded an Alpha value 0.629 and finally, quality with 4 variables recorded an Alpha value of 0.712. This shows that a high overall consistency among 10 variables confirms that such variables are sufficiently reliable

and valid and there is no need for its amendment. Therefore, these variables can be retained for analysis.

Table 4.3: The Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.546[a]	.298	.248	.08492

ANOVA[b]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.129	3	.043	5.952	.002[a]
	Residual	.303	42	.007		
	Total	.432	45			

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.619	.115		14.114	.000
	Env	.011	.003	.615	4.193	.000
	Soc	-.005	.005	-.173	-1.135	.263
	Eco	-.007	.005	-.223	-1.486	.145

Source: Field Survey, 2017

The regression statistics on $ProPer = 1.619 + 0.011Env - 0.0055oc - 0.007Eco$ (2)

The regression analysis indicates that, the R is 0.546 is strong enough, the R Square of 0.298 is rather weak, this is affected by the high standard error = 0.084. The analysis of variance

(ANOVA) is discernable from table 4.2.2 that indeed the three aspects of sustainable buying (Env, Soc, Eco) leads to improved buying performance with a coefficient (1.619) significantly. This result clearly demonstrates that there is a significant and positive relationship between sustainable buying and buying performance. This confirms the findings of scholars like Luzzinin et al. (2015), which concluded that sustainable buying leads to buying performance.

Table 4.4: Descriptive Statistics

Benefits of Sustainable Buying	N	Range	Mean	Std. Deviation	Variance
Sustainable buying contributes to sustained economic development	44	42.00	4.9091	6.06484	36.782
Sustainable buying improves quality products and services	43	3.00	4.2558	.58117	.338
Sustainable buying leads to local market expansion	45	4.00	4.1333	.72614	.527
Sustainable buying increases intangible savings	44	3.00	4.0909	.70935	.503
Reduction in harmful emission is one of the benefits derived from sustainable buying	45	3.00	4.0889	.76343	.583
Sustainable buying offers value for money	45	4.00	4.0889	.84805	.719
Sustainable buying leads to efficiency in energy consumption	43	3.00	3.9302	.79867	.638
Valid N (listwise)	41				

Source: Field Survey, 2018

The Benefits of Sustainable Buying

This section focuses on the benefits of sustainable buying. The first objective of the study seeks to identify the benefits of sustainable buying. The data collected was analyzed using descriptive statistics. The results of the data collected were presented in table 4.3.

Table 4.3 were the responses of respondents. The respondents believe that benefits of sustainable buying include economic development with a mean of 4.90 and a standard deviation of 6.064. They further identified improvement in products and services with a calculated mean of 4.25 and a standard deviation of 0.581 as one of the benefits of sustainable buying. Sustainable buying leads to local market expansion with an estimated mean of 4.13 and a standard deviation of 0.726 and this is mentioned by respondents as one of the benefits of sustainable buying. Another benefit of sustainable buying is identified to be increases in intangible savings with a mean of 4.09 and a standard deviation of 0.709. Another factor that is identified as a benefit of sustainable buying was the reduction of harmful emissions with an agreed mean of 4.08 and a standard deviation of 0.763. Sustainable buying offers firm value for money, and it is identified with a mean of 4.08 and 0.848 whereas efficiency in energy consumption with an agreed mean of 3.93 and a standard deviation of 0.796 is also mentioned as one of the many benefits of sustainable buying.

From the results, economic development, improved quality of products, market expansion, increased intangible savings, reduced harmful emission of gas, value for money and increased efficiency in energy consumption are the benefits of sustainable buying in the selected School. Nevertheless, economic development (4.90) was identified as the main benefits whereas the least of the benefits was efficiency in energy consumption (3.93). These results from the analysis confirms the works of Preuss (2009), Ball et al., (2008) who concluded that sustainable development, economic development (Adham et al., 2012); improved performance (Zhu et al., 2012), superior performance (Akenroye, 2013) and reduction in harmful emission and efficiency in energy consumption (Ahi, 2015) are benefits of sustainable buying.

The Challenges of Sustainable Buying

The section focuses on the challenges of sustainable buying. This is the third objective of the study and the data collected were analyzed using descriptive statistics. The results are presented on Table 4.5.

