UNIVERSITY OF EDUCATION, WINNEBA

DEPARTMENT OF MUSIC EDUCATION

RESIDENTIAL AND INDUSTRIAL COMPATIBILITY:

THE CASE OF ACCRA NEW TOWN PRINTING BUSINESS

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2019

UNIVERSITY OF EDUCATION, WINNEBA

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THE CASE OF ACCRA NEW TOWN PRINTING BUSINESS

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**A Thesis in the Department of Music
Education, School of Creative Arts, submitted to the School of
Graduate Studies in partial fulfilment**

**of the requirements for the award of the degree of
Master of Philosophy
(Arts and Culture)
In the University of Education, Winneba**

NOVEMBER, 2019

DECLARATION

STUDENT'S DECLARATION

I, ... hereby declare that this thesis with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has been submitted, either in part or whole for another degree elsewhere.

Signature: …………………………….………………..

Date: ……………......................…………………...

SUPERVISOR'S DECLARATION

We hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis as laid down by the University of Education, Winneba.

……………………….………….............………….… (Principal Supervisor)

Signature: …………………………….………………..

Date: …………………………….....................…

……………………….………….............………….… (Co- Supervisor)

Signature: …………………………….………………..

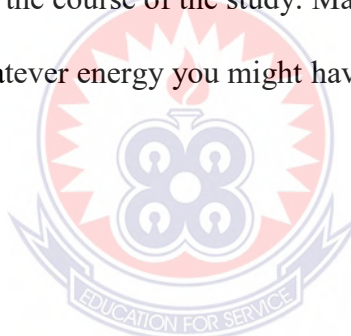Date: …………………………….....................…

DEDICATION

I dedicate this work to my father; Mr. Kwabena Danso Gyamfi, my late mother; Mrs. Rose Konadu Danso, my sister; Eva Obenewaa and Mr. and Mrs. Korankye for their enormous support and encouragement.

ACKNOWLEDGEMENTS

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ABSTRACT

Rising incidents of printing business establishment amidst residential settlement is a growing phenomenon in Accra New Town. Ideally, in a residential settlement, houses should predominate as opposed to industrial and commercial activities, but in Accra New Town, the situation differs. Printing businesses are overshadowing residential activities and has become part of the general livelihood of the inhabitant of the town; but has not been documented. This study which emanated from a pure interest in printing and design as a component of graphic design sought to trace the origin and nature of printing business in Accra New Town, and also identify the impact of printing business on the residential livelihood of the people of Accra New Town and vice versa. By this means, factors contributing to continuous and present co-existence" of residential and printing business activities were investigated through interview, observation and documentary review. The respondents gathered for the study were sampled purposively, put in strata and later sampled by means of simple random sampling technique in this category; one (1) graphic designer, one (1) machine operator, three (3) press owners, three (3) landlords, one (1) Assemblyman and one (1) elder of the land. In all ten (10) participants were selected from the entire Accra New Town population for the study. Using a thematic analysis approach, this study analysed the incidence of printing business and the residential livelihood of the people of Accra New Town. It was deduced that, the trending and lucrative nature of printing business, low prices in purchasing a piece of land for printing business establishment, and easy access to cheap labour and resources are the main factors contributing to the continuous and present "co-existence" of residential and printing business activities in Accra New Town. The researcher based on the findings concluded that the continuous and present blend of residential and printing business activities is as a result of the easy access to items needed for printing business establishment and the huge profit gained after less investment. The study therefore recommends institutions of regulatory bodies in the town to ensure that the continuous growth of industrial and residential activities in Accra New Town takes place in a way that promote safe and environmentally friendly livelihood.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In aging population, the demand for residence and business has always been the priority of individuals, towns and countries. A residential area contains houses rather than offices or factories whiles business is work relating to the production, buying, and selling of goods or services. Alternatively, the term business is also used when talking about how many products or services a company is able to sell. If a business is good, a lot of products or services are being sold and if business is bad, few of them are being sold.

Zaal (1998) says the fusion of businesses and residential settlements in Africa cannot be overemphasized. This has been discussed over and over by different scholars. Ramano (2004) emphasized that, the past, present and future of various aspects of business and its relationship to society must be adhered. Hirschheim and Parks (2014) agreed there must be a better understanding of the past, as it relates to today because the past has records that helps the analysis of the contemporary world. In Ghana for instance, the standards of living in rural and urban areas differs. Usually in the urban areas, businesses are separated from residential areas, whiles, in the rural areas it is obvious to see businesses glued to residence. Interestingly, the case of rural dwelling happens to be the same as what is happening in Accra New Town. Residence are bond to printing houses which in effect is surpassing any other business in the town. Considering the situation at hand, the researcher is tempted to see Accra New Town as a *residential printing business centre* as people live or are being cared for in the town and run printing business at the same time. The town is renowned for its quality of

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prints, and people within and out of the town come into the community to patronize their services. The press houses prints on all types of substrates ranging from paper to other forms of complex materials.

Walking through the streets of Accra New-Town, it is typical to notice over a-hundred press houses with constant rhythmic sounds the whole day. The press houses are approximately five metres away from each other. Yeboah (2013) confirms that virtually every structure in the community, from the smallest kiosk to the largest building, accommodates a printing press; the only thing required is space to mount the printing equipment. At times, you can see a kiosk or a container but there is a machine in it. Competition in the printing industry (community) is very keen as one's level of 'connection man' and equipment determines the profit margin. Whereas some are engaged in printing only, others are into binding and lamination as well **(**Yussif, 2017**)**.

In fact, several activities go on in the printing industry and Accra New Town community, not forgetting, housing challenges some town folks face. From land acquisition through to construction of the physical structure and access to basic services and infrastructure as well as financing, the Ghanaian housing sector is severely challenged. Consequently, individuals and households adopt various informal strategies including self-financing and incremental building to be able to provide housing for themselves, their households and families. The overall effect of the challenges is that the Ghanaian housing market is constrained leading to the situation whereby aggregate housing supply is unable to meet effective demand (Population and housing census conducted by the Ghana Statistical Service in October, 2014**)**. Numerous factors may have contributed to the poor layout of Accra New Town where printing business and residential settlements coincide. In view of that the researcher sees the need to

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undertake the study discussed, hence the topic "Residential and industrial compatibility: The case of Accra New Town printing business".

1.2 Statement of the Problem

Industrial areas are usually separated from residential settlements. However, over the years, Accra New Town has emerged from its residential status to become the hub of the printing industry in Ghana (Yeboah, 2013). In a residential area, domestic housing are supposed to dominate all forms of commercial activities, but the situation in Accra New Town differs. It is common to see printing businesses overshadowing residential and other social activities in the town but has not been documented; almost every house happens to have a printing press. Of the notable printing facilities in Accra which are located at Circle, Kokomlemle and Abeka, Accra New Town stands out in the print business. The sounds from large and small printing machines and, bleed of designs and prints drawing attention for various reasons tickles the interests of graphic designers who consider design and printing as integral parts of their trade. The researcher considers this blend of residential life and printing business not just intriguing but a phenomenon worth investigating. As a graphic designer and a frequent patron of printing services therefore, the researcher considers it worthwhile to learn about the various factors that have made the fusion of residential living and printing business such a success story.

1.3. Purpose of the Study

Based on the problem discussed, the purpose of this thesis is to document the compatibility of residential and printing business at Accra New Town. It unearth factors contributing to the continuous and present "co-existence" of residential and printing

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business activities in Accra New Town. Three research objectives have been outlined below to help gain the knowledge necessary for the study.

1.4 Research Objectives

This study focuses on the following objectives:

1. to trace the origin of printing as a business in Accra New Town.

2. to investigate the nature of printing business in Accra New Town.

3. to analyse the impact of printing business on the residential livelihood of the people of Accra New Town and vice versa.

1.5 Research Questions

The study is guided by the following research questions;

1. What is the origin of printing as a business in Accra New Town?

2. What is the nature of printing business in Accra New Town?

3. What is the impact of printing business on residential livelihood of the people of Accra New Town and vice versa?

1.6 Significance of the Study

The outcome of the study is expected to bring to light the culture of residential and printing business at Accra New Town. It will create historical awareness on printing as a business in Accra New Town. Again, it will also educate the public and authorities about the nature of printing business in Accra New Town. Besides these, the research will enlighten authorities about the impact of printing business on residential livelihood

of the people of Accra New Town and vice versa. Knowing this will help them identify the position of the town folks with regards to their way of living. Lastly, it will serve as a useful research material for governmental and non-governmental organizations, policymakers, all stakeholders in the printing industry in making their decisions, and as a reference material for students, professionals, teachers, lecturers, researchers and the nation as a whole.

1.7. Delimitation of the Study

The scope of this study is limited Accra New Town; precisely populace within residences and press houses.

1.8 Limitation of the Study

Language barrier and unwillingness of some participants in giving out information were the setbacks encountered. The researcher relates their caginess to the alarming secretive investigation by the Ghanaian born investigative journalist Anas Aremeyaw Anas popularly known as Anas, which took place in the town. In effect, photographic shots were prohibited in some areas visited but the researcher managed to capture some scenes for the authentication of the study.

In addition, although English is part of Ghanaian official language, most of the town folks have no or limited English proficiency and therefore, Hausa was mostly spoken. To leverage the situation, a friend who happened to be born and bred in the town assisted in linking the researcher to participants who were fluent in English of which sometimes they keep postponing the stipulated date due to their busy schedule.

This took much of the researcher's time in collecting the data. Notwithstanding, the above limitations did not affect the quality of the research.

1.9 Definition of Terms Used

A-Level - A public examination requiring advanced knowledge in a subject and taken at the end of secondary school, usually two years after O-level.

Capitalism - An economic and political system in which a country's trade and industry are controlled by private owners for profit, rather than by the state.

Connection man - Jargon used in Ghana in place of the term middleman. An intermediary or agent between two parties especially a dealer, agent, or company intermediate between the producer of goods and the retailer or consumer.

Culture - Culture is the totality of the way of life evolved by our people through experience and reflection in attempt to fashion a harmonious co-existence with the environment.

Dot Matrix - A dot matrix printer or impact printer is a type of computer printer with a head that runs back and forth, or up and down motion, on the page and prints by impact, striking an ink-soaked cloth ribbon against the paper much like a typewriter.

Digital printing - Digital printing is the reproduction of digital images on a physical surface. It is generally use for short prints runs, and for the customization of print media.

