

Determining the Level of Knowledge of Lean Production Techniques in Newspaper Firms in Ghana

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Abstract - Many people, especially the youth, are also turning to the internet for news at the expense of Newspapers. Financial viability for newspapers, at least for now, requires retaining as many existing print readers as possible. However, as trend for Newspaper circulation shows a continuous decline over the past decade, publishers need to ensure that production waste is reduced to the barest minimum to keep costs down so as to remain afloat. The newspaper business has thrived on high advertising revenue for decades until now that they are confronted with the Internet and new media. The study will critically examine the existing production system, including systematic work flow and ascertain the possibilities to identify and eliminate the perceived waste in the production chain. This critical assessment will be carry out using appropriate statistical tool to reveal the consequential impacts of such waste in the production system.

Keywords: *Telegraph, Lean, Congressional,*

1.1 INTRODUCTION

1.2 Background of the Study

With the invention of the telegraph, radio and television, print newspapers have faced challenges over the decades, yet publishers have always adapted and persevered. However, the Internet is proving to be a far more dangerous foe to the traditional newspaper model. According to the U.S. Congressional Study Service, (2012), advertising revenue accounts for 80% of newspaper income. Unfortunately for newspapers, corporate advertisers are relying more heavily on cheaper and more dynamic online advertising space. In order to remain competitive and still be relevant in the global business environment, newspapers businesses would need to cut down on operational cost, consolidate the small gains and transfer some of the savings to the customer in the form of reduced advertising rates. This study is intended to provide new insight into some hidden wasteful production processes with the application of Lean Management Technique which, if eliminated, would improve on the profit margins and keep print advertising cost competitive. Lean production gained the huge popularity after the publication of the book "The Machine That Changed the World" in 1990. Lean is defined by Womack & Jones (1994) as the systematic removal of waste by all members of the organization from all areas of the values stream. Lean is often referred to as a cost-reduction mechanism

(Achanga, 2006; Bicheno, 2004). In general, the approaches by some industry players in this turbulence has been to increase production efficiency (productivity) and quality, and reduce work-in-progress, stock levels and unnecessary product handling. Such improvements can ultimately realize increases in profitability and improve Production Techniques flexibility, capability and responsiveness. The most widely adopted approaches include the philosophy of lean thinking (Womack et al., 1990).

Most organizations today are going through a stage where there is a necessity to respond to the rapidly changing customer needs. Having witnessed the collapse of the Postal industry, Record companies etc., it dawned on me that the Newspaper Industry, where I operate, is faced with the eminent challenge of trekking the same path as it competes with the same dangerous enemy that has crushed these industries to death – the Internet!. Lean is a management philosophy focused on identifying and eliminating waste throughout a product's entire value stream, extending not only within the organization but also along the company's supply chain network (Scherrer-Rathje, Boyle, & Deflorin, 2009). The concept of lean management can be traced to the Toyota production systems (TPS), a Production Techniques philosophy pioneered by the Japanese engineers (Inman, 1999). The Toyota Production System (TPS) was based around the desire to produce in a continuous flow which did not rely on long production runs (Melton, 2005). The Toyota Production System (TPS) was developed in Japan by Ohno and Shingo in 1940s and forms the basis of lean Production Techniques (Herron et al., 2008).

The Toyota Production System (TPS) has been perceived to be a major rationale for Japan's competitive success and this system became synonymous with the ideal model of Production Techniques for Japanese manufacturers and later to all companies throughout the world (Yadav et al., 2010). Lean production is a strategy or philosophy that promotes the use of practices, such as Kanban, Total Quality Management (TQM) and Just-in-time (JIT), to minimize waste and enhance firm performance (Womack et al., 1990). Accordingly, Bhasin & Burcher (2006) stated, the implementation of lean technique can reduce waste by

40 percent. Seven typical examples of waste are: overproduction, waiting, transportation, inappropriate processing, excess inventory, unnecessary motion, and defects (Endsley et al., 2006; Bhasin & Burcher, 2006). Lean Production Techniques has been applied within the process industries, most notably chemicals and pharmaceuticals sectors, to great effect (Melton, 2005). Wan & Chen (2008) developed a leanness measure evolved from the concept of data envelopment analysis (DEA) that indicates how lean the system is and how much waste exists. Singh et al. (2010) developed a leanness index by introducing fuzzy logic set theory to the measurement method based on the judgment and evaluation given by leanness measurement team (LMT) on various leanness parameters such as supplier's issues, investment priorities, lean practices, and various waste addressed by lean and customers' issues. Vimal & Vinodh (2012) attempted fuzzy logic-based inference method and developed a conceptual model consisting of three levels namely enabler, criterion, and attributes to compute leanness level using IF-THEN rules.

As postulated by Papadopoulou et al. (2005), leanness should not be viewed in the narrow sense of a set of tools, techniques and practices, but rather as a holistic approach that transcends the boundaries of the shop-floor thus affecting apart from the production itself almost all the operational aspects, e.g. design, development, quality, maintenance, etc. as well as the entire organization and management of the company. Meier & Forrester (2002) identified nine variables of leanness, namely: the elimination of wastes, continuous improvement, zero defects, JIT deliveries, pull of materials, multifunctional teams, decentralization, integration of functions and vertical information systems.

1.3 Statement of the Problem

The subject of waste reduction remains crucial and the main problem was to decide which stage of the production waste can be minimized. Newspaper circulation around the globe has been declining at an alarming rate in an era in which new and old media are competing for attention. Readers have the luxury of both the "mainstream" and the "alternative". To the extent that the continued presence of the print product may be an advantage to publishers during the transition, there is the need to streamline operational processes of print production to eliminate unnecessary cost variables and processes to save cost.