Table 4.5: Descriptive Statistics

Challenges of Sustainable Buying	N	Range	Mean	Std. Deviation	Variance
Ineffective leadership is a constraint to sustainable buying	44	4.00	4.2500	.99124	.983
Inadequate buying policies is a challenge of It in buying	44	4.00	4.0227	.90190	.813
Budgetary constraints is a challenge of sustainable buying	43	4.00	4.0000	.84515	.714
Inadequate compliance inspectors is a challenge of sustainable buying	44	3.00	3.9318	.84627	.716
Lack of supplier collaboration is a constraint to sustainable buying	44	4.00	3.8636	1.00211	1.004
Lack of capacity is a challenge of sustainable buying	44	4.00	3.8636	.95457	.911
Valid N (listwise)	43				

Source: Field Survey (2017)

From Table 4.5, the respondents identified their views on the challenges of sustainable buying by using 1-5 likert scale. In effective leadership with a mean of 4.25 and a standard deviation of 0.991 and a variance of 0.98 was identified as a challenge of sustainable buying. Another challenge identified was inadequate buying policies with a calculated mean of 4.022 and a standard deviation of 0.901 and 0.81. Furthermore, budgetary constraint with a mean of 4.000 and a standard deviation of 0.845 and a variance of 0.71 was also another challenge of sustainable buying. Inadequate compliance inspectors with a mean of 3.931 and a standard deviation of 0.846 and a variance of 0.71 were identified as a challenge of sustainable buying in School. Also, lack of supplier collaborations with an agreed mean of 3.863 and a standard deviation of 1.00 and a variance of 1.00 was stated to be a constraint of sustainable buying. Finally, lack of capacity with a mean of 3.863 and a standard deviation of 0.954 was also identified as another constraint of sustainable buying.

From the data analysis, the results indicate that the main challenge of sustainable buying is ineffective leadership whereas lack of capacity is the least of such challenges. Although, the results recognized that ineffective leadership, inadequate buying policies, budgetary constraint,

inadequate compliance inspectors, lack of supplier collaboration and lack of capacity were the constraints of sustainable buying, the main challenge was ineffective leadership. This affirms the works of Public Buying Authority (2017) and Islam et al. (2017) that concluded that financial constraint, lack of capacity, lack of sustainable buying compliance inspectors, lack of buying policies, lack of effective leadership and the lack of supplier collaboration are the challenges of sustainable buying.

Factors that Affect Buying Performance Apart from Sustainable

Buying

The fourth objective was to examine the factors that affect buying performance. The researcher analyzed this data using frequencies and the data was then presented on table 4.6 below.

Table 4.6: Factors that affect Buying Performance

Factors	Percent
E-buying systems	**85.2**
Communication	**71.1**
Organizational culture	34.6
Business strategy	87.1
Size of an organization	50.3
Information	63.5
Monitoring	76.3

Source: Field Survey (2017)

From Table 4.6 above, 85.2 percent of the respondents indicated that e-buying systems affect buying performance. 71.1 percent also mentioned that communication influence the achieving of buying performance targets in the various School. 34.6 percent also stated that organizational culture influences buying performance in their institutions. Another factor that was identified by 87.1 percent of the respondents was the business strategy used by the various schools. Also, 50.3 percent of them pointed out that the size of an organization was one of the factors that affect buying performance. Information available to the organization was identified by 63.5 percent of them to be a factor that influences buying performance. Finally, monitoring was a factor that affects buying performance. From the data analysis, e-buying systems, communication, organizational culture, business strategy, size of an organization; information and monitoring are

the factors that affect buying performance. Nonetheless, an e-buying system is the greatest factor that influences buying performance whereas monitoring is the least factor of the factors that influence buying performance. These results confirm the findings of Walker et al. (2012), Preuss (2009) and Batenburg et al. (2008) who concluded that buying performance is affected by factors such as e-buying systems, communication, organizational culture, business strategy, size of organization, information available and monitoring.

CONCLUSIONS

Sustainable buying is critical to the success of School. This is because sustainable buying in School seeks to satisfy both the needs of society and the demands of the learners. The study therefore concludes that there is a significant and positive relationship between sustainable buying and buying performance in the school in Ghana.

The study further concludes that the benefits of sustainable buying in the selected School are economic development, improved quality of products, market expansion, increased intangible savings, reduced harmful emission of gas, value for money and increased efficiency in energy consumption.

The study concludes that challenges of sustainable buying are ineffective leadership, inadequate buying policies, budgetary constraint, inadequate compliance inspectors, lack of supplier collaboration and lack of capacity.

The study concludes that the factors that affect buying performance are e-buying systems, communication, organizational culture, business strategy, the size of an organization, information, and monitoring.

Limitations and Future Research

The paper was limited to a single geographic area; therefore, the results may not hold in other countries due to cultural differences that may pertain in those countries.

To add, there was difficulty in getting access to the firms in terms of location and the right person to interview.

Also, the applicability of these findings to other emerging markets (contexts) needs further investigation

Based on the limitations of the study, the following are some of the suggested areas for future research:

A similar study with the same objectives should be conducted over a relatively wider scope to include other regions of the country.

Also, a similar study could be conducted using either qualitative or mixed method approach. Further studies can be conducted using the same study objectives but employing a qualitative research approach instead of the quantitative approach used in this present study.

In addition, another study can be done focusing on the factors that affect buying performance in selected schools.