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Fusion	-	The process or result of joining two or more things together to form a single entity.
Graphic design	-	The art of using design elements (as typography and images) and the application of skills, to communicate and solve problems.
Graphic designer	-	One who has the artistic sensibility, skill and experience and/or training professionally to create designs or any form of visual communication.
Impact	-	The action of one object hitting another, or the force with which one object hits another.
Lithography	-	It is a flat-surface or planographic printing method, depending upon the antipathy of grease and water.
Macho men	-	Men who are very conscious and proud of their masculinity.
Offset	` -	An offset image is produced by transferring the image from an inked printing plate onto a rubber blanket, then transferring the image from the blanket to the paper.
Photocopier	-	A photocopier is a machine that makes copies of documents and other visual images onto paper or plastic film quickly and cheaply.
Press house	-	A place where printing is done.
Press Unit	-	A division in the press house where specific operations take place.
Printmakers	-	A persons who makes pictures or designs by printing them from specially prepared plates or blocks.

Printing business - A venture that marshals people and resources in meeting the demand for printed materials like documents, brochures, pamphlets et al, in return for payment for the value service.

Printing industry - A group of printing firms/organizations/businesses with a common goal of producing printed products.

Printing Press/Press - Is a machine of many parts that works together and functions to reproduce graphic images or print-matter; in commercial quality. It is used to evenly transfer ink to paper or cloth. By applying pressure to an inked surface, the image is transferred to the paper. The device is able to make impressions quickly and efficiently.

Relationship - The way in which two or more people or things are connected with or involve each other.

Residence - A place where one lives; one's home.

Rotary Press - It uses impressions curved around a cylinder to print on long continuous rolls of paper or other substrates.

Landlord - The owner or manager of a public house.

O-Level - A public exam in a particular subject that was taken in the past in British schools by some children aged 15 or 16.

Screen Printing - forcing ink unto a surface through prepared screen of fine material so as to create a picture or pattern

Tenant - One who pays a fee (rent) in return for the use of land, buildings, or other property owned by others.

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Trotro	-	A popular means of transportation in Ghana. It refers to privately owned mini bus that travel fixed routes leaving when filled to capacity.
3-D Printing	-	This is a form of additive manufacturing technology where a three dimensional object is created by successive layers of materials.

1.10 Abbreviations

AD	-	After the Death of Christ
ANT	-	Accra New-Town
BC	-	Before the Birth of Christ
BoG	-	Bank of Ghana
CEO	-	Chief Executive Officer
CHF- Ghana	-	Cooperative Housing Foundation, Ghana
Etc	-	Etcetera
GDP	-	Gross Domestic Product
GIS	-	Geographic Information System
GPPCA	-	Ghana Printers and Paper Converters Association
GPS	-	Global Positioning System
GSS	-	Ghana Statistical Service

KNUST   -   Kwame Nkrumah University of Science and Technology

MMDAs   -   Metropolitan, Municipal and District Assemblies

PDF   -   Portable Document Format

PHC   -   Population and Housing Census

QR Code   -   Quick Response Code

STX   -   System Technology Excellency

UN-Habitat   -   United Nations Habitat

U. S. Bureau -   United Nations Bureau

SSS/SHS   -   Senior Secondary School/Senior High School

1.11 Organization of the Rest of the Text

Chapter two presents the review of available literature relevant to the study. In chapter three, the research methodologies and strategies adopted for the study were discussed. The subsequent chapter four deals with the analysis, presentation and interpretation of data collected. Chapter five is the concluding chapter, which presents the summary of the research findings, conclusions and recommendations of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0   Overview

This chapter deals with the review of the literature related to the fusion of domesticity and printing business at ANT. The review is done under the following sub – topics.

- Conceptual Framework

- The Concept of Printing

- General History of Printing

- History of Printing in Ghana

- The Nature of Printing Business in Ghana

- Operations of Accra Printing Business

- Detail Description of Printing Press Operations

- Establishing a Printing Business

- The Need for Printing/ Printing Business Establishment

- Overview of Housing Policies in Ghana

- Housing Characteristics in Accra Metropolis

- The Transformation of Towns - Then and Now

2.1   Conceptual Framework

There are ranges of classic theories within sociology for the study of this social change. Central to this study is William Fielding Ogburn's theory of social change, which asserts that *"technology is the basic cause of social change"*. He argues through four pronged processes, invention, accumulation, diffusion and Adjustment.

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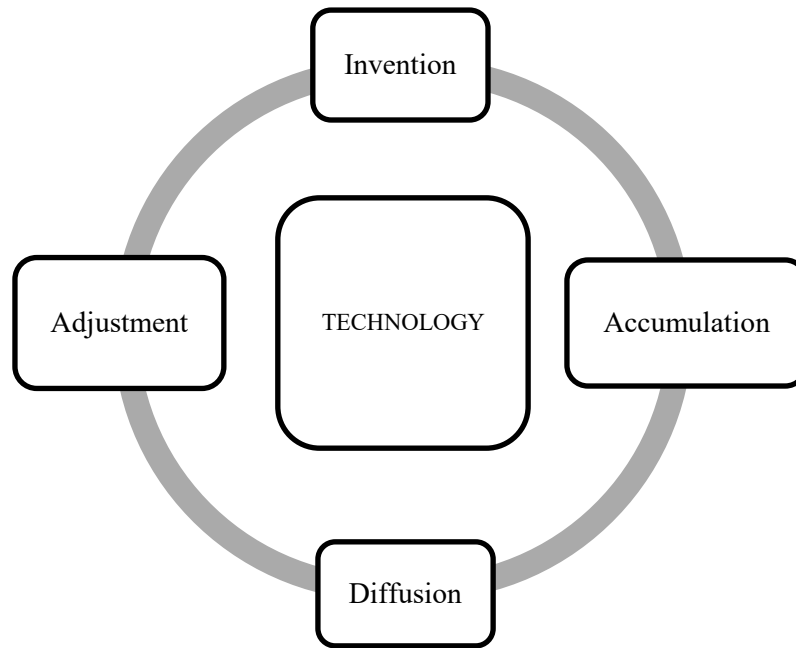
Figure 1. Diagram on Ogburn`s theory of technology and social change

Source: Ogburn, 1988

Ogburn sees inventions to result from operations of three factors: mental ability, demand and existence of cultural elements.

- Mental ability: Individuals with the needed mental abilities appearing in all societies – but the larger the population, the more such individuals there will be.

- Demand: Contributes to making of inventions and determines whether an invention, once made, will be used.

- Existence of cultural elements: The more cultural elements, the easier it is to produce new inventions by combining several existing ones.

He further defined invention as a combination of existing elements and materials to form new ones and added that, whereas we think of inventions as being only materials, such as printers, computers, scanner, among others, there are also social inventions, such as bureaucracy and capitalism.

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Ogburn`s second process of social change is accumulation. Accumulation is the growth of technology due to the fact that the invention of new things outpaces the process by which old inventions become obsolete or are forgotten - some inventions (such as writing) promote this accumulation process.

Diffusion includes the spread of an invention (idea) from one area to another. Given means of communication, an invention made in one place travel widely. Ogburn sees diffusion as the major process of social change and argues that it can have far reaching effects on human relationships.

Lastly, Ogburn stated adjustment as a process of social change. Each time an invention is made, adjustment is required. Adjustment is the process by which the non-technical aspects of a culture respond to invention. Any retardation of this adjustment process causes cultural lag. Cultural lag refers to how some elements of culture adapt to an invention or discovery more rapidly than others. Technology, he suggested, usually changes first, followed by culture. In other words, we play catch-up with changing technology, adapting our customs and ways of life to meet its needs. Printing technology provides a good example.

Throughout the research, Ogburn`s theory of technology and social change helped identify and analyse the factors contributing to continuous and present "co-existence" of residential and printing business activities in ANT (Accra New-Town). It also assisted to trace and investigate into the nature and origin of printing business in ANT, and finally, established the impact of the printing business on the residential livelihood of the people of the town and vice versa. The conceptual framework for the topic understudy is seen in figure 2.

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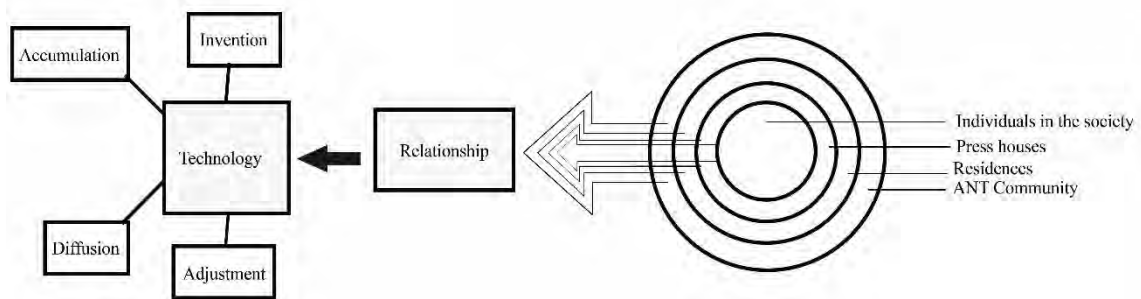
Figure 2. Conceptual framework for the topic understudy
Source: the researcher's construct

2.2   The Concept of Printing

The term 'printing' is an aspect of publishing process, which is mostly confused by laypersons outside the printing industry. Etymologically, the word "printing" ultimately comes out of a Latin word, premĕre, which means to press; just about every type of printing involves pressing one thing against another (Woodford, 2018, p.2). Pressing is usually done with a tool to enforce the ink unto the substrate. In screen-printing for instance, the squeegee is used to press ink to the fabric. Romano (1999) also describes printing as the method adopted by a system to transfer the image on to a substrate. It is a reproduction process in which printing ink is applied to a printing substrate in order to transmit information (images, graphics, text) in a repeatable form using an image-carrying medium e.g. a printing plate (Kipphan, 2001). By pressing, the printing ink transfers the image on an image carrier onto a substrate. Printing is described as the process of transferring ink onto paper (or another substrate) via a printing plate (Djan, 2011, p.12). Revathi (n.d) says printing is a process for reproducing text and images using a master form or template.

Bruno (1979) asserts that printing is something which can be perceived with our eyes and reproduced in quantity. He further adds that regardless of the many possible

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differences, all printed products have one thing in common; the result is always a quantity of the same visible image. Prints quality requires the printer to have control over the printing process used. The image to be reproduced should be exactly what was designed. Fordjour (2011) confirms printing as the transfer of ink onto a substrate. The reproduction of graphic contents onto an appropriate substrate for a desired effect is done using a printing press. Usually, it is carried as a large-scale industrial process, and is an essential part of publishing and transaction printing. That piece of equipment that does the actual printing activity, the mechanism that sets in motion the whole process of ink transfer onto an appropriate substrate is the printing press. .