Newspaper production comes with huge operational costs which has, hitherto, been offset with advertising revenues, but with the advent of new media, especially the Internet, advertisers are drifting to the less expensive online advertisement. Newspapers are losing out entirely on classified ads which have been taken over by online advertisement.

In order for the newspaper industry to continue to stay in business, it is incumbent on them to streamline their processes and be more efficient by driving down costs as well as evolving into the new media. One such area that the company can work on to drive down cost is production (or printing) waste elimination. This study would attempt to

identify all wasteful processes such as material (i.e. newsprint), human movements, over-processing etc. in the newspaper production operations and suggest ways to eliminating them.

1.4 Study Aim and Objectives

As implied in the previous paragraph, this study focuses on Assessing the Application of LEAN Production Technique in Newspaper Production in Ghana. The scope of this research included newspapers in Ghana in general, with a main focus on newspapers published in Accra. The printing operations, distribution, and management of the newspaper production were studied. The advertising and editorial parts of the business were not considered. This research study attempted to answer the stated objectives:

1. To determine the level of knowledge of lean production techniques in newspaper firms in Ghana
2. To determine potential areas in newspaper production where waste can be eliminated by the adoption of lean production techniques

1.5 Study Questions

The stated objectives are answered by addressing the following research questions:

1. What is the current level of knowledge of Lean Production technique in newspaper firms in Ghana?
2. What are the best ways of implementing Lean Production technique in newspaper production?

1.6 Significance of the Study.

Companies would have to respond rapidly to the changing economic conditions, such as the severe global competition, demand for high quality product, the need to reduce lead-times or compress cycle times of the production process, reduce variability, create more value for customers and optimize resources. For this reason, many organizations in the 21st century, have been trying to adopt lean production technique as a mechanism to address these challenges. More measures to minimize cost and increase profit margin and efficiency, reduction in inventory cost stock strategy company employ top reduce waste. Lean production or simply put 'lean' is a systematic strategy employ by organizations for the elimination of waste ("Muda") within the Production Techniques process.

1.7 Scope of the Study

The scope of the study covers the following ten (10) newspaper firms in Ghana's media landscape: Daily Graphic (Graphic Communications Group Limited); Ghanaian Times (New Times Corporation); Daily guide (Western Publications); Daily Express (Event PR Limited); The Finder (Marble Communication Limited); The statesman (Statesman Communication Limited); Daily Heritage (Heritage Communication Limited); Chronicle (General Portfolio Limited); Transporter (Xina Communication Limited); respectively. The study sought to explore the level of knowledge and the application of Lean production techniques in these industries and then select a few of them for detailed study.

2.0 INTRODUCTION

In the wake of unresolved semantic confusion being postulated in academic domain surrounding lean production technique, this paper attempts to explore and elucidate Lean Production concepts through extensive literature review. In this paper, different perspectives of literature reviews were critically and meticulously examined thoroughly from historical evolutionary perspective to socio-technical standpoint. In the nutshell, apply the Lean Production principles to the process of production as a strategy aim at reducing costs by eliminating the internal waste which has the potential impact of increasing customer satisfaction, business performance and reduction in operational cost.

2.1 Overview of Lean Production

The origins of lean thinking can be found on the shop-floors of Japanese manufacturers, in particular, innovations at Toyota Motor Corporation (Shingo, 1988; Monden, 1983; Ohno, 1988). These innovations, resulting from a scarcity of resources and intense domestic competition in the Japanese market for automobiles, included the Just-in-time (JIT) production systems, the Kanban method of pull production, respect for employees and high levels of employee problem-solving and automated mistake proofing. Lean management originated at Toyota in Japan and has been implemented by many major US firms, including Danaher Corporation and Harley-Davidson. According to Womack et al., (1990), in *The Machine that Changed the World*, the term Lean Production is in contrast to the mass production system of the West. The Japanese companies focused on applying the Lean Production

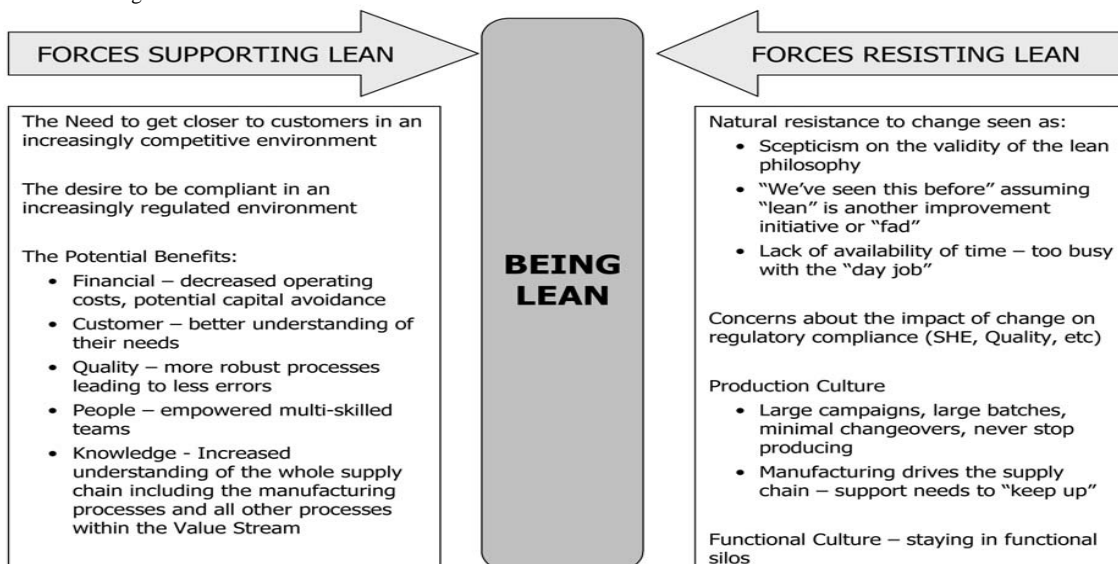
principles, using relatively simple technologies and lower costs automation at the expense of the computer technology. The concept of Lean Production is based on the Toyota production system (Spear & Bowen, 1999; Womack, et al., 1990). The general opinion that the purpose of lean is to reduce waste does not seem to hold, although some authors who argue for this include (Bicheno, 2001; Monden, 1998; Shingo, 1984).