The study is a cross-sectional study, hence; further studies should focus on conducting a longitudinal study. Specifically, a comparative study can be conducted using a longitudinal study. A similar study can be done using a larger sample size.

REFERENCES

Aarseth, W., Ahola, T., Aaltonen, K., Okland, A., and Andersen, B., 2017. Project sustainable strategies: A systematic literature review. *International Journal of Project Management, 35*, pp.1071-1083.

Adams, R., Martins, S., and Boom, K., 2018. University culture and sustainable buying: designing and implementing an enabling framework. *Journal of Cleaner Production, 171*, pp.434-445.

Adham, K. N. and Siwar, C., 2012. Empirical investigation of government green buying (GGP) practices in Malaysia. *Journal of Cleaner Production.* pp. 1-6.

Agyedu, G.O., Donkor, F. and Obeng, S., 1999. Teach yourself research methods. *Kumasi, Ghana: Unpublished UEW Course Book.*

Ahi, P. and Searcy, C., 2015. Assessing It in the supply chain: A triple bottom line approach. *Applied Mathematical Modelling*, *39*(10), pp.2882-2896.

Ahsan, K., and Rahman, S., 2017.Green public buying implementation challenges in Australian public healthcare sector. *Journal of Cleaner Production*, *152*, pp.181-197.

Akenroye, T. O., Oyegoke A., and Ama, E E., 2013. "Development of a framework for the implementation of green public buying in Nigeria." *International Journal of Buying Management* 6 (1), pp.1-23.

Aktin, T., and Gergin, Z., 2016. Mathematical Modelling of sustainable buying strategies: three case studies. *Journal of Cleaner Production*, *113*, pp.767-780.

Aldenius, M. and Khan, J., 2017. Strategic use of green public buying in the bus sector: challenges and opportunities. *Journal of Cleaner Production, 164,* 250-257.

Alhassan, O., 2006. Traditional authorities and sustainable development: Chiefs and resource management in Ghana. *Chieftancy in Ghana: Culture, governance and development*, pp.527-564.

Amann, M., Roehrich, J.K., EBig, M., and Harland, C., 2014. Driving sustainable supply chain management in the public sector: The importance of public buying in the European Union. *Supply Chain Management: An International Journal*, *19*(3), pp.351-366.

Arnold, M., 2017. Fostering It by linking co-creation and relationship management concepts. *Journal of Cleaner Production*, *140*, pp.179-188.

Ashby, A., Leat, M., and Hudson-Smith, M., 2012. Making connections: a review of supply chain management and suatianbility literature. *Supply Chain Management: An International Journal*, *17*(5), pp.497-516 McKenzie, S., 2004. Social It: towards some definitions.

Auriol, E., Straub, S., and Flochel, T., 2016. Public buying and rent-seeking. The case of Paraguay. *World Development, 77*, pp.395-407.

Bakir, S., 2013. Environmental orientation of government buying in Singapore.

Baldi, S., Bottasso, A., Conti, M., and Piccardo, C., 2016. To bid or not bid: That is the question: Public buying, project complexity and corruption. *European Journal of Political Economy, 43*, pp.89-106.

Basu, R. J., Bai, R., and Palaniappan, P. L.K., 2015. A strategic approach to improve It in transportation service buying. *Transportation Research Part E*, *74*, pp.152-168.

Bekkers, V., Edelenbos, J. and Steijn, B., 2011. An innovative public sector? Embarking on the innovation journey. In *Innovation in the Public Sector* (pp. 197-221). Palgrave Macmillan UK.

Benoît, C., Norris, G.A., Valdivia, S., Ciroth, A., Moberg, A., Bos, U., Prakash, S., Ugaya, C. and Beck, T., 2010. The guidelines for social life cycle assessment of products: just in time!. *The International Journal of Life Cycle Assessment*, *15*(2), pp.156-163.

Berry, C. and McCarthy, S., 2011. *Guide to sustainable buying in construction*. London: CIRIA.

Berzoz A., Bernaldo, M.O., and Fernandez-Sanchez, G., 2017.It assessment tools for higher education: An empirical comparative analysis. *Journal of Cleaner Production*, *161*, pp.812-820.

Blome, C., Hollos, D. and Paulraj, A., 2014. Green buying and green supplier development: antecedents and effects on supplier performance. *International Journal of Production Research*, *52*(1), pp.32-49.

Bostrom, M., Jonsson, A. M., Lockie, S., Mol, A.P.J., and Oosterveer, P., 2015. Sustainable and responsible supply chain governance: Challenges and Opportunities. *Journal of Cleaner Production*, *107*, pp.1-7.

Brammer, S. and Walker, H., 2011. Sustainable buying in the public sector: an international comparative study. *International Journal of Operations & Production Management*, *31*(4), pp.452-476.