Adams, Faux and Rieber (1988) also opines that printing is the process of manufacturing multiple copies of graphic images. They further state that although most people think of printing as ink on paper, printing is not limited to any particular materials or inks. The embossing process uses not ink at all, and all shapes and sizes of metals, wood and plastics are common receiver of printed messages. Printing is the process of manufacturing visual products that are intended to communicate a message through permanent graphic images. Printing places an inked image, like text onto a substrate such as paper, plastic, metal, glass, or cloth (Hird, 1991). This means printing can be done on all surfaces provided it could carry the impression.

According to Britannica Encyclopedia (2018), printing traditionally is a technique for applying under pressure a certain quantity of colouring agent onto a specified surface to form a body of text or an illustration. Certain modern processes for reproducing texts and illustrations, however, are no longer dependent on the mechanical concept of pressure or even on the material concept of colouring agent. Because these processes represent an important development that may ultimately replace the other

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processes, printing should probably now be defined as any of several techniques for reproducing texts and illustrations, in black and in colour, on a durable surface and in a desired number of identical copies. There is no reason why this broad definition should not be retained, for the whole history of printing is a progression away from those things that originally characterized it: lead, ink, and the press.

Summarizing the above definitions, firstly, it can be deduced that, printing can be done with or without a template or an image-carrying medium such as printing plate Secondly, printing can be done on all substrates provided the surface can carry the impression to be transferred. Furthermore, not all printing transfers are done with ink. It can also be done without ink. Again, impressions transferred usually may include text only, image only or combination of text and images. Finally, without duplications or multiple copies of a sample work printing is seen not to take place. The researcher therefore defines printing as the process of transferring an impression (text only, image only or a combination of text and image) using an image carrier, with or without ink onto another substrate. In other words, it is the reproduction of words or images onto paper such as card, plastic, fabric, etc or any surface that can carry impression.

2.3 General History of Printing

In attempt to understand the current state of printing, it is prudent to trace its general history. Scholars have evidenced the history of printing as quite controversial and subjected to many interpretations. It demonstrates the gradual development of printing press (machine) and printing processes (printing technologies) as a whole. Prempeh (2011) emphasises that "the evolution of printing before the Guttenberg's era

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(prehistoric printing) continue to raise a lot of controversies especially with issues such as when (dates) and where (places) printing began".

2.3.1 Development of the Printing Press

According to Bruno (1979), man's earliest known attempt at a visual record of his life and times dates back 30,000 BC. These were wall drawings called pictographs, superseded by the more complex ideographs. They were succeeded by the Persian's cuneiforms, and then by hieroglyphic which perfected by the Egyptians around 2500 BC. Ten centuries later the Phoenicians used the first formal alphabet. However, these are art forms and not printing as it is usually defined. Evidence of the first example of printing from movable type was discovered in 1908 by an Italian archaeologist on the Island of Crete. He found a clay disc in the ruins of the palace of Phaistos in a stratification dated about 1500 BC. Printing from movable type appeared in China and Korea in the 11th century. In 1041 BC, a Chinese, Pi-Sheng, developed type characters form hardened clay. Type cast from metal in Korea was widely used in China and Japan, and by the middle 1200's type characters were being cast in bronze. The oldest text known was printed from such type in Korea in 1397 AD.

Bird (2014) also made traces to the beginning of printing to have emerged from Prehistoric Europe, the Middle East, Ancient Egypt, Ancient Greece and Ancient Rome. This means printed alphabets which emerged as pictographs, ideographs and cuneiforms, could be traced from the Egyptians, Prehistoric Europe, the Middle East, Ancient Egypt, Ancient Greece and Ancient Rome. He credited Johann Guttenberg to have facelifted the spread of printing with his movable type invention. Bird further explained in Europe, this period is known as 'prehistoric' or a time before written

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evidence. The time evidence date back 30,000 BC as Bruno believed visual records were seen. According to Bird, Cave paintings have been found across Europe that used red, ochre or black manganese. The inks and dyes came from sap, animal blood and other things found in nature and cave painters would use walls instead of paper. They would use animal bones to suck up the ink and to blow the ink into shapes on the wall.

Bird believes in the Middle East, the Islamic Empires used a writing instrument called a galam which was usually made from a reed. Burnt resins such as tar or oil and then honey or gum were added before being compressed and dried. Similar to the Chinese, early ink was compressed into a tablet which made it easier to transport. Evidence of printing exists from around 3000 BC, where an impress would be rolled onto clay tablets to copy and duplicate images. Generally, for 4,000 years all writing was done by hand, one character at a time. This was copied out by hand by a scribe and was so expensive only the rich could afford this. The process used by the Europeans was quiet different from the Middle East in that they use different means to get ink for transfer impression unto surfaces.

On the same line, one of the many things that Bird thinks Ancient Egyptians gave to the world was black ink. This was made by mixing black soot with vegetable oil and beeswax. Gelatine and gum may also have been used. To make ink of different colours a different material was used instead of soot, for example, ochre. The fact that so many clearly legible pieces of writing survived to this day is testament to the quality of this ink. Egyptian scribes used a soft reed, with which the ink was brushed on. In Ancient Egypt, stencils were used to decorate tombs, where sculptors created an outline around this pattern. Once complete this would be decorated with paint, usually a bright colour such as red, yellow or blue.

Bird again said the Greeks used a hard reed as a pen that was split at the tip and cut into a nib which needed to be constantly sharpened. The most common form of writing was a stylus on wax or clay. The wax was poured into a hollowed out depression in piece of wood. Papyrus was available from Egypt on which ink was used. Since papyrus was expensive and sometimes not available parchment was developed. Ink was used on the parchment. Writing could be carved into wood or stone for signs or plaques.

Ancient Romans also used Egyptian papyrus to write on but this was very valuable. They used quills for their pens and their ink contained soot, gum, vinegar and sometimes even octopus ink. Imperial Rome had a large population, to meet demand for printed works, battalions of slaves would copy out the works of the great classical heroes. 'Books' in Ancient Rome were simply a large piece of papyrus with two wooden poles on with side. News was passed on through the ActaDiurna, or government announcements by Julius Caesar; these were carved into wood or metal and put up in public places (Bird, 2014).

Romano (1999) gives the account that evolution of printing can be traced back to 105 AD with the invention of paper. In 1931, Swedish archaeologist Folke Bergman discovered in China an example of a piece of printed paper dated from 105 AD. He again states that Pi Sheng of the Northern Sung dynasty had invented type between the periods 1040 and 1048 BC. These were movable types that were made of clay and hardened by baking them. His statement corresponds to Bruno (1979) who thinks Pi Sheng from china developed types from hardened clay. However, before the invention of paper, wall surfaces were used for drawings. Mejtoft (2006) states printing was first conceived in China between the 6th and 9th century, where images and text were carved into woodblocks and, with use of paint transferred onto paper. A couple of hundred

years later, during the Song dynasty, Pi Sheng invented the movable type (Romano, 1999), but it was not until the middle of the 15th century that the technology was popularized when Johann Guttenberg constructed the first real printing press. Since then many different printing technologies have been introduced.

Fordjour (2011) considers hand printing to have begun 200AD from China with woodblock printing, to movable type in 1040, intaglio in 1430s, and so on. By 593 AD, the first printing press was invented in China, and the first newspaper was available in Beijing in 713 AD. It was woodblock. The Tianemmen scrolls were the earliest known complete woodblock printed book with illustrations, was printed in China in 868 AD; it did not supersede the use of block printing. Around the mid-century, blocks-books with both text and images, usually carved in the same block emerged on the scene. In 1401 AD movable type system was created in China by Pi Sheng appeared on the scene made out of porcelain but as a more expensive process to a cheaper alternative of manuscripts from block prints.

Insight into the origin of printing per the opinions of the authors above confirms the inconsistencies as said earlier making it difficult to trace the exact root of printing as we see today. However, before the printing press was designed, any writings and drawings had to be completed carefully by hand. Clay and papyrus, wax, and parchment were some materials used to transcribe books. Such work was usually reserved for scribes who lived and worked in monasteries and that was not just anyone who was allowed to do this.

Again, although many scholars cited Pi Sheng from China and Johannes Guttenberg from Germany as inventors of the printing press, Johannes Guttenberg is regarded as the father of printing. His invention marked a major turning point in

printing. Indeed, the German goldsmith's 15th century contribution to the technology was revolutionary - enabling the mass production of books and the rapid dissemination of knowledge throughout the world. Most authors of printing share this fact about Guttenberg.

Lamb (2018) shares that before Gutenberg invented the printing press, very few people had access to literature and written materials, not only because of security measures, but also because the cost was naturally very high. If something happened to a written work, it could potentially be lost forever. Lamb further sees Gutenberg as an inventor who printed the first major book, which was a Bible, known as the Gutenberg Bible or 42-line Bible. The Gutenberg Bible was a Vulgate edition written in Latin. The decoration around the margins and in the headings was done by hand after the pages were printed. The book was over 1200 pages and was printed in two separate volumes. Approximately forty-eight copies survived and are considered the most valuable books in the world. He determined that to speed up the printing process, he would need to break the conventional wooden blocks down into their individual components - lower and upper-case letters, punctuation marks, etc. He cast these movable blocks of letters and symbols out of various metals, including lead, antimony and tin. He also created his own ink using linseed oil and soot - a development that represented a major improvement over the water-based inks used in China. Nevertheless, what set Gutenberg apart from his predecessors in Asia was his development of a press that mechanized the transfer of ink from movable type to paper. Adapting the screw mechanisms found in wine presses, papermakers' presses and linen presses, Gutenberg developed a press perfectly suited for printing.

Bruno (1979) added that the first printing press allowed for an assembly line-style production process that was much more efficient than pressing paper to ink by hand. For the first time in history, books could be mass-produced and at a fraction of the cost of conventional printing methods (Palermo, 2014). Johannes Gutenberg brought the West up to date with his invention of movable type. Until Gutenberg's system of separate characters for printing on a press with ink on paper, all books were laboriously hand written by scribes.

Romano (1999) opines that Johannes Gutenberg who is believed to be the inventor of printing process was born in Mainz, Germany. The 'Guttenberg Bible' was printed in Mainz around 1455 with his movable type press. Gutenberg around the middle of the century developed the technique of producing a number of individual letters or 'types' which could be assembled to form a page of 'writing'. A page of letters could be inked and impressed upon skin or paper in less than a minute and a team of two or three men could ink and impress a hundred or more papers in an hour. His final technical developments in letterpress printing (1440) heralded a new era of communication, replacing the hitherto handwritten one-off texts which required rewriting in order to be passed on (Kipphan, 2001).