2.2 Lean Production Concept

The conceptual framework of **'BEING LEAN'** has been shown below in figure 1. The framework is synonymous to Force Field Analysis that hinge on (Driving Force, the Restraining Force and Maintaining the Status Quo). The force supporting the implementation of Lean production technique as positive whiles the other force restraining the change to the adoption of Lean as negative. Largely, the introduction of lean has become an important avenue for many managers around the world with the initiative to cut down waste in the system whiles ensuring quality and customer satisfaction. In order for organizations to remain competitive in this 21 century, it behoves on change and operational managers to adapt prudent mechanisms to cut down operational cost (OPEX/CAPEX) which would inure to financial benefits. Lean management technique hinge on the concept of identify a waste in a system, and adopt mechanism to eliminate. Lean as a concept has evolved over time, and would continue to do so and therefore, irrespective of resistance to change to its implementation managers must remain resolute with focus on the financial benefits.

2.3 Study Framework of Being 'LEAN'

Figure 1: Framework of Being Lean



Source: Womack & Jones (1996)

The term Lean Production was originated from the Toyota production system and relates to the concept adopted across the world by many major organizations in an attempt to remain competitive in an increasingly globalised market by means of eliminating waste in all sectors of the organization/ production sector (Pérez & Sánchez, 2000; Hosseini et al. 2012). Since the use of the concept for the first time, some attempts have been made to apply the conceptual definition to the term Lean Production (Lewis, 2000; Shah, & Ward, 2007); unfortunately, the definitions are vague, and the lack of a clear definition leads to communication difficulties (Boaden, 1997) and difficulties in implementing the Lean Production concept in enterprises as well as in establishing its precise objectives (Andersson et al., 2006).

As postulated by Wacker (2004), the conceptual definition of lean production, should demonstrate the evidence of clarity, communicability, consistency, parsimony, differentiability, inclusivity, and exclusivity. Lean production is an integrated socio-technical system whose main objective is to eliminate waste by concurrently reducing or minimizing supplier, customer, and internal variability. To pursue lean production in an organization there is the need to, manage variability in supply, and minimize inventory, processing time and demand (Hopp & Spearman, 2004; De Treville & Antonakis, 2006).

Karlsson & Ahlstrom (1996) point out that the lack of a precise definition also would lead to difficulties in determining whether changes made in an organization are consistent with lean production and consequent difficulties in evaluating the effectiveness of the concept itself. Proponents such as (Dale & Plunkett, 1991; Boaden, 1997) indicated, the lack of clear-cut definition could lead to communication difficulties. And in the nutshell, it would complicate education on the subject and studying the subject would be difficult (Godfrey et al., 1997; Parker, 2003).

2.4 Concept of LEAN in Production Techniques

The past decades has witnessed the decline of mass Production Techniques system which was adopted by many industries from Ford. Lean Production Techniques concept is viewed as a counter-intuitive alternative to traditional and mass Production Techniques models (Lewis, 2000). Lean Production Technique was accepted as a new paradigm that eliminates waste in any form, anywhere and at any time, relentlessly strives to maintain harmony in the flow of materials and information, and continually attempts to attain perfection (Yadav et al., 2010).

Lean production is broadly classified under the umbrella of process improvement programs, which also include other approaches such as business process re-engineering, theory of constraints and total productive maintenance (Shah et al., 2008). Shah et al. (2007) proposed the following definition to capture the many facets of lean production:- Lean production is an integrated socio-technical system whose main objective is to eliminate waste by concurrently reducing or minimizing supplier, customer, and internal variability. According to Phillips, (2000, p. 23), "Lean Production Techniques is aimed at the elimination of waste in every part of production including customer relations, product design, supplier networks, and factory management". The approach to lean is based on mapping and analysing the activities in the processes. In lean terminology, this is value stream mapping (Womack & Jones, 1994; Worley & Doolen, 2006). The value stream includes all activities needed to produce the product. The value stream represents the "flow of value" to these organizations. The analysis is primarily based on identifying activities that add value to the product or activities that can be classified as 'muda' being coined Japanese word for waste (Worley & Doolen, 2006). Waste can be found in all activities in the value stream, especially where the product moves from one department to another (Womack and Jones, 1994).

2.5 Types of Waste

During the second half of the last century, industrial companies worldwide have adopted continuous improvement systems to improve their competitiveness. Initially driven by the automotive industry, continuous improvement has expanded rapidly over the past 30 years. One of the most widespread proposals for continuous improvement is the Lean Production Techniques philosophy, which was derived mostly from the Toyota Production System (TPS). Lean Production Techniques is a work environment management philosophy focusing on the reduction and elimination of the following seven types of waste.