Bratt, C., Hallstedt, S., Robert, K.H., Broman, G., and Oldmark, J., 2013. Assessment of criteria development for public buying from a strategic It perspective. *Journal of Cleaner Production*, *52*, pp.309-316.

Brodt, S., Kramer, K.J., Kendall, A. and Feenstra, G., 2013. Comparing environmental impacts of regional and national-scale food supply chains: A case study of processed tomatoes. *Food Policy*, *42*, pp.106-114.

Buniamin, S., Ahmad, N., Rauf, F.H.A., Johari, N.H. and Rashid, A.A., 2016. Green Government Buying Practices (GGP) in Malaysian Public Enterprises. *Procedia Economics and Finance*, *35*, pp.27-34.

Caldwell, N., Walker, H., Harland, C., Knight, L., Zheng, J., and Wakeley, T., 2005. Promoting competitive markets: The role of public buying. *Journal of Purchasing and Supply Management*, *11*, pp.242-251.

Caloghirou, Y., Protogerous, A., and Panagiotopolous, P., 2016. Aligning the sustainable supply chain to green marketing needs. *Industrial Marketing Management*, *43*, pp.45-55.

Chiarni, A., Opoku, A., and Vagnioni, E., 2017. Public healthcare practices and criteria for a sustainable buying: A comparative study between UK and Italy. *Journal of Cleaner Production*, *162*, pp.391-399.

Crespin-Mazet, F. and Dontenwill, E., 2012. Sustainable buying: Building legitimacy in the supply network. *Journal of Purchasing and Supply Management*, *18*(4), pp.207-217.

Del Borghi, A., Gallo, M., Strazza, C. and Del Borghi, M., 2014. An evaluation of environmental It in the food industry through Life Cycle Assessment: the case study of tomato products supply chain. *Journal of cleaner production*, *78*, pp.121-130.

Djokoto, S.D., Dadzie, J. and Ohemeng-Ababio, E., 2014. Barriers to sustainable construction in the Ghanaian construction industry: consultants perspectives. *Journal of Sustainable Development*, *7*(1), p.134.

Edler, J., and Georghiou, L., 2007. Public buying and innovation-Resurrecting the demand side. *Research Policy*, *26*, pp.949-963.

Eriksen, M.H., Bjarløv, S.P. and Rode, C., 2017. Strengthening requirement specification in sustainable buying–an investigation of challenges. *Journal of Green Building*, *12*(1), pp.107-122.

Erridge, A., and Hennigan, S., 2012. Sustainable buying in health and social care in Northern Ireland. *Public Money & Management*, *32*(5), pp.363-370

Finkbeiner, M., Schau, E.M., Lehmann, A., and Traverso, M., 2010. Towards life cycle It assessment. *It*, *2*(10), pp.3309-3322.

Frimpong, E., 2017. Factors Militating Against the Successful Implementation of Public Buying Act 663 (2003) in National Health Insurance Scheme (NHIS). *Health care*, *2*(2).

Geng, Y., and Doberstein, B., 2008. Greening government buying in developing countries: Building capacity in China: Building capacity in China. *Journal of Environmental Management*, *88*, pp.932-938.

Gerbens-Leenes, P.W., Moll, H.C., and Uiterkamp, A.S., 2003. Design and development of a measuring method for environmental It in food production systems. *Ecological Economics*, *46*(2), pp.231-248.

Gibson, R.B., 2006. Beyond the pillars: It assessment as a framework for effective integration of social, economic and ecological considerations in significant decision-making. *Journal of Environmental Assessment Policy and Management*, *8*(03), pp.259-280.

Gimenez, C. and Tachizawa, E.M., 2012. Extending It to suppliers: a systematic literature review. *Supply Chain Management: An International Journal*, *17*(5), pp.531-543.

Golini, R., Longoni, A. and Cagliano, R., 2014. Developing It in global manufacturing networks: The role of site competence on It performance. *International Journal of Production Economics*, *147*, pp.448-459.

Gounden, K., 2016. *Factors influencing sustainable buying within the private and public sector in South Africa* (Doctoral dissertation, University of Pretoria).

Grandia, J., 2015. The role of change agents in sustainable public buying projects. *Public Money & Management*, *35*(2), pp.119-126.

Grandia, J., Steijn, B., and Kuipers, B., 2015. It is not easy being green: increasing sustainable public buying behaviour. *Innovation: The European Journal of Social Science Research*, *28*(3), pp.243-260.

Grob, S. and Benn, S., 2014. Conceptualising the adoption of sustainable buying: an institutional theory perspective. *Australasian journal of environmental management*, *21*(1), pp.11-21.

Gunasekaran, A. and Spalanzani, A., 2012. It of manufacturing and services: Investigations for research and applications. *International Journal of Production Economics*, *140*(1), pp.35-47.