Prempeh (2011) accepted the fact that, despite all this, the basic technique of letterpress printing did not change fundamentally for the next 400 years. What did occur during the four centuries of hand press dominance was that typefaces were gradually evolved to suit the needs of the process and to aid legibility, while at the same time creating a pleasing image for the reader to enjoy.

Bird (2014) expounded that, Gutenberg's press ability to combine both text and illustrations allowed printing to become a popular tool for the publication of artistic

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designs, leading perfectly into the huge industrial era. His advancements were aided by developments in engraving and etching, mezzotint, lithography and chromo lithography, colour printing and zincography, rotary cylinders and rotary presses, jobbing press and offset printing. Nevertheless, with the advent of the 20th century mass printing was common. Books were widely available and accessible, as were a number of daily newspapers, and colour prints were becoming increasingly common.

Fordjour (2011) expresses advancement of printing after Guttenberg's era. He stresses that Guttenberg's invention was followed by lithography in 1976, rotary press in 1843, through offset in 1903, screen printing in 1907, photocopier in 1960, dot matrix in 1970, 3D printing in 1986 to digital printing in 1993. Countless techniques that developed in the 19th century continued well into the 20th and 21st century. It was not until the 1960s that major developments occurred, alongside the development of computer technology.

Printing press has contributed tremendously to modern information dissemination. Many agree that Gutenberg's printing press was the catalyst that brought about the renaissance of printing. Yet, the issue is what made Gutenberg's printing press so important? Although some agree and others disagree that his printing press was not the first method of printing, his impact on civilization is mightier than any other type of printing. Gutenberg first printed the Gutenberg Bible in the 1450s. While not his first work, the Gutenberg Bible is undoubtedly his most famous and influential work. Within three decades, there were over one hundred printing presses throughout Europe. With Gutenberg's printing press, the global population had access to written material. No longer was literature reserved for monks and clergymen. The printing press sparked the first information age. People could have books in their homes for the first time ever. A

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number of individual letters or 'types' were assembled to form a page of 'writing'. Inks as well as transfer media were used to transfer impression unto surfaces such as skin, paper etc. Later, his invention was modified, refined, adapted and improved steadily.

2.3.2 The Printing Processes

Snook (1982) states that there are five main types of printing processes: letterpress, flexography, gravure, offset lithography, and screen printing. All of these printing methods are contact or impression processes, which use an inked printing plate or image carrier to produce numerous reproductions of an original on paper or other substrates using a printing press, on which pressure is used to transfer the inked image to the paper. The image carrier consists of two areas, the print or image area to which ink is applied and those areas which remain ink free. The five printing processes are distinguished by the method of image transfer employed, which can be classified as one of four types: the relief method of printing from a raised surface as characterized by letterpress and flexography; the intaglio method of printing from recessed areas as characterized by gravure; the planographic method of printing from a flat surface as characterized by lithography; and the stencil method of printing through a porous surface as characterized by screen printing.

In addition, Snook says printing processes may be classified as direct, where the ink is transferred directly to the substrate, or offset, where the ink is transferred from the inked plate to an intermediate cylinder covered with a rubber blanket which transfers it to the substrate. Letterpress, flexography, gravure, and screen printing are almost always direct, and lithography is almost exclusively offset, thus referred to as offset lithography. Another way of distinguishing printing processes is by the system

of feeding the substrate to the printing press: sheet-fed (individual sheets) or web-fed (continuous roll). Web printing presses have largely displaced sheet-fed presses in most processes due to the ease of placing converting operations in line with the press. Some of the printing processes have major sub processes based on the substrate or products being printed. These major sub processes include: publication printing, which includes printed materials that are not further processed into some form of packaging or non-publication finished product; packaging printing, consisting of printed materials that are further processed into boxes, containers, bags, and other forms which package consumer goods; and product printing, covering printing done to enhance or design a product that is not used to package or display something else and is not a publication. Romano (1999) shares same opinion that the printing industry recognize five major processes/technologies but his printing processes discovered is slightly different from Snook. These are relief printing (letterpress, flexography), planographic printing (offset lithography), recess printing (gravure/intaglio), stencil printing (screen) and digital printing (toner and inkjet).

Equally, Adams, Faux and Rieber (1988) and Bruno (1979) also shares similar but different opinions that printing technologies can be categorized into four. According to Adams, Faux and Rieber the printing processes or technologies includes relief printing, intaglio or recessed printing, screen printing and lithographic printing. Bruno describes the four processes as letterpress, gravure, offset-lithography and screen. Letterpress is relief, gravure is intaglio, lithography is planographic and screen is screen or stencil printing. Bruno adds that some duplicating and electrostatic printing use modifications of these methods.

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Kipphan (2001) has different understanding on the various printing processes from what the scholars above stated. He distributed the printing process into two key parts which includes; conventional printing (printing with a master/intermediary) and non-impact printing (printing without a master/intermediary). Conventional printing is made up of screen printing; letterpress/flexographic (relief) printing; lithographic (offset) printing and gravure (intaglio/recess) printing, whiles electrophotography, lonography, magnetography, inkjet, thermography and photography falls below non-impact printing.

Having considered views of authorities from different backgrounds, it is imperative to analyse their ideas. Although different figures and processes were highlighted, it was realized that most scholars share similar opinions while others differ. Eventually, numerous processes were apprehended. Printing since its invention has always been subjected to changes typically in the approaches and techniques to arrive at easier and more comfortable approaches to reproduce an item. Boadu (2016) stress that, as the world has moved into the technology age, the role of printing presses in communication has become less oriented except for mass reproduction. The influx of new desktop computer printers, scanners, digital large format printers, computer-to-plate technology, web-to-print, etc has enabled people to design, edit, and print materials more quickly as compared to the old traditional process that would have taken months to make production. These developments became reality by the effort of the various personalities cited above. Prempeh, attest the fact that these trends continue to emerge as a result of the need to meet the industry demands and improve upon existing ways of operations. The printing industry is constantly developing more efficient ways to meet the needs of our growing population. These trends and changes

have been reviewed to know how globally they affect the emerging needs of the Ghanaian industries.

2.4 History of Printing in Ghana

Among the various means of communication, which include radio, television, etc, printing still provides the greatest source of news, information and knowledge known to our planet (Eyiah, 2002). The Printing industry in Ghana (then Gold Coast) started on a very small scale in the 19th century, precisely 1822 (Kostovic & Goldman-rakic, 1983). The royal Gold Coast Gazette and commercial intelligence was a newspaper published in Cape Coast between April 1822 and December 1823. It was established by Charles Mac Carty, governor of the British colony of the Gold Coast at the time. The newspaper was written by hand (Salm & Toyin, 2002). By 1825, however, the newspaper had ceased to exist because its founder, Sir Charles MacCarthy, the then governor of the colony, was killed in the Battle of Nsamankow in 1824 in which the Asante defeated the British and beheaded its leader, MacCarthy (Asante, 1996).

The history of printing in Ghana continued with the early missionary work around 1851 (Eyiah, 2002). The early press houses were more concerned with printing newspapers rather than books, though the early missionary press houses ventured a bit into book production. The Printing industry was given a boost after independence with the introduction of free compulsory primary education scheme in 1961 (Kostovic & Goldman-rakic, 1983).

According to Jones-Quartey (1975), several publishing houses sprang up in the colony and this led to the founding of newspapers such as the Accra Herald (1857),

Gold Coast Methodist Times (1874), Gold Coast News (1885), Western Echo (1885), Gold Coast Echo (1889), Gold Coast Chronicle (1890), Gold Coast Assize (1890), Gold Coast Observer (1896), Gold Coast Express (1897) and the Gold Coast Free Press (1899). Others included Gold Coast Leader (1902), Gold Coast Advocate (1904), Gold Coast Courier (1905), Gold Coast Nation and Aborigines (1912), Voice of the People (1917), Gold Coast Truth [later known as Truth] (1928) and the Gold Coast Daily Telegraph (1928).

The Bannerman Brothers set-up their business and started the production of a newspaper in 1858 and 1859 called "Accra Herald" later known as "West Africa Herald" (Akyea et al., 2008). In 1873, the newspaper ceased operation because of the relocation of the press to Sierra Leone and then back to Ghana, finally siting it in Cape Coast. Eyiah (2002) stressed that a man from Abura-Dunkwa in the Central Region, Hutton Brew, was the first African to establish a printing press in Ghana. He started his press in 1874, thus, printing of the newspaper 'Gold Coast Time' and later added "Western Echo".

Eyiah (2002) opines the early 1900's and the late 1930's saw a tremendous increase in the volume of printing works done in the country. This was due to the increase in industrial, commercial, and other activities of the government and developments in education and health. Since then, printing has become an important aspect of publishing industry in Ghana. Most of these Printing houses are concentrated in the nation's capital – Accra. However, due to digitalization and technological advancement they publish their news online as well aside printing for distribution.

2.5 The Nature of Printing Business in Ghana

The printing industry is constantly developing higher quality and more efficient ways to meet the demand of the growing population (Hird & Finley, 2010). This capability is assisting businesses to cut down expenditure and streamline operations.

In today's competitive business environment, organizations can achieve more savings and drive efficiencies, without compromising the quality of their printed work. Printing firms are operating on very narrow profit margins due to price competition, increased costs and overcapacity caused by moves by publishers to print offshore (Accenture, 2001). According to National Board for Small Scale Industries (NBSSI), most press houses in Ghana operate under small-scale industries with workers ranging from 10-29; some are micro scale industries having about 6-9 workers at the press. Nyadu-Addo (2004) affirms the fact that most press houses in Ghana are within the small-to-medium enterprise category.

Printing houses offer a number of print services such as prepress (preflight, colour separation, film and plate making, among others), press (single and multi-colour printing) and post press activities (collating, folding, binding, laminating, etc.). Most Printing houses in Ghana print products such as textbooks, exercise books, notebooks, flyers, brochures, funeral and invitation cards, calendars, receipt books, posters, business cards, newsletters, etc.

Printing businesses complain of low jobs but they can support the drive for efficiency by becoming more creative in developing corporate materials. Such solutions allow them to produce professional-looking documents quickly and efficiently. For Printing houses to compete well, they need to be skilled, knowledgeable and have adaptable workforces that have broad technical, but also more generic knowledge and

skills set" (Callan & Ashworth 2004; Gibb 2004). Printing in Ghana come with lots of challenges from both capital input (loans), inadequate government contracts, and government policies such as huge taxes on raw materials (e.g. paper, ink, etc.) for local production.

2.6   Operations of Accra Printing Business

Printing businesses in Accra are manage either by government or by private individuals or group. They employ graduates and school dropouts to engage in graphic designing and press management. Through constant practice and observation of the various press activities, the novice learns from the experienced co-workers. Djan (2011) states that workers require constant upgrade of skills and knowledge to meet the changing trends of technology in the production process areas which are highly complex and integrated, and vary widely with the size of the company, types of presses, range of job titles and production output. Since creation, printing services has adapted many changes in technology and customer demand. They strive to continue growth and advance as new technologies become available and as customer's demand new services (Johnson, 1996).