Lean is a method for thoroughly eliminating waste and enhancing productivity (Ohno, 1988). The literature defines waste as everything that increases cost without adding value for the customer (Ohno 1988). According to Ohno (1988), there are seven types of waste categorized as: overproduction, waiting, transportation, inadequate processes, excess inventory, unproductive movement and defective products. Recently, an eighth type of waste was added (Bicheno & Holweg 2008) and that is the unused human talent. Through the effective use of human talent the company can engage in the elimination of other types of waste more easily (Womack & Jones 2003). These types of waste are very common in all types of businesses.

2.6 Waste Study Framework

Figure 2: Waste Framework



Sources: Melton (2005)

According to Melton (2005) Waste is “any operation in a process which does not add value to the customer is considered ‘waste’. Over-Production: Product made for no specific customer or the development of a product, a process or a Production Techniques facility for no added value. Waiting Time: - While people, equipment or product is waiting it is not adding any value to the customer. Transportation: - Unnecessary product movement to several locations. If the product is in motion and not being processed then no value added to the customer. Over Processing: - When a particular process step does not add value to the product. Inventory: - Unnecessary storage of products, intermediates or raw materials is considered waste of money. Motion: - Excessive movement of data, information or people who operate the Production Techniques facility is wasteful. While they are in motion they cannot support the processing of the product. Defects: - Errors during the process either requiring re-works or waste of the product.

2.7 Just in time (JIT)

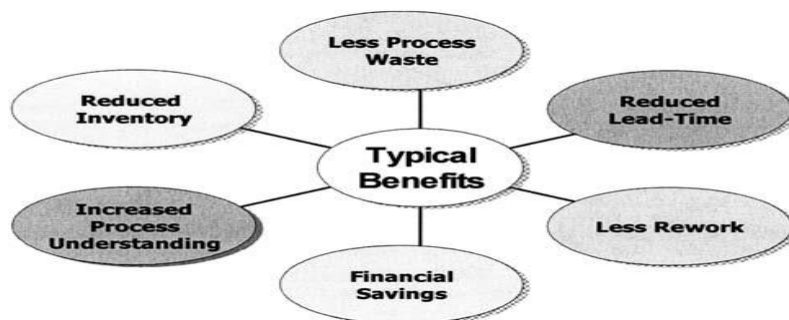
The Just-in-time method consists of an elaborate planning of the production process and the amount of raw materials required are used exactly where they are needed, resulting thus a reduction in the stocks of raw materials and parts. Authors such as Sugimori et al. (1977), stated, measuring JIT focused on its most critical components such as Kanban, production smoothing, and set up time reduction. As theorized by Hall (1987), JIT philosophy is associated with three constructs: total quality, people involvement, and JIT Production Techniques techniques. Programs associated with JIT consist of “elimination of waste, full

utilization of people, equipment, materials, and parts” (Davy et al., 1992). Sakakibara et al., (1993), stated JIT is a comprehensive approach to continuous Production Techniques improvement based on the notion of eliminating all waste in the Production Techniques process. Ohno (1988), devised Kanban as a means to pull material from an upstream station and manage product flow and to maintain Just-in time production in Toyota plants. The reduction and subsequent elimination of buffers is assumed to highlight the problems that exist in production, therefore being a vital source for continuous improvement (Shingo, 1984; Ohno, 1988; Krafcik, 1988). Cooney (2002) argues that the possibility to become “Lean” (through JIT in particular) is highly dependent upon business conditions that are not always met, thus limiting the “universality” of the concept.

2.8 Benefits of Implementing Lean Production

Lean Production conceptually involves applications of just-in-time practices which aim of prudent use of resources, strategies to improve the production process and the elimination of waste. The Lean Production concept has been developed for many years and it is often considered the most important strategy that can be adopted by the Production Techniques companies that wish to obtain global performance (Rinehart et al., 1997). It presents a number of benefits, such as (Melton, 2005) which including:-**A reduced delivery time; reduced inventory; reduced-lead time; less rework; financial savings and increase process understanding.**

Figure 4: Benefits of Lean Production



Sources: Melton (2005)

3.0 METHODOLOGY

3.1 Introduction

The study sought to assess the application of Lean Production Techniques in Newspaper production in Ghana. The main objective of this chapter is to provide vivid theoretical descriptions on Study Design and Study Approach. It further looks at the sampling technique and the sample size, defines the target population of the organizations and the data processing instruments (SPSS). It also summaries the analysis and the strategy used to test the schemes of the study, and finally discusses the ethical considerations in relation to data collection of the organization. However, this study adopts mainly and qualitative study approach but with some level of quantitative analysis as the appropriate methods to explore findings of the study.

3.2 Data Collection

The data for this research was collected from personnel who work in newspaper printing organizations mainly from Accra, but with particular focus on Graphic Communications Group Ltd. The results from this survey formed the fundamentals of this study. Based on the results, the respondents were divided into three groups for further analysis: those who have implemented Lean in their production, those who have plans for implementation and those who have no plans for implementation. From the survey, a participant from each of the three groups was chosen to be a part of a more in-depth study. The purpose of this in-depth study was to compare the impact of Lean production tools on newspaper production with and without some implementation. The in-depth interviews included study of newspaper operations, and determined the most appropriate ways of increasing profitability and capacity in the selected newspaper production organizations.

The interviews were intended to provide detailed investigation into the advantages of implementing Lean Production Techniques. This study was done with particular focus on establishing the level of knowledge of Lean Production Techniques in the newspaper industry, and on identifying opportunities for efficiency improvement in newspaper production and the areas in which Lean Production Techniques will result in the greatest possibility for improvement.