Gunasekaran, A., and Subramanian, N., 2018. Sustainable operations modeling and data analytics. *Computers and Operations Research*, *89*, pp.163-167.

Haake, H. and Seuring, S., 2009. Sustainable buying of minor items–exploring limits to It. *Sustainable Development*, *17*(5), pp.284-294.

Halpern, B.H., Kidalov, M.V., Snider, K.F. and Rendon, R.G., 2013. Corporate social responsibility and public buying: How supplying government affects managerial orientations.

Hensengerth, O., 2013. Chinese hydropower companies and environmental norms in countries of the global South: the involvement of Sinohydro in Ghana's Bui Dam. *Environment, Development and It*, *15*(2), pp.285-300.

Hoejmose, S.U., Roehrich, J.K., Grosvold, J., Czinkota, M., Kaufmann, H.R., Basile, G., Gupta, S., Rudd, J., Lee, N., Brindley, C. and Oxborrow, L., 2014. *Industrial Marketing Management*, *43*(1), pp.113-125

Hollos, D., Blome, C. and Foerstl, K., 2012. Does sustainable supplier co-operation affect performance? Examining implications for the triple bottom line. *International Journal of Production Research*

Hong, P. and Kwon, H.B., 2012. Emerging issues of buying management: a review and prospect. *International Journal of Buying Management 4*, *5*(4), pp.452-469.

Hsu, C., Chang, A., and Luo, W., 2017.Identifying key performance factors for It development of SMEs- integrating QFD and fuzzy MADM methods. *Journal of Cleaner Production, 161,* pp.629-645.

Hutchins, M.J. and Sutherland, J.W., 2008. An exploration of measures of social It and their application to supply chain decisions. *Journal of Cleaner Production*, *16*(15), pp.1688-1698.

Islam, M.M., Murad, M.W., McMurray, A.J. and Abalala, T.S., 2017. Aspects of sustainable buying practices by public and private organisations in Saudi Arabia: an empirical study. *International Journal of Sustainable Development & World Ecology*, *24*(4), pp.289-303.

Jaehn, F., 2016. Sustainable operations. *European Journal of Operational Research, 253,* pp. 243-264.

Janda, S. and Seshadri, S., 2001. The influence of purchasing strategies on performance. *Journal of Business & Industrial Marketing*, *16*(4), pp.294-308.

Kakwezi, P. and Nyeko, S., 2010. Buying processes and performance: Efficiency and effectiveness of the buying function. *Department of Buying and Logistics Management, Makerere University Business School*

Kaur, H., and Singh, S. P., 2017. Heuristic modeling for sustainable buying and logistics in a supply chain using big data. *Computers and Operations Research, 000,* pp.1-21.

Keulemans, S., Keulemans, S., Van de Walle, S. and Van de Walle, S., 2017. Cost-effectiveness, domestic favouritism and It in public buying: A comparative study of public preferences. *International Journal of Public Sector Management*, *30*(4), pp.328-341.

Kiage, J.O., 2013. Factors affecting buying performance: A case of ministry of energy. *International journal of business and commerce*, *3*(1), pp.54-70.

Kuhlman, T. and Farrington, J., 2010. What is It?. *It*, *2*(11), pp.3436-3448.

Kumar, A., Ozdamar, L. and Peng Ng, C., 2005. Buying performance measurement system in the health care industry. *International journal of health care quality assurance*, *18*(2), pp.152-166.

Large, R.O., Kramer, N., and Hartmann, R. K., 2013. Buying of logistics services and sustainable development in Europe: Fields of activity and empirical results. *Journal of Purchasing and Supply Management, 19*(2), pp.122-123.

Lehtienien, U., 2012. It and local food buying: A case Study of Finnish public catering. *British food Journal, 114 (8),* 1053-1071.

Lember, V., Kalvet, T. and Kattel, R., 2011. Urban competitiveness and public buying for innovation. *Urban studies*, *48*(7), pp.1373-1395.

Loader, K., 2015. SME suppliers and the challenge of public buying: Evidence revealed by a UK government online feedback facility. *Journal of Purchasing and Supply Management*, *21*, pp.103-112.

Mansi, M., 2015. Sustainable buying disclosure practices in Central public sector enterprises: Evidence from India. *Journal of Purchasing and Supply Management*, *21*, pp.125-137.

McMurray, A.J., Islam, M, M.., Siwar, C., and Fien, J., 2014. Sustainable buying in Malaysian organizations: Practices, barriers and opportunities. *Journal of Purchasing and Supply Management*, *20*, pp.195-207.

Meehan, J. and Bryde, D.J., 2014. Procuring sustainably in social housing: The role of social capital. *Journal of Purchasing and Supply Management*, *20*(2), pp.74-81.

Melnikov, V.V., 2003. The formation of Russian public buying system on market principles. *Terraeconomicus*, p.55.