A survey of forty-seven (47) press houses in the cities of Accra and Kumasi conducted by Chea (2008) on *"Causes and Sources of Waste in the Printing Industry in Ghana: A Study of Printing Houses in the Cities of Accra and Kumasi"* shows that all printing houses use lithographic presses. The success of the lithographic printing is due to the ability of the process to produce high quality text and illustrations cheaply and effectively in short, medium, and high volume production runs. Djan (2011) shares that the printing industry in Accra uses mainly the offset lithographic process in spite

of some firms still using letterpress printing for some jobs. Offset lithographic printing is likely to remain a viable technology for the long term for static, long run jobs either as a standalone technology or as a component of hybrid production (Romano, 2003).

Kipphan (2001) also agrees to the prominent printing technology is the offset lithography or colloquially just offset, and some other traditional or conventional printing techniques which includes flexography, screen printing and rotogravure. However, until digital printing was introduce in the mid 1990's, all printing technologies had something in common, the static printing form. Digital colour printing is poised to grow significantly over the next five years with the primary growth driver being cost reduction (Dalessandro, 2001).

Press houses in Accra uses the offset lithographic printing process for a wide range of items from letterheads to books and magazines. Some other applications of the lithographic printing process include advertising, envelops, labels and tags, stationery, greeting cards, packaging and so on. However, the ascendancy of the lithographic process may soon be challenge by both improvements in flexography and relatively new plate-less technologies, which make up the fastest growing sector of the printing industry in both developing and developed countries.

With offset lithography printing, sheets are fed on machines like AB Dick, Multilith, Kord 64 etc (Djan, 2011). Common software used in colour separation and designing at the prepress includes; Adobe suit – (InDesign; replacing Adobe PageMaker, Adobe Photoshop, Adobe Dreamweaver, Adobe Illustrator etc), Microsoft office suit, Corel Draw, amongst others. Image processing, proofing and the filming are done by image-setter straight from the computer. There are some places in Accra, however, that still use the darkroom camera for some type of works.

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2.7   Detail Description of Printing Press Operations

In printing an artefact, it is believed that the raw material has to go through different processes before the final product. All the various printing process or technologies or better still all printing activities can be categorized under stages with regards to the production of the printed products. Kipphan (2001) and Djan (2011) highlighted that the production flow involved in the production of print media comprises of the stages of pre-press, the actual printing process (press) itself, and finishing (post-press).

2.7.1   Pre-press Stage

As name implies prepress or before press according to Prempeh (2011) is also known as the preparatory stage. It refers to any work done prior to the actual printing of multiple copies on a press or a printer. This means from artist's thumbnail sketches, to photo transparencies, to the imaging of the printing plates.

Keith (2010) defines pre-press as a printing industry term for the activities that occur after a commercial printer receives an order and a corresponding graphics file from a client or graphic designer, before any actual printing takes place. The stages include pre-flighting - creating a proof and printing plates for offset presses. During the pre-flight, the file is checked (eg. proper format, fonts, resolution etc) to make sure it contains all the elements necessary for a successful print run. Again, it moves on to the second pre-press stage called creating a proof. A proof is a close representation of how the finished piece will appear when it is printed. Lastly, after the proof has been approve, the project is ready to be produce on a printing press. If the project is to be produced on a digital printing press, the pre-press process is pretty much complete. This is because the graphics file can be electronically transferred directly to the digital press

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for output without the need for printing plates. However, if the project is to be produced on an offset press, it will need printing plates. In this case, the final stage of the pre-press process is the creation of printing plates. Printing plates are custom made for each job and provide the method for transferring the inked images to the proper place on the paper.

Snook (1982) sees prepress operations as preparatory steps which include copy preparation, typesetting, photography, assembly of the films into a layout or form, and platemaking. Prepress steps ensure that tone values are correct, the images are in the correct position, and the proper plate is selected and treated so that the pressman will get the right colour. This adjustment procedure is called make ready.

To Johnson (1996) prepress is a term used in the printing and publishing industries for the processes and procedures that occur between the creation of a print layout and the final printing. This procedure includes the manufacture of a printing plate, image carrier, ready for mounting on a printing press, as well as the adjustment of images, photographs and texts or the creation of a high-quality print file. In today's prepress, either a PDF or native application files are created from programs such as Adobe Creative Suites, QuarkXPress, etc.

Stedron (2014) also believes prepress is the department that is responsible for all production procedures that lead to final print production. Prepress activities have traditionally included the following: typesetting, preflighting, production planning, file management, archiving, file corrections, proofing, workflow management, scanning, colour correcting, colour management, imposition, separation, ripping and plate production. It was added that, with the continuing rise of digital printing, the line between prepress and press production has blurred. Traditional offset printing presses

require very skilled and experienced operators to produce a great looking, sellable product. It is both an art and a science. By comparison, digital presses have a more straight forward way of getting an image on paper. Digital devices require a greater technical and less mechanical aptitude to operate effectively. Because of this, it is uncommon for prepress operators to be tasked with digital print production.

According to ADMEC Multimedia Group (2017), the prepress processes mentioned above may take place at single location, like large publishing or printing house, or at different places. Generally, few tasks happen at a publisher end while few take place at a dedicated prepress company which are also known as service bureaus or trade shops.

2.7.2 Press

According to Djan (2011), press involves the actual printing of the document on a sheet-fed or web offset press. A sheet-fed press prints on sheets whilst web-fed on rolls of paper. During the press process, employees install and adjust plates, prepare blankets and cylinders, select and mix inks, run the press, monitor print quality and press performance, troubleshoot problems, ensure a safe operating environment and perform preventive maintenance on presses. Prempeh (2011) asserts that press printing is the same as printing stage and perhaps, is the stage where the actual production of multiple copies is done. The proper term is making impressions or copies of the original.

2.7.3 Post-press/ Finishing Stage

Dadhwal (1996) states that after the printing of texts and images is over (after prepress and press) the process of post press starts. This is the end of the entire printing process that gives finishing touch to the end product. Post-press is subject to several sub processes that are implemented per the type of the project and the job being handled. Here are the few basic types of post press operations in printing industry which are not always but are often used:

Cutting: Cutting is one of the most common operations of post press which are used in almost all project. For this purpose, typical machines are used called guillotine or "paper cutter". These are special machines that are used for cutting large substrates of web-type into different sheets or pages. These machines vary in sizes, features, abilities, capacities and configurations: because they are built for individual purposes.

Folding: This is another activity performed most commonly in printing workshops for pamphlets, magazines and product boxes. There are three basic types of folders used in print shops – bone folder, knife folder and buckle folder. Bone folder is the oldest one among its peers that are made of either bone or plastic. Today they are used occasionally only for high quality jobs. Knife folders on the other hand use knife to force the paper getting into the roller for folding. Buckle folder turn a sheet into buckle so as to pass it between the two rotating rollers.

Assembling: In assembly, there are three steps to be followed - gathering, collating and inserting. Gathering involves placing bunch of sheets (signatures) one after another. This is done for assembling books having page thicknesses ranging between 3 to 8 inches. Collating is another process to gather individual sheets of paper

instead of bunch of papers. The last step, inserting involves the process of combining signatures or bunch of papers by "inserting" one into another.

Binding: In this category, the printed material or pages are adhered together. Three most common binding techniques are used - adhesive binding, side binding and saddle binding. For accomplishing binding process, three individual types of covers are used. They are self-covers, soft-covers and case-bound covers. Each of them is used as per the type of printing job. He added that these are just few basic post-press operations performed in printing industry. However, they are not the essential operations that are performed for every project. There are many additional post-press related activities which are executed as per the requirement.

Djan (2011) explains that post-press employees collate and bind printed sheets, perform finishing operations such as drilling, embossing and laminating, and package the final product for the customer. As the name implies post-press: after press. All the activities done on the printed product to put it into a refined and acceptable form. For example, single leaflets of printed sheets are bound together to make a book. The 'binding' becomes a post press activity (Prempeh, 2011).

In summary, pre-press, press and post-press are the major stages in printing products. All the stages stated have sub processes under which raw materials under goes before the final product. Due to that, it is incumbent on the press workers to take into consideration each stage, as it is important for achieving quality product that meets market demands.

2.8 Establishing Printing Business

Walker (2017) opines that establishing a printing business requires a few specialized pieces of equipment, and can be operated as a home-based, storefront or online business. He further elaborated on printing system, design software, inventory, cutting equipment, accounting software, among others as items needed to start a printing business. Printing businesses can be specialized and cater for different needs. Types of printing businesses include vinyl sign printing, screen-printing, printing of business cards, brochure, election ballots etc. Know what type of printing you want to specialize in and plan accordingly.

McKay (2016) added that the printing business startup needs will vary considerably based upon the type of printing you wish to offer. Each of the many types of printing processes are designed to serve different market. Offset, engraving, letterpress and digital printers serve the paper goods market. Screen printing, transfer printing, foil stamping and pad printing serve the promotional goods market. Other processes include web, flexography and rotogravure for industrial printing of newspapers, circulars, roll-goods, magazines and other long-run printing markets. McKay further mentioned training staff, business plan, financing and insurance, facility, permits and licenses, equipment, stock and supplies, etc as some things needed to start a business.

The U. S. Bureau of Labour Statistics states that most printing business enterprises employ fewer than 10 people. As more printing business owners utilize digital printing equipment, fewer skilled technicians will be needed to operate machinery. Modern digital printing equipment is smaller and more affordable than ever before and practically anyone with capital can purchase and operate digital printing

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equipment, even from a home office. It further stressed on finding a printable niche, determining what equipment needed and offering profitable services as three points to consider in establishing a printing business.

Analytically, the type of printed product(s) that consumers need determines the type of printing business startup. Products may be for promotional goods market or paper goods market. Advancement in technology has affected the printing industry setup and reduced the labour force. Printing business can be started from home office, storefront or online business. Moreover, establishing printing businesses involves a lot of planning and for that matter, it is necessary to consider certain factors when starting up a printing business. Although there may be constraints, taken that into consideration some points discussed by the authorities above will help in establishing one's own printing business.