3.3 Survey Design

In this study, primary data was gathered from respondents by the use of a well-designed questionnaire. The survey questionnaires, which encompassed both open-ended and pre-coded questions, were administered to experts in selected newspaper organizations to get feedback on the content in the questions. Based on the feedback received, revisions were made. The final survey was then sent out to a small group for further study.

It was extremely important to carefully design the questions to guarantee easy and valid presentation of the data. The survey was completed using Statistical Package for Social Sciences (SPSS).

The first section of the survey was designed to obtain information about the newspaper's demographics, circulation, etc. whereas the second section aimed to find the some trends in the industry, the respondents' knowledge of Lean techniques, and the level of training in Lean tools. Finally, the respondents were placed in three different categories depending on their level of Lean implementation for further. The groups were as follows;

Group 1, the newspaper organizations who have implemented some degree of Lean Production Techniques into their operations were asked to indicate which departments, within their organization they have applied some Lean tools, which tools have been applied, their significant benefits, their challenges and their rating of the importance of Lean.

Group 2, Newspaper organizations who have plans for implementing Lean, were asked in which departments they think Lean will be applicable, which tools they think are applicable in the industry, what they consider to be the most significant challenges and main benefits of implementation, and their rating of the importance of Lean Production Techniques. The questions for this group were similar to those of Group 1, but they were asked differently, because this group has not yet implemented Lean in their operations.

Group 3, Newspaper organizations with no plans of implementation, were asked if they have discussed Lean implementation in their organization and the reasons for not having plans of implementation. All three groups, in the last section of the survey, were asked their willingness to be contacted for a follow-up interview.

3.4 Sampling Technique and Population

The study sought to adopt a non-probability sampling technique which involves the process of sampling involving selected groups from a larger population. Sampling refers to the process of selecting a sufficient number of elements from the population so that by studying the sample, and understanding the properties or the characteristics of the sample, the studier will be able to generalize the properties or characteristics to the population elements. Sampling overcomes the difficulties of collecting data from the entire population which can be impossible or prohibitive in terms of time, costs and other human resources.

In order to encourage as high a response rate as possible, the survey questions were designed in a simple manner as possible and contained few questions, thereby, allowing the recipients to complete the survey in less than fifteen minutes. Sixteen (16) newspaper organizations formed the population of this survey. Out of this number, ten (10) organizations were sampled for the study because these organizations have their own printing presses. The ten organizations were then classified into three (3) categories on the basis of their level of Lean application and from each category; one (1) organization was selected for an in-depth study.

3.5 Data Analysis

Statistical analysis and interpretation of data can be carried out in two ways: either by the use computer software or manually. Taking into consideration the nature of work, it was more convenient and effective in employing the use of computer software in analysing and interpretation of the data. The Data collected from this study was analysed by the use of Statistical Package for Social Sciences (SPSS) software together with Microsoft Excel. Frequency distributions in terms of tables, graphs and charts were generated to summarize and give a pictorial view of respondents' thoughts on some of the variables. Conclusions as well as recommendations were drawn based solely on the outcome of the Statistical data analysis.

4.0 DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter of the study gives detail report on the statistical analysis of a study carried out purposely to assess the application of Lean Production Techniques to

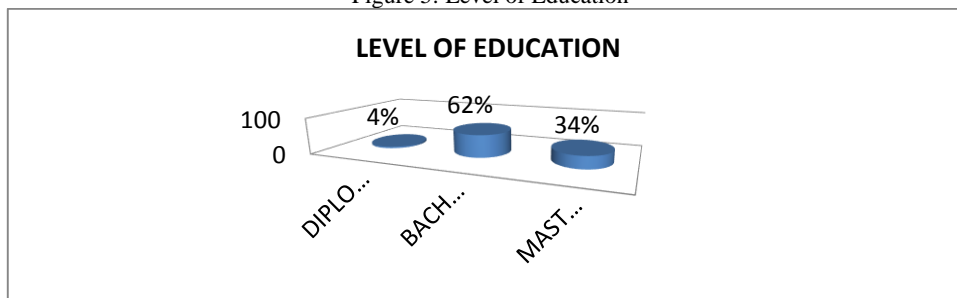
Newspaper Production in Ghana. The data collected during this study is presented in this chapter. In this chapter the data gathered from the survey (shown in Appendix A) is first presented- following the same structure as the survey. In the second part, the researcher presents the response from the in-depth study; the questions from these interviews are shown in the Appendices 1, 2 and 3.

The researcher has presented all the information gathered without including personal reflections, nor providing a further analysis of the data. The response sought from the respondents were coded and entered into Statistical Package for Social Sciences (SPSS) for statistical data analysis and also analysed with Microsoft Excel.

4.2 Demographical Information

The part of the survey including demographical information was addressed to all respondents; this identified the gender, age range, educational level and average daily circulation of the newspaper.

Figure 5: Level of Education



Source: Field Work May 2015

Figure 1 above, clearly shows the level of education of respondents who were sampled for the study. A total number of respondents (4%) were holders of Diploma certificates; (62%) were also holders of Bachelor degree and (34%) representing Master degree holders.

4.3 Assessing the level of knowledge of lean production technique in newspaper firms.

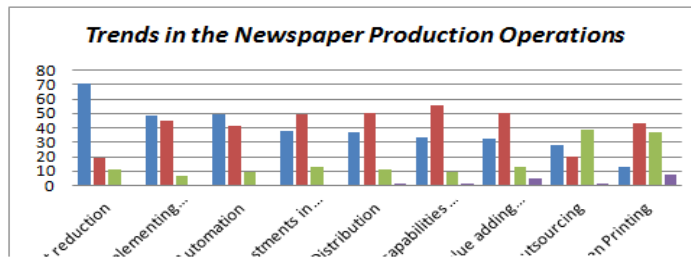
In accordance with the study objectives, all respondents were asked if they have prior knowledge of lean production, received training in the lean principles, have any knowhow on lean tools or if they have implemented lean production in their firms. Prior to the implementation of Lean Production Technique, a general knowledge of lean production remains most crucial for any organizations have sought to eliminates non-value adding activities or the perceived 'hidden waste' in the production sector or newspaper industry.