Miemczyk, J., Johnsen, T.E. and Macquet, M., 2012. Sustainable purchasing and supply management: a structured literature review of definitions and measures at the dyad, chain and network levels. *Supply Chain Management: An International Journal*, *17*(5), pp.478-496.

Mitra, S. and Datta, P.P., 2014. Adoption of green supply chain management practices and their impact on performance: an exploratory study of Indian manufacturing firms. *International Journal of Production Research*, *52*(7), pp.2085-2107.

Moldan, B., Janoušková, S. and Hák, T., 2012. How to understand and measure environmental It: Indicators and targets. *Ecological Indicators*, *17*, pp.4-13.

Mutai, c., 2017. Influence of warehouse management on organizational productivity in state corporations in Kenya: a case of Kenya electricity generating company limited. *Strategic Journal of Business & Change Management*, *4*(2).

Nkongoli, E., 2016. *The effects of buying practices on suppliers' satisfaction in Rwandan public institutions: (a case of mod, 2013-2015)* (Doctoral dissertation).

Oruezabala, G. and Rico, J.C., 2012. The impact of sustainable public buying on supplier management—The case of French public hospitals. *Industrial Marketing Management*, *41*(4), pp.573-580.

Paecho-Blanco, B., and Basante-Ceca, M. J., 2016. Green public buying as an initiative for sustainable consumption. An exploratory study of Spanish Public Universities. *Journal of Cleaner Production*, *133*, pp.648-656.

Perez, A.T., Camargo, M., Rincon, P.C., and Marchant, M. A., 2017. Key challenges and requirement for sustainable and industrialized biofinery supply chain design and management. *Renewable and Sustainable Energy Reviews, 69*, pp.350-359.

Preuss, L., 2009. Addressing sustainable development through public buying: the case of local government. *Supply Chain Managemen*t: *An International Journal, 14(3),* 213-223.

Qiao, Y. and Wang, C., 2011. Issues and Challenges in Implementing China'sGreen Public Buying Program. *Journal of Environmental Protection*, *2*(08), p.1034.

Rainville, A., 2017. Standards in Green public buying-A framework to enhance innovation. *Journal of Cleaner Production*, *167*, pp.1029-1037.

Rimmington, M., Carlton Smith, J. and Hawkins, R., 2006. Corporate social responsibility and sustainable food buying. *British Food Journal*, *108*(10), pp.824-837.

Roman, A.V., 2017. Institutionalizing It: A structural equation model of sustainable buying in US public agencies. *Journal of Cleaner Production*, *143*, pp.1048-1059.

Ruparathna, R. and Hewage, K., 2015. Sustainable buying in the Canadian construction industry: current practices, drivers and opportunities. *Journal of Cleaner Production*, *109*, pp.305-314.

Ruparathna, R. and Hewage, K., 2015. Sustainable buying in the Canadian construction industry: challenges and benefits. *Canadian Journal of Civil Engineering*, *42*(6), pp.417-426.

Rusinko, C., 2007. Green manufacturing: an evaluation of environmentally sustainable manufacturing practices and their impact on competitive outcomes. *IEEE Transactions on Engineering Management*, *54*(3), pp.445-454.

Saleh, M.S. and Alalouch, C., 2015. Towards sustainable construction in Oman: Challenges & opportunities. *Procedia Engineering*, *118*, pp.177-184.

Schulze, H. and Bals, L., 2018. Implementing Sustainable Supply Chain Management: A Literature Review on Required Purchasing and Supply Management Competences. In *Social and Environmental Dimensions of Organizations and Supply Chains* (pp. 171-194). Springer, Cham.

Schwerin, E. and Prier, E., 2013. Rent-Seeking Obstacles to Changing Environmental Practices and Sustainable Public Buying in China. *Environmental Practice*, *15*(3), pp.240-252.

Seghezzo, L., 2009. The five dimensions of It. *Environmental Politics*, *18*(4), pp.539-556.

Sekaran, U. and Bougie, R., 2011. Business Research Methods: A skill-building approach.

Silvius, G., 2017. It as a new school of thought in project management. *Journal of Cleaner Production*, *166*, pp.1479-1493.

Snider, K.F., Halpern, B.H., Rendon, R.G. and Kidalov, M.V., 2013. Corporate social responsibility and public buying: How supplying government affects managerial orientations. *Journal of Purchasing and Supply Management*, *19*(2), pp.63-72.

Sonnino, R., 2009. Quality food, public buying, and sustainable development: the school meal revolution in Rome. *Environment and Planning A*, *41*(2), pp.425-440.

Spagnolo, G., 2012. Reputation, competition and entry in buying. *International Journal of Industrial Organization*, *30*, pp.291-296.

Spangenberg, J.H. and Bonniot, O., 1998. *It indicators: a compass on the road towards It* (No. 81). Wuppertal papers.