2.9 The Need for Printing/Printing Business Establishment

> "So why a printed material when the world appears to be going digital? Why not an e-newsletter, a PDF, an interactive web page? Well, frankly, because we want impact, and there is nothing like a physical product to engage heart and mind, to stimulate curiosity. Our days are spent in front of a screen; print has become a luxury, a moment of calm, an opportunity for reflection (Design Business Association, 2016, p.105)"

Traditional printing practiced by cave men is still used in this modern era to disseminate information to the public have become a necessity to analyzed and appreciate its importance. Perfect explanation to start is as printed products are gradually becoming more underestimated as the years go by, social media and digital marketing becomes so much more popular for businesses. With new technology, social media platforms, and ways to reach audiences, people often believe that tried, tested, and true forms of

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print media have fallen out of favour. However, despite new mediums and forms of competition, print media still plays an important role in the success of businesses. Print is a tangible medium that still delivers great results for businesses that use it to help grow their customer base. In addition, as other technologies have entered the fray, printing technology has continued to advance and adapt to an ever-changing environment. There are several opinions that show that printing is still a very valuable information and marketing tool for businesses. Digital printing technology has given businesses more great ways to reach out to customers in order to grow their business (Jordan, 2018, p.45).

According to Eisenstein (2005), when the art of printing was unknown, only a few people were able to read and write, and all book knowledge was confined to church officials and to those who were teachers in the universities of those days. During the period when printing was invented there was a general desire for learning throughout Europe, and this invention, while it made books cheaper, also made it necessary to possess at least the ability to read. So in order to gain knowledge, people began to learn to read; and in order to communicate with others who were not within talking distance, they were compelled to learn to write. Thus, printing is important because it caused knowledge to be spread among the many instead of keeping it confined to the few. It is true that in the early days of this art, few people in comparison with the number today knew how to read or write, but since that time education for all has been spreading until at the present time a certain amount of schooling is compulsory for all the children in every country.

The development of printing has made it possible for us to use our ability to read, because books on hundreds of different subjects, magazines, and newspapers are

published at prices that are within reach of most of us (Kipphan, 2001). The development of public libraries, where books may be drawn out free of charge, is also the result of the invention of printing which has made possible the rapid production of many copies of single books. Thus, knowledge has been placed within the reach of all who care to gain possession of it. Science, art, and literature are no longer the mysteries they were in bygone days; and the news of the current happenings all over the world is handed to us almost within a few hours after their occurrence through the medium of the daily newspapers. The monthly and weekly magazines and the newspapers not only print the news of the day, but they also publish stories and articles discussing a wide range of topics which are written in such a manner as to make them intelligible to all. The invention of printing, therefore, has aided in the movement to spread knowledge among the many.

In the old days, before printing and some of the other modern inventions were discovered, people in one community knew very little about those in other places because the means of communication were lacking. This resulted in ignorance and a lack of understanding between peoples (Walker, 2011). The situation is quite different today. Due to books, magazines, and newspapers, among other things which were made possible by the invention of printing, people in one part of the world can make themselves understood by others. Thus, they are brought closer to make use of all the things which are devised, invented, and thought of in all parts of the world.

The members of this industry call printing the "art preservative of all the arts" (Snook, 1982). This is due to the fact that with the aid of this invention we are able to make permanent records of current events and of the progress that is being made in all lines of endeavor from day to day. Thus, we are able to hand down to future generations

accurate and trustworthy accounts of our activities in contrast with the distant past when most records were transmitted by word of mouth. The people who are engaged in the work of printing or the preservation of these accounts are therefore rendering an important service to the communities in which they live.

Bulwer-Lytton wrote, "The pen is mightier than the sword" as cited by Adams, Faux and Rieber (1988). His statement assumes that the 'pen' which is describe as a long thin object use to write in ink is a tool for records and distributes ideas more than any other media in our human society. Ideas recorded by the pen are best distributed to reach majority audience by printing. Thus, it is through printing that information reach target audience and without printing, few would read the ideas, and the pen would become a rather weak weapon.

Eyiah (2002) affirms that printing still provides the greatest source of news, information, and knowledge known to our planet. Communication now is effective through many ways and channels such as the newspaper, books, etc. The purpose of the printing industry is to create and manufacture products that communicate visually. As an example, most businesses would be unable to function without some form of graphic communications. The need for graphic communications is basic need in a technological society (Hird, 1991).

Jordan (2018) adds that print allows more information to be shared. Print media is one of the best ways to get information out to people. When someone receives a flyer, for example, they are able to read the information at their own pace and as many times as they wish. They can keep the flyer to consult later at their own leisure. This is in stark contrast to other forms of marketing. Radio and television only give advertisers 15 or 30-second time slots to share their message. An online advertisement is usually

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short and requires viewers to click on it in order to see more information. Using print, advertisers do not have these constraints. A business can advertise multiple services, share several locations, and go into greater detail about products or special offers. There is also no telling how many different sets of eyes may view a flyer or other form of print marketing. People post flyers in their workplace, pass them to friends, and share them on social media.

In summary, the origination of printing, has aided in the movement to spread knowledge among the many. It is through the printing industries that information reach target audience. Without the printing industries, knowledge may be confined to the few. The aim of the printing industry is to create and manufacture products that communicate visually. Newspapers and magazines example naturally attract people including pertinent advertising pieces that can be saved and read at leisure.

2.10 Overview of Housing Policies in Ghana

The development of a nation partly hinges on the availability of an efficient housing sector, which is capable of delivering adequate housing to meet the housing needs of its citizens. Housing sufficiency is necessary in providing shelter and ensuring the wellbeing of people; ensuring efficient resource allocation in an economy; and impacts on economic growth and social stability in every nation (Boamah, 2014, p. 7). It is also a necessity of life of every nation to establish a fundamental basis for assessing the standard of living in a household and to some extent, the nation as a whole (UN-Habitat, 2010).

According to Afrane and Asamoah (2000), Ghana, like many developing countries, has had a chequered housing policy since colonial times with a number of

development plans highlighting plans and programmes in the housing sector. Before the 1980s, the focus of housing policy in the country was the provision of adequate housing for the greater majority of the citizenry by embarking on mass housing projects with government being the sole financier of these projects. Government's mass housing projects were predominantly urban biased and emphasised owner-occupancy as well as tailoring them along the lines of single family housing to the detriment of multi-habitation occupancy and rental housing.

The failure of government policy interventions is partly responsible for the undeveloped nature of the housing market in the city, which ultimately affected the production levels. The formulation of policies and programmes has been quite easy as compared to their implementation. In fact, the implementation of policies has generally been unsuccessful and as a result, housing production has still lagged behind population growth in the cities. The failure of the various housing policies may be attributed to frequent policy abandonment due to political instability from the 1960s to the 1980s, lack of coordination, poor housing management practices and corruption. Even under the 1992 Republican Constitution, frequent overhauls of housing policies have created uncertainty and disorientation which have disrupted long-term and sustainable programmes of the ministry responsible for housing. Added to this is the strong rent control regime that was enforced between the 1970s and the 1980s which stifled private sector initiative in the supply of housing in Accra (Tipple, 1987).

Empirical evidence on the housing sector suggests that governments that pursue housing policies based on the 'enabling market approach' have better results than those that rely on traditional policies of direct public sector supply and financing of houses for low-income households (Mahama & Antwi, 2006). The former approach relies on

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the private sector as the main supplier of housing and issuer of long-term financing for households of all income levels, with the government playing the facilitator and regulatory role in the delivery system.

Afrane and Asamoah (2006) says the thrust of the current policy is that government will play a facilitator role in the construction of houses and provision of urban services. It is in the light of this that the Government of Ghana signed an agreement with STX Company Ltd of Korea for the construction of 200,000 housing units in the country within five-year period. Out of this number, 30,000 units will go to the security services and a further 60,000 to MMDAs as duty post housing. The remaining 14,000 will be sold to the general public under the auspices of the Home Finance Bank Ltd. The bank will provide mortgage loans to credit worthy potential owners to purchase some of the units. This implies that low-income households in the country's urban centres will not benefit under this agreement. Housing policy in Ghana does not adequately address the housing needs of the majority who live in the informal housing areas.

2.11 Housing Characteristics in Accra Metropolis

Akuffo (2006) opines that most of Ghanaian households make use of their long-term investments, loans, sweat equity, and transfer of funds from family members to construct their individual homes. He stressed that individual family units provide approximately 90 percent of the housing stock in the country. CHF-Ghana (2004) proposes that, unofficial way of upsurge construction of housing generates a larger deliver of affordable housing currently in the Ghanaian jurisdiction. BoG (2007)

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explained the supply of housing is determined by family units rather than the private housing developers or the central administration in Ghana.

In Ghana once a building permit is acquired, there are no effective steps to ensure that houses conform to acceptable standards. Developers or households do not see the need for a permit either to extend a building structure or even alter any part of a building. Monitoring to ensure housing quality is therefore lacking in the building sector. As the 2011 UN-Habitat report on Ghana indicates, "Most housing is built in horizontal stages, progressing vertically through the whole foundations, the walls and the roof, only being occupied by the homeowner when it is finished. In addition, much of the supply comes from adding a room or another building on the plot" (UN-Habitat, 2012).

However, there are general characteristics of houses in Ghana which its conditions are affected by several factors in the country which include the location of the building, the local culture, the construction materials, the amenities and funding services (Awuvafoge, 2013). The 2000 and 2010 Census of Ghana classifies dwelling units into the following categories; semi-detached house, separate house, compound house (rooms), flat/apartment, tent, huts/Buildings (different compounds), huts/buildings (same compound), improvised home (kiosk, container), living quarters attached to office/shop, uncompleted building and Others. Among these, the three most popular types of housing arrangements in Accra are compound houses, detached houses and semi-detached houses. Each of these types of housing is discussed in *Table 1*.

Table 1. Households by type and Characteristics of Dwelling Units in Greater Accra

Housing Characteristics	Ghana	Greater Accra
Number of Dwelling Units	5,817,607	1,090,397
Type of dwelling		
Semi-detached house	7.1	8.1
Separate/Detached house	28.7	18.1
Compound house (rooms)	51.5	55.6
Flat/Apartment	4.7	6.4
Tent	0.2	0.2
Huts/Buildings (different compounds)	0.7	0.2
Huts/Buildings (same compound)	3.1	1.1
Improvised home (kiosk, container)	1.8	6.1
Living quarters attached to office/shop	0.4	0.8
Uncompleted building	1.6	3.0
Other	0.2	0.3

Source: Compiled from the Ghana 2010 Population and Housing Census Report (GLSS, 2012

2.11.1 Compound Houses

Boakye (2016) in his article '*Struggles Ghanaian compound house can relate*' defines compound house as shared houses. He adds that in Ghana, compound houses have unique architecture depending on the number of rooms. Owners of compound houses purposely build them to rent out and most houses can house over ten (10) tenants. For low-earning income Ghanaian, shared houses are the way to go since they are usually easy on the pocket. Owusu (2010) also sees a compound house as one of Ghana's traditional houses and it "usually comprises of dwellings consisting of many small rooms (housing several households) with an open courtyard and shared facilities such as toilets, bathrooms and kitchens".