4.3.1 Trends in the newspaper production operations

The researcher set to find out what respondents consider as the most important trends in newspaper production operations currently. This question was asked to find out how the industry rates some of the main trends in the newspaper industry today. The answer options are listed in Figure 2. The rating average is calculated by giving "Extremely Important: rating 4, "Important" rating 3, "Somewhat Important" rating 2, and "Not very Important" rating 1.

The three highest rated trends are cost reduction, Colour capabilities and Value addition. The respondents also had an option to include trends other than the ones in the Figure. Some respondents mentioned long-term processes strategies for the future, cross-training staff to perform multiple functions and improved revenue as being other important trends.

Figure 6: Trends in the Newspaper Production Operations

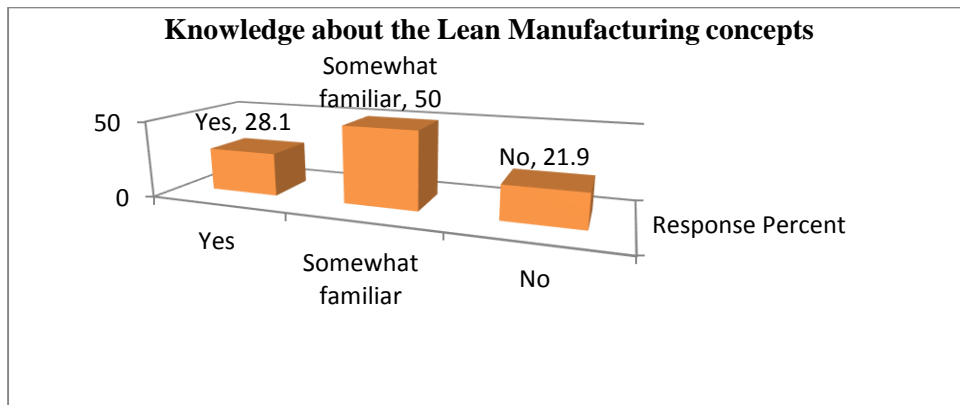


Source: Field Work May 2015

4.3.2 Tools and Techniques of Lean Production.

To be able to answer the research objectives, it was essential to determine the knowledge about Lean Production Techniques in the industry.

Figure 7: Knowledge about the Lean Production Techniques concept



Source: Field Work May 2015

Following the breakdown of responses (as shown in Figure 3) the respondents were divided into these three groups: Group 1: Those who have implemented Lean, Group 2: Those who intend to implement, Group 3: Those who have no plans of implementation

4.4 Graphic Communications Group Ltd.:

4.4.1 Demographical Information - Graphic Communications Group Ltd

Graphic Communications Group Ltd is located in Accra with 13 regional branches across the country. It has an average circulation of 480,278 weekly. The interviewee was Ernest, the Production Manager, and he has been with the company since 2003.

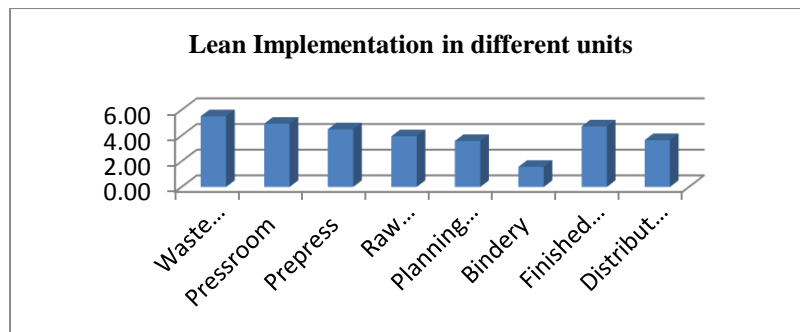
4.4.2 The Newspaper Industry

According to the respondent, 'newspaper production, as practiced in the Ghana, is highly inefficient. The industry spends most of its energy looking for cost cuts, but has not focused enough on improving efficiencies and productivity'. Despite the current despair over the economy, the industry still resists fundamental change and lacks a coherent vision of process management needed to successfully implement Lean Production Techniques. In general, the respondent believes that the major bottlenecks in the industry are found in the pressroom and mailroom.

Table 1: Departments/ Units with Lean Implementation

Answer Options	Have applied	Some progress	Planning to apply	Not applied	Not suitable	Rating average
Waste management	64.0%	12.0%	52.0%	13.2%	0.0%	5.50
Pressroom	48.3%	8.6%	62.1%	15.0%	0.0%	4.92
Prepress	37.2%	23.1%	46.0%	16.4%	0.0%	4.49
Raw materials inventory	28.6%	16.0%	49.5%	19.4%	0.0%	3.94
Planning/Scheduling	11.3%	16.2%	72.6%	9.6%	0.0%	3.58
Bindery	0.0%	12.3%	28.4%	11.0%	0.0%	1.56
Finished goods inventory	31.0%	19.0%	68.0%	18.2%	0.0%	4.71
Distribution	26.4%	24.0%	42.6%	4.5%	0.0%	3.65