Spangenberg, J.H., 2005. Economic It of the economy: concepts and indicators. *International journal of sustainable development*, *8*(1-2), pp.47-64.

Stindt, D., 2017. A generic planning approach for sustainable supply chain management: How to integrate concepts and methods to address the issues of It. *Journal of Cleaner Production*, *153*, pp.146-163.

Su, C.M., Horng, D.J., Tseng, M.L., Chiu, A.S., Wu, K.J. and Chen, H.P., 2016. Improving sustainable supply chain management using a novel hierarchical grey-DEMATEL approach. *Journal of Cleaner Production*, *134*, pp.469-481.

Testa, F., Annunziata, E., Iraldo, F., and Frey, M., 2016. Drawbacks and opportunities of green public buying: An effective tool for sustainable production. *Journal of Cleaner Production*, *112*, pp.1893-1900.

Testa, F., Iraldo, F., Frey, M., and Daddi, T., 2012. What factors influence the uptake of Green public buying practices? New evidence from an Italian Survey. *Ecological Economics, 82*, pp.88-96.

Thomson, J. and Jackson, T., 2007. Sustainable buying in practice: lessons from local government. *Journal of Environmental Planning and Management*, *50*(3), pp.421-444.

Thoumy, M. and Vachon, S., 2012. Environmental projects and financial performance: Exploring the impact of project characteristics. *International Journal of Production Economics*, *140*(1), pp.28-34

Torvien, H., and Ulkuniemi, P., 2016.end-user engagement within innovative public buying practices: A case study on public-private partnership buying. *Industrial Marketing Management, 58*, pp.58-68.

Tseng, M., Wu. K., Ma, L., Kuo, T.C., and Sai, F., 2017. A hierarchical framework for assessing corporate It performance using a hybrid fuzzy synthetic method-DEMATEL. *Technological and Forecasting Social Change*, pp.1-10.

Uttam, K., and Ross. K. C., 2015. Competitive dialogue procedure for sustainable public buying. *Journal of Cleaner Production*, *86*, pp.403-416.

Uyarra, E., Elder, J., Garcia-Esteve, J., Georghiou, L., and Yeow, J., 2014. Barriers to innovation through public buying: A supplier perspective. *Technovation, 34*, pp.631-645.

Walker, H. and Brammer, S., 2012. The relationship between sustainable buying and e-buying in the public sector. *International Journal of Production Economics*, *140*(1), pp.256-268.

Walker, H. and Phillips, W., 2008. Sustainable buying: emerging issues. *International Journal of Buying Management*, *2*(1), pp.41-61.

Walker, H., Mayo, J., Brammer, S., Touboulic, A. and Lynch, J., 2012, August. Sustainable buying: an international policy analysis of 30 OECD countries. In *5th Int. PUBLIC Procure. Conf* (pp. 3556-3582).

Walker, H., Miemczyk, J., Johnsen, T. and Spencer, R., 2012. Sustainable buying: Past, present and future. *Journal of Purchasing and Supply Management*, *18*(4), pp.201-206.

Wang, X., Chan, H.K. and Li, D., 2015. A case study of an integrated fuzzy methodology for green product development. *European Journal of Operational Research*, *241*(1), pp.212-223.

Witjes, S., and Lozano, R., 2016. Towards a more circular economy: Proposing a framework linking sustainable public buying and sustainable business models. *Resources, Conservation and Recycling, 112*, pp.37-44.

Young, S., Nagpal, S. and Adams, C.A., 2016. Sustainable Buying in Australian and UK Universities. *Public Management Review*, *18*(7), pp.993-1016.

Zhou, P., Ang, B.W. and Poh, K.L., 2008. A survey of data envelopment analysis in energy and environmental studies. *European Journal of Operational Research*, *189*(1), pp.1-18.

Zhu, Q., Geng, Y., and Sarkis, J., 2013. Motivating green public buying in China: An individual level perspective. *Journal of Environmental Management, 126*, pp.85-95.

Zuo, K., Potangaroa, R., Wilkinson, S. and Rotimi, J.O., 2009. A project management prospective in achieving a sustainable supply chain for timber buying in Banda Aceh, Indonesia. *International Journal of Managing Projects in Business*, *2*(3), pp.386-400.