Both agrees that compound houses are made of many or small rooms with dwellers sharing same facilities. Although compound houses still dominate by 51.5% points as indicated by *Table 1*, there has been a decline in their share of total housing stock since 1990. According to Owusu (2010), in 1990, compound housing comprised

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62% of the total housing stock in the country. Therefore, given the percentage of 51.5, there has been a 16.9% point decline in this type of housing in 2010. As a result of urban growth and the quest for modern type of housing, compound houses in the capital city, Accra have slightly declined from 62% in 1990 to 55.6% in 2010 (GSS, 2008, 2012). But, the situation in Kumasi is different as compound houses are no longer being built there (UN-Habitat, 2010).

The above situation is however not a positive development as it compounds the housing problem in these cities which have the largest urban population in the country. As Turkey (2011) indicates, the current housing shortage in the country is also attributed to the disregard for traditional low-income housing options like the compound house. "Compound houses built with local materials and techniques by relatively low-income households supplied the most rooms in the city (Kumasi)".

Owusu (2010) also points out that, apart from being affordable, multi-habitation is one of the features of compound housing and this allows for the sharing of facilities like kitchens and bathroom with other family groups and individuals. Compound houses also provide a platform for the provision of mutual assistance and social union for low-income residents. In the wake of increasing fire outbreaks and robberies in these cities as a result of overcrowding and the lack of jobs. Compound housing provides a form of security because there are residents in the house all the time. Compound houses also accord households the opportunity to provide support to family members. It is a combination of owners, rent-paying occupants, as well as rent-free tenants who are normally accommodated by the owner who is a relative (Turkey, 2011).

Aside its importance, compound houses in Accra are usually overcrowded. In effect living compound house becomes a problem as there is always competition over

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available facilities. Compound houses will remain the most common type of dwelling in the country for several years to come because they do not only serve the needs of the extended family system, but they also bring income to landlords or individual owners of rooms who need to supplement their incomes by renting them out. Compound houses are only gradually becoming unpopular, especially, with the younger generation in the country who can afford to build their own houses. The young associate compound houses with lack of peace and privacy (UN-Habitat, 2004).

Figure 3. A Compound House in Teshie, Accra.
Source: by the researcher (2019)

2.11.2 *Detached Housing*

Detached housing means a house that is not joined to any other house. It is a free standing, single-family dwelling unit that does not share a common wall with any other structure. It is sometimes referred to as "banalow", "stand-alone house", "detached residence", as opposed to a multi-family residential dwelling *(see figure 4).* Detached housing is the second type of dwelling unit (28.7%) that most households reside in. On a regional basis, these types of houses are the second largest in Accra (18.7) beneath compound houses. This is because they are cost-effective and easy to build. There is

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also the growing tendency among married couples to move out of the compound houses because they want to be independent of the extended family.

Figure 4. A Separate House/Bangalow in Accra New Town, Accra.
Source: Researcher's field work (2019)

2.11.3 Semi-Detached Houses

A Single family dwelling house built as one of a pair that share one common wall is referred to as semi-detached house. Often, each house's layout is a mirror image of the other. These houses are becoming more popular among both real estate and individual developers and they account for 8.1% of the houses in Accra *(see figure 5).* In the rural areas in Ghana, they are built as staff quarters for school teachers, the police, nurses and other public servants (UN-Habitat, 2004). These dwelling units contain all services that are intended for single households. Figure 5 illustrate its detsils.

Figure 5. A Semi-Separate House in Nima, Accra.
Source: Researcher's field work (2019)

According to Awuvafoge (2013), improvised homes (kiosks, containers) are gradually gaining popularity in Accra (6.1%) as indicated by *Table 1.* They are easily affordable and fast to construct and they accommodate a large percent of the homeless population in the city. They are used both for commercial and residential purposes.

Figure 6. Picture of Improvised homes in Kokomlemle, Accra.
Source: Researcher's field work (2019)

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2.12   The Transformation of Business Towns - Then and Now

As countries develops, its cities will experience change and will be transformed in terms of layout and human activities with implications on the use of urban land, physical outlook, spatial development and in general wellbeing.

> History is dialectical. Each new epoch is a negation of the previous one, a negation of negation. Thus, emergence, decline and re-emergence of company towns always comes as a negation of previous models of socio-economic and spatial organisation of society around the company. It is a reaction to the drawbacks and failures of previous models of organization (Marx, 1936).

Quinn, (2018) says the Industrial Revolution brought factories to the world, and production became much faster. In many cases, factories had to be built far away from towns, which made it necessary for the factory owners to build houses for their employees to live in. In a few cases, these houses became full-on towns, and many of them even still exist to this day Hirsch (2015) confirms during the Industrial Revolution, company towns (communities built by businesses) sprouted up across the world. For anyone who wants to tour what remains of them today, it is helpful to remember two things. First, as Hardy Green, author of *"The Company Town: The Industrial Edens and Satanic Mills that Shaped the American Economy"*. These places ranged from the awful to the enviable. Towns built by coal companies, for example, were often more on the prison camp end of the spectrum in terms of poverty and abuse. Meanwhile, settlements like Hershey, Pennsylvania, built by the Hershey chocolate company, were meant to be closer to paradise - to woo workers with fancy amenities rather than mistreat them. Second, as Green explains, to speak about company towns in the past tense is to overlook that they still exist. The original coal and textile towns in America are now largely ghostly, but places like Hershey and

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Corning, New York, which was invigorated by the Corning Glass Company, are still going strong. Plus, *as the LA Times* writes, businesses such as Google and Facebook today are providing housing, amenities and transportation for their workers - meaning that while we think of company towns in sepia tones, they are also in digital blue.

Matevž and Răzvan (2016) says rapid industrialisation and urbanisation brought also unfavourable conditions that forced big socially conscious industrialists to create their own company towns. As industrialisation spread around the globe, company towns followed: first in Europe, then United States, and recently in Asia. The first company towns emerged in the 19th century as a reaction of big industrialists to the unfavourable conditions in the cities and the lack of social care for their employees. Rapid urbanisation and industrialisation also meant a segregation of working class, terrible working conditions, an almost non-existent provision of health services, exploitation, environment pollution, housing shortage and high rents, low life expectancy, low level of education, social polarisation, malnutrition and starvation (Engels, 1845). Big industrialists, often associated with the thought of utopian idealism (Wedgwood, Cadbury, Richardson, Salt, Lever, Price), established first company towns in England (Porteous, 1970: 129), in the Netherlands, France and Germany, and extensively in the United States (Porteous, 1970). Moreover, many socialist and developing countries saw the emergence of one-company towns (e.g. monogorod in the Soviet Union) in the 20th century, which were supposed to exploit economies of scale, reduce import dependence, promote regional development, hide plants from outside world or satisfy sentiments of national pride (Rama & Scott, 1999).

A publication by the Institute of Economic Affairs, Ghana, 1993 states a walk through a business or market centre at dusk in any of the urban areas in Ghana would

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reveal scenes indicative of the severity of the housing problem in the country. In store fronts and under market stalls, scores of poor people, some of them employed workers, others unemployed, would be seen curled up on probably a cold cement or wooden floor, resting their weary bodies. Adarkwa (2012) explained that the face of Ghanaian towns changed since the initial contact with the colonialists. Investments in infrastructure, urbanisation and enhanced economic activities have combined to change the face of Ghanaian towns. These changes in turn have affected the quality of urban life and the disparity in development between the north and the south as well as in various towns with marked spatial segregation of residential areas. Considering that the current face of several Ghanaian towns is characterised by overcrowding, cluttering of houses, insanitary conditions and poor environmental conditions. It is argued that the face of Ghanaian towns should increasingly reflect orderly development, adequate environmental sanitation, tolerable densities and effective local planning to create a more livable and sustainable environment.

Gracia (2019) added that Ghana is a beautiful country where towns represent various aspects of the Ghanaian culture. Each town is unique and offers different experiences based on different aspects of the Ghanaian history and facilities (businesses) available. In this case, one town may have an amenity that another town lacks. Notable business towns in Ghana includes; Obuasi (gold mining), Techiman (yam production), Birim Valley near Akwatia (diamond mining), Brono-Ahafo; Tanoso (pottery making), Somanya (beading making), Wenchi (cashew production), Accra New Town (printing business), among others which has transformed towns negatively or positively but has not been documented. This research investigates into the residential and industrial compatibility: the case of Accra New-Town printing business.

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CHAPTER THREE

METHODOLOGY

3.0 Overview

This chapter outlines the techniques adopted by the researcher to solicit information to achieve the objectives of the study. It includes; research method, research design, population of the study, sample and sampling techniques/procedure, data collection instrument(s), method of data collection, data analysis plan and ethical considerations.

3.1 Geography of the Study

Since the establishment of Accra Metropolitan District in 1898, the Accra Metropolitan Area (AMA) has been the Regional capital of Greater Accra Region, Ghana. The Accra Metropolitan District is one of the 254 Metropolitan, Municipal and Districts in Ghana and among the 26 such districts in the Greater Accra Region with a population of 1,665,086 as of 2010. As of March 2018, it spans an area of approximately 60 km 2 (23 sq/mi) and encompasses the Ablekuma Central, Ablekuma South, Ashiedu Keteke, Ayawaso Central, Okaikoi South, and Osu Klottey sub-metropolitan district councils. ANT is located in the Ayawaso Central Sub-metropolitan district. The Ayawaso Central Sub-metro district has a population of 142,322 with 68,390 houses and 73,932 households (2010, PHC).