Figure 8: Graph of Departments/ Units with Lean Implementation

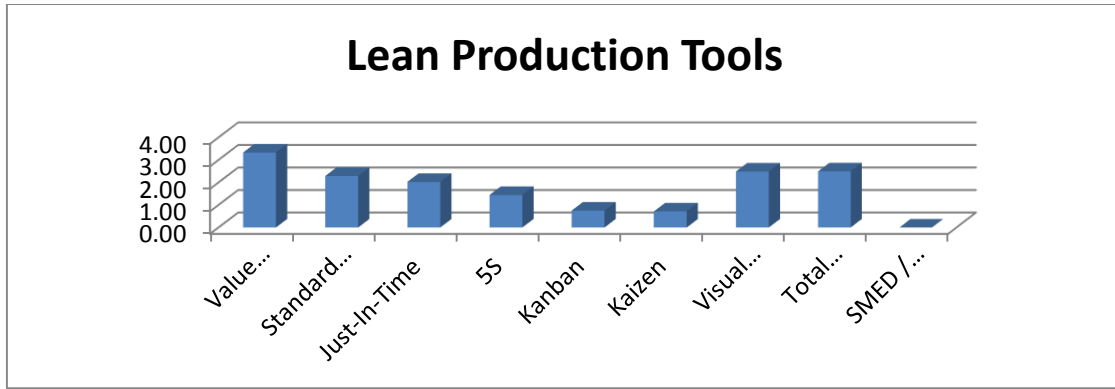


Source: Field Work May 2015

Table 2: Tools Implemented at the Selected Organizations

Answer Options	Have Implemented	Planning to apply	Not suitable	Average rating
Value Stream Mapping	69.6%	62.0%	0.0%	3.33
Standard Work	52.5%	35.6%	0.0%	2.29
Just-In-Time	50.1%	26.0%	0.0%	2.02
5S	0.0%	38.2%	68.0%	1.44
Kanban	0.0%	0.0%	75.0%	0.75
Kaizen	0.0%	0.0%	71.4%	0.71
Visual management	65.2%	26.4%	0.0%	2.48
Total Production Maintenance (TPM)	64.3%	28.2%	0.0%	2.49
SMED / Setup Reduction	0.0%	0.0%	0.0%	0.00

Figure 9: Graph of Tools Implemented at the Selected Organizations



Source: Field Work May 2015

It took about fourteen months for the Lean implementation. The use of an outside consulting group cost the company approximately GHS50, 000. The respondent also estimates

the training and staff costs incurred internally to be about another GHS15, 000.

Table 3: Improvements in Graphic Communications Group

Item	UOM	Before	Now
Setup time	minutes	2 hours	< 45 minutes
Waste	% of volume	7.0%	<3.0%
Unplanned Maintenance	weekly	6 hours	<1 hour
Scheduled Maintenance	Weekly	24 hours	<30 minutes
Paper Inventory	Weeks	3 Weeks	<2 Weeks
Number of Employees	numbers	396	401

Source: Field Work May 2015

4.5 *New Times Corporation:*

4.5.1 *Demographical Information. - New Times Corporation*

New Times Corporation is located in Accra with 10 branches across the country. It has an average circulation of 261,200 weekly.

4.6 *Western Publications Ltd*

4.6.1 *Demographical Information - Western Publications Ltd*

The interview with Western Publications Ltd was done by telephone conversation. Western Publications Ltd is located in Accra. With 4 branches across the country; it has an average circulation of 161,278 copies weekly. The person interviewed was Isaac the Production Director at their facility, and he has been with the company since 2006.

4.6.2 *The Newspaper Industry*

On the question about the newspaper industry being cost-effective, the respondent’s answer is “questionable.” Speaking for Western Publications Ltd, he thinks they run a pretty lean operation, but he definitely sees opportunities for improvements. In his opinion, Western Publications Ltd tends to push the envelope a little bit more in terms of being cost-effective. He thinks there is a tendency in the industry not to educate and train enough people to

effectively look for technical solutions that can help them to be cost effective.

The respondent considers press setup to be the biggest bottleneck in the industry, but he is also sure that there is room for improvement. In general, he sees two other major bottlenecks in most newspapers. One is where the ads are sold, created, and designed, going through the ad production department, and to get to the actual paper. Another issue and bottleneck is to ensure mass, size, and quality in the mailrooms. An interesting point about mailrooms is that if you were willing to take the business and separate the mailroom and take the revenue and cost from everything else that is done, that’s a pretty good, profitable business. But the average newspaper in the industry does not do any major investments in this department. Every ten years, they might buy some new equipment, but justifying the equipment in that department is only done on the level of “What are your cost-savings? Do you have the return on investment?”

The conversations about “How can I get out a better product for the customer?” really does not enter in, and in the newspaper industry, big opportunities have been missed with the resistance to invest in that department.

4.7 *Summary of Objective 1*

In general, newspapers with Lean Production Techniques rates implementation challenges lower than those who have

yet not started their implementation. There also appears to be a lack of knowledge of the areas with opportunities for improvements in process performances.