QUESTIONNAIRE

Respondents' Assurance

The purpose of this questionnaire is to collect data for the research study entitled **"The impact of sustainable buying on buying performance in Colleges of Education in Ashanti region of Ghana".** The information given be used solely for research purposes. Please remain anonymous, any information provided will be treated confidentially and used only for academic purpose. Thank you

Section A: Demographics

1. Number of years working for the firm.
   a. Below 5 years [ ] b. 5 – 10 years [ ] c.11-15 years [ ] d. Above 15 years[ ]
2. What is your highest education level?
   a. Below first degree [ ] First degree [ ] Above first degree [ ]
3. Number of years in the industry.
   a. Below 5 years [ ] b. 5 – 10 years [ ] c.11-15 years [ ] d. Above 15 years[ ]
4. What is your position in the organization?
   a. Top management[ ]b. Middle management [ ] c. Lower level management[ ]

Please Circle **ONLY ONE** answer. Please use the following key:
(Key: **SD**= Strongly Disagree, **D**=Disagree, **U**=Unsure, **A**=Agree, **SA**= Strongly Agree)

Section B: Examining Sustainable Buying

No.	Statement	Response				
	Environment Factors					
i.	Our buying activities safeguards electricity energy efficiency	SD	D	U	A	SA
i.	Our buying activities ensures pesticides control and management	SD	D	U	A	SA
ii.	Our buying policy focuses on reduction in greenhouse gas emission	SD	D	U	A	SA

iii.	Our buying policy encourages prevention of pollution	SD	D	U	A	SA
iv.	Our buying activities encourages reduction in waste of products	SD	D	U	A	SA
v.	Our buying activities promote efficient water and sanitation measures	SD	D	U	A	SA
vi.	Our buying activities promotes protection of climate and energy	SD	D	U	A	SA

No.	**Statement**	**Response**				
	Social Factors					
i.	Our buying policy seeks to promote equal opportunity for all employees	SD	D	U	A	SA
ii.	Our buying regulations sought to ensure occupational health and safety	SD	D	U	A	SA
iii.	Our buying policy ensures tax compliance	SD	D	U	A	SA
iv.	Our buying guidelines offers social security for all employees	SD	D	U	A	SA
v.	Our organization encourages corporate social responsibility	SD	D	U	A	SA
vi.	Our buying policy ensures value for money	SD	D	U	A	SA
No.	**Statement**	**Response**				
	Economic Factors					
i.	Our buying policy contributes to Gross Domestic Product (GDP)	SD	D	U	A	SA
ii.	Our Buying regulation promotes competitiveness in business deals	SD	D	U	A	SA

iii.	Our firm encourages sufficient working capital by businesses	SD	D	U	A	SA
iv.	Our firm ensures reasonable profitability levels for all stakeholders	SD	D	U	A	SA
v.	Our buying policy seeks to maintain market share	SD	D	U	A	SA
vi.	Our buying policy seeks to maintain financial stability	SD	D	U	A	SA

Section C: Examining the buying performance

No.	Statement	Response				
Cost Savings						
i.	Sustainable buying leads to reduction in the cost of raw materials (food stuffs)	SD	D	U	A	SA
ii.	Sustainable buying enhances the reduction in the cost of products and services	SD	D	U	A	SA
iii.	Sustainable buying leads to reduction in suppliers' delivery lead time	SD	D	U	A	SA
Responsiveness						
iv.	Sustainable buying gives an assurance of supplies	SD	D	U	A	SA
v.	Sustainable buying promotes innovation	SD	D	U	A	SA
vi. a.	It in buying provides reliability in buying activities	SD	D	U	A	SA
Product Quality						
vii.	It in buying offers improvement in quality standards	SD	D	U	A	SA
viii.	It in buying provides durable products and services	SD	D	U	A	SA
ix.	It affords an increase in variety and distinct features of	SD	D	U	A	SA

	product and services					
x.	Sustainable buying promotes green image (environment)	SD	D	U	A	SA
xi.	Sustainable buying decreases the rate of servicing and maintenance	SD	D	U	A	SA

Section D: Examining the benefits of sustainable buying

No.	Statement	Response				
i.	Sustainable buying offers value for money	SD	D	U	A	SA
ii.	Sustainable buying contributes to sustained economic Development	SD	D	U	A	SA
iii.	Sustainable buying increases intangible savings	SD	D	U	A	SA
iv.	Sustainable buying leads to local market expansion	SD	D	U	A	SA
v.	Reduction in harmful emission is one of the benefits derived from Sustainable buying	SD	D	U	A	SA
vi.	Sustainable buying leads to efficiency in energy consumption	SD	D	U	A	SA
vii.	Sustainable buying improves quality products and services	SD	D	U	A	SA

Section E: Examining the Challenges of sustainable buying

No.	Statement	Response				
i.	Ineffective leadership is a constraint to sustainable buying	SD	D	U	A	SA
ii.	Inadequate buying policies is a challenge of It in buying	SD	D	U	A	SA
iii.	Inadequate Compliance Inspectors are constraint to sustainable buying	SD	D	U	A	SA

iv.	Budgetary constraints is a challenge of sustainable buying	SD	D	U	A	SA
v.	Lack of capacity is a challenge of sustainable buying	SD	D	U	A	SA
vi.	Lack of supplier collaboration is a constraint to sustainable buying	SD	D	U	A	SA

Others

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Thank You