Kotobabi, Nima, Kokomlemle and other neighbouring towns, bounds ANT *as shown in Figure 7.* The town has a total land area of about 16km^2 which lies within latitude 5' 35' N and longitude 0' 13' W (It's coordinate by time is N 5° 33' 21" and W -0° 11' 48"). ANT is in Northern of Accra, with a population about 61,215 inhabitants,

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3,555 houses and 15,385 households, according to the Ghana Statistical Service (GSS, 2010). The town is growing haphazardly without reference to any land layout. Dwellers choice of building locations is based on their own preferences making it difficult to locate precise destinations. Businesses are located along streets and residences. As a business centre where high percentage of the populates are private workers, firms and other industries move in to establish their businesses.
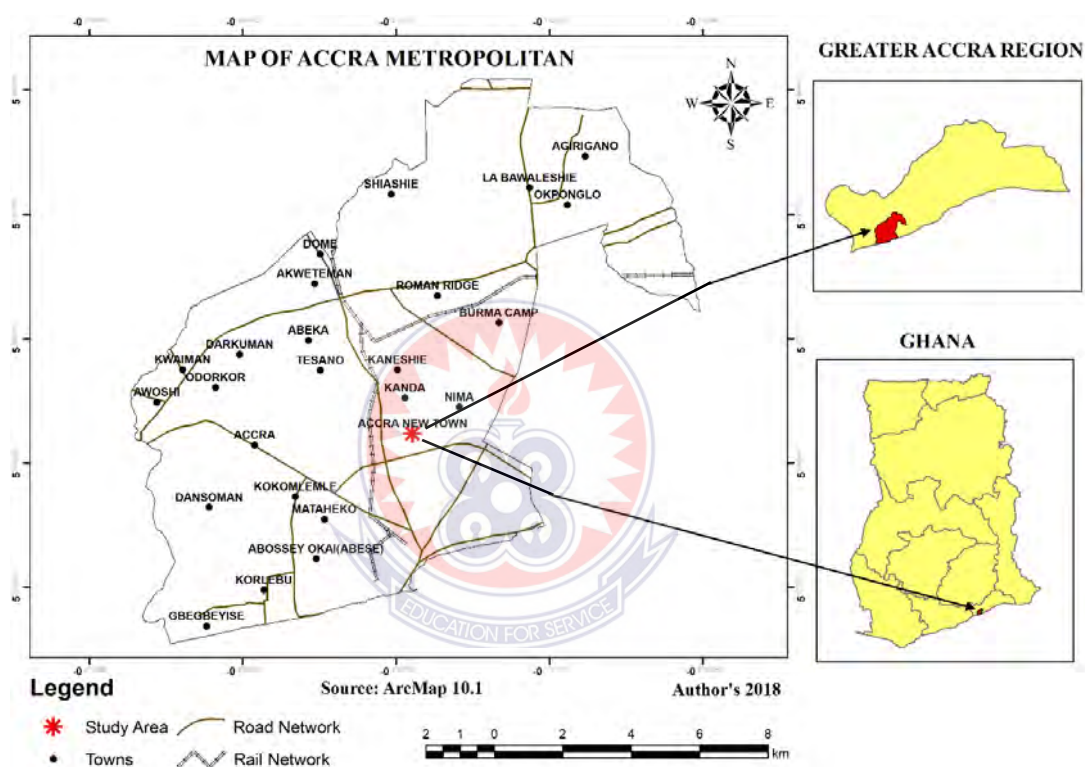
Figure 7. The map of the study area (Accra New-Town).
Source: Researcher's own construct

3.2 Research Approach

The researcher used the qualitative research method for the study. This is because there was the need for the researcher to listen to people to obtain vital information about the study. Again, the activities of the press houses and residential settlements needed to be observed and monitored closely in their natural states for vivid description and reportage.

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Qualitative researchers are interested in understanding the meaning people have constructed in making sense of the world and experiences they have in the world (Miles & Huberman, 1994). Leedy and Ormrod (2005) state that qualitative research may take several approaches to research, however, they all have two things in common. First, they focus on natural settings; life as it is existed in genuine situations. Secondly, they encompass studying those natural phenomena in all their complexity. Both researchers agree that qualitative research focus on understanding the accepted settings of a phenomenon within the physical world for better understanding.

In achieving the final result, data pertaining to sensitive areas of the phenomenon, such as the origin of printing as a business in ANT, the nature of printing business in ANT and, the impact of printing business on residential livelihood of the people of ANT and vice versa, were captured using specific research instruments.
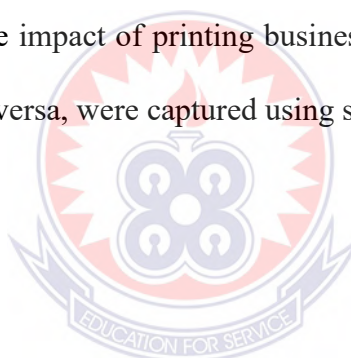
3.3 Research Design

This study employed the case study research design. The researcher carefully selected this design because it offered the best means of obtaining valid data for the study.

The concept of case study has been variously defined as a process, a unit of study, or an end product (Merriam, 1998). From a process perspective, Scholz and Tietje (2002) defines case study as "an empirical inquiry that investigates a contemporary problem within its real-life context". Similarly, Yin (2003) has defined a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly defined". He argues that, "The case study allows an investigation

to retain the holistic and meaningful characteristics of real-life events such as individual life cycles, organisational and managerial processes, neighbourhood change, international relations and the maturation of industries". It is the description of a real situation that lends itself to the application of methods and also invites reflection and provides an opportunity for discussion (Leedy & Ormrod, 2005). Therefore, the case study approach is especially useful in situations where contextual conditions of the events being studied are critical and where the researcher has no control over the events as they unfold. The case study, as a research strategy, should encompass specific techniques for collecting and analysing data, directed by clearly stated theoretical assumptions. Furthermore, data should be collected from different sources and its integrity should be ensured (Yin, 2003).

Delimiting the object of study, Yin (1993) distinguishes three types of case studies: explanatory, exploratory and descriptive case studies. Explanatory case study is used if you were seeking to answer a question that sought to explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies. In evaluation language, the explanations would link program implementation with program effects. The exploratory case study is used to explore those situations in which the intervention being evaluated has no clear, single set of outcomes. The descriptive case study is used to describe an intervention or phenomenon and the real-life context in which it occurred. To the researcher, these situations offered the most suitable conditions for adopting the case study as the research strategy of choice as it answers the research questions stated.

3.4 Population of the Study

No meaningful developmental activity can be undertaken without taking into account the characteristics of the population for whom the activity is targeted. The size of the population and its spatial distribution, growth and change over time, in addition to its socio-economic characteristics are all important in development planning (2010 population and housing census; district analytical report, October 2014). According to Sekaran (2003), population in research refers to the aggregate or totality of objects or individuals regarding which inferences are to be made in a sampling study. It is any set of persons or objects that possesses at least one common characteristic (Busha & Harter, 1980). Deductively, the entirety of objects or personages with common characteristics from which interpretations are to be made should be acknowledged. ANT populace formed the population of the study. People engaged in the printing business and residential dwellers in ANT were the main target. People engaged in the printing business and residential dwellers in ANT were the main target.
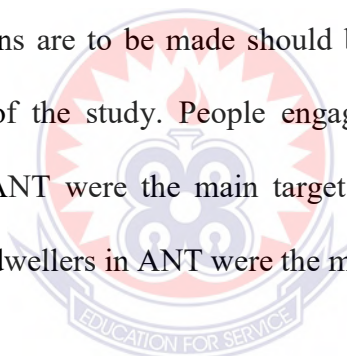
3.5 Sample/ Sampling Techniques

Sidhu (2003) explains sampling as the process of selecting a representative unit from the population. The way of obtaining this sample is what is termed as sampling technique. The sampling techniques used for the study include purposive sampling, stratified random sampling and simple random sampling. These sampling techniques were selected because the researcher believed it was the best way to get experienced participants for the study.

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In purposive sampling technique (also known as judgmental sampling), researchers purposely choose subjects who in their opinion, are taught to be relevant to the research topic (Sarantakos, 1997). The researcher used this technique to identify populace within residences and press houses in ANT who have stayed in the town for more than 20 years.

The stratified random sampling allowed the researcher in selecting each unit from a particular group of the targeted audience while creating a sample. The groups selected were members of the press unit and residential dwellers of ANT. The process of sampling continued by identifying five informants within each group; graphic designers, machine operators, press owners, town folks, landlords and authorities in the land.

Subsequently, the simple random sampling technique was used to ensure that samples are drawn so that each element has an equal chance of being drawn during each selection round. Opoku-Amankwa (2002) emphasize the chosen representative sample elements ensure that the result could be generalised to a large extent. This technique has the advantage of reducing bias and enables the researcher to estimate sampling errors and the precision of the estimates derived through statistical calculations. It therefore avoids any complexities that may give rise to unreliable sampling (FCDSMHS, 2003). Error free data and results were the expectation of the researcher hence; ten (10) participants were selected from the sample for the study. They include one (1) graphic designer, one (1) machine operator, three (3) press owners, three (3) landlords, one (1) Assemblyman and one (1) elder of the land. Three out of five participants were occasionally selected instead of one participant in some cases because they were participants who own properties on the land for that matter take charge of diverse responsibilities that necessitate the study. Notwithstanding, additional studies took place at press houses and residences of participants. The graphic

designer selected works for Coded Press, Machine Operator from Souvenir and More, whiles the three (3) Press Owners were from Midland Press, Arty Press and Nar Press.

3.6 Data Collection Instruments

Baumgartner, Strong and Hensley (2005) give the characteristics of qualitative research as an umbrella term referring to several research traditions and strategies that rely heavily upon extensive observation, in-depth interviews among others that result in non-numerical data and provide contextual understanding. The data collection instruments used in this study inquired responses from participants of the study. In this study, observation, interview and document review were the instruments used for the data collection.

3.6.1 Observation

The researcher carried out non-participant observation. He watched personal happenings in specific contexts, by making himself suitable to the environment, but not part of it. His observation on the printing activities and the residential livelihood of the populace helped trace the origin and nature of printing business in Accra New-Town, and also identify the impact of printing business on the residential livelihood of the people of Accra New-Town and vice versa. Scenes (images) were also captured as a catalyst for data analysis. Details of the observation guide is found in appendix '2'.

3.6.2 Interview

Interviews have the advantages of being useful for collecting in-depth information; questions can be explained to make sure it is not misunderstood (Opoku-Amankwa,

2002). An interview is a two-person conversation which is normally initiated by the interviewer for the specific purpose of obtaining relevant information for the study (Leedy, 2005). Interview is in a sense, an oral questionnaire. Instead of writing the response, the subject or interviewee gives the needed information verbally in a face-to-face relationship (Best, 1981). The researcher sees interview as one to one conversation for gathering detailed information and collection of data about a particular thing. In other words, it is an open meeting to produce resources used for a particular research purpose. The semi-structured and face-to-face interviews were conducted.

According to Burnham (2004), semi-structured interviewing is related to what he calls *elite interviewing*, which is defined by the target group as well as the research technique. The target group is supposedly an "elite", meaning that they are the experts in the specific subject. As the interviews purposes to unthread information beyond data collection, it is vital that the interviewees are key targets. The semi-structured interview guide used was more casual and carefully planned with few restrictions placed on the respondents' answers even though pre-planned questions were asked. Giving them high knowledge on the topic to be interviewed allow the respondents to share their personal opinions that lead to new questions. The questions therefore were merely a guideline to give them a notion on the subjects on the topic under study. In this case, the technique enabled the researcher