Table 6: Differences among the Companies

Area	Western Publications Ltd	New Times Corporation	Graphic Communications Group
Lean Status	No Lean	Some progress	Lean
Setup time	120	70 minutes Goal: < 45 minutes	< 45 min
Scrap	5.2%	4.8% Goal: < 3%	< 2.5%
Unplanned Maintenance	2-3 hours	6 hours Goal: <3 hours	<1 hour
Scheduled Maintenance	30 hours	30 hours Goal: <30 hours	< 30 minutes
Paper Inventory	12	4weeks Goal: < 2 weeks	< 2 weeks

Source: Field Work May 2015

4.8 *Impact of Lean Production Techniques - Graphic Communications Group Ltd*

Figure 10: *Material Consumption rate against total waste in the year 2013*

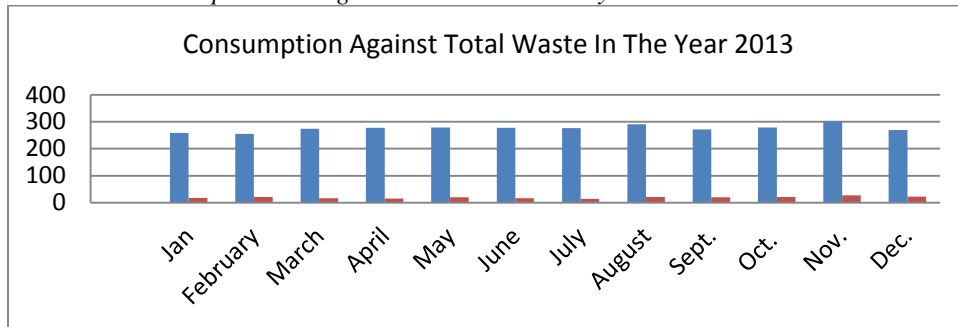
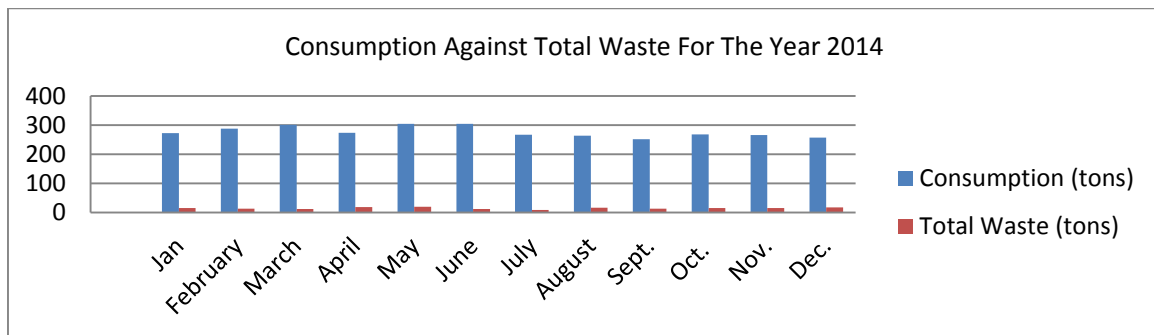
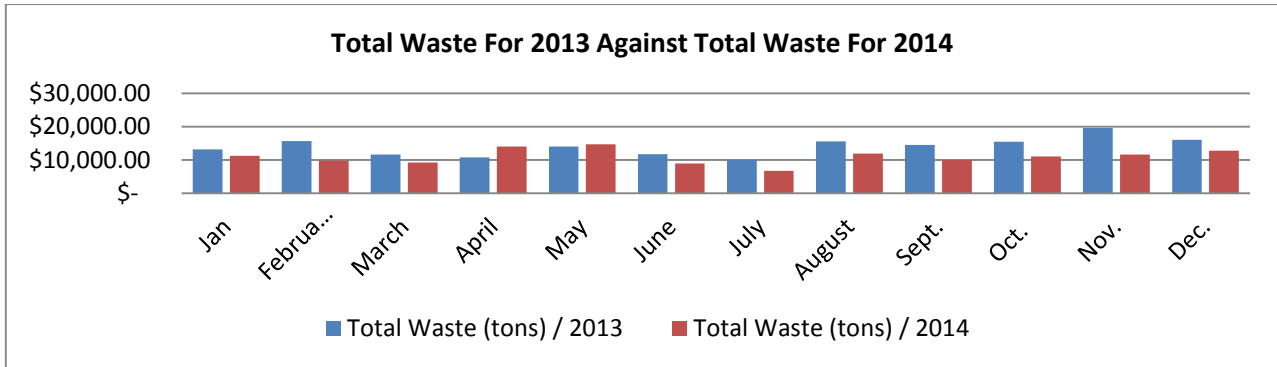


Figure 11: *Material Consumption rate against total waste in the year 2014*



Source: Field Work May 2015

Figure 12: *Total waste in the year 2013 against total waste in the year 2014*



Source: Field Work May 2015

5.0 CONCLUSIONS

In recent times, Lean production techniques have become a vital tool for both academics and practitioners. Many managers around the world have attempted to enhance productivity and eliminate waste in all segments of the organization through lean production techniques. Womack & Jones (1996), stated, irrespective of forces resisting the implementation of lean production technique, potential benefits exist for organizations who sought to become ‘LEAN’. The potential benefits of Lean production adoption includes: *Financial; Customer satisfaction; Knowledge in internal/external operations and Quality*. In line with the study, the summary of the findings have been chronicled below in three (3) stages.

Firstly, the study performed an assessment to determine the level of knowledge of lean production technique in newspaper production in Ghana’s media landscape: In line with the assessment of trends in newspaper industry, cost reduction mechanism was rated extremely high. A feedback which shows that managers of those firms have plans to cost reduction mechanism ; With familiarization with the concepts and tools and techniques of lean production, 50 respondents rated somewhat familiar; With lean training, 80.750% have not received any training on lean with a minimum of 12.50% respondents benefited with training.; status on lean implementation, the response rate is as follows, only 17.2% have implemented lean with the majority 48.4% indicated that no plans of implementing lean production techniques. The level of knowledge of lean production was low in the two organizations but high in Graphic Communication Group Ltd.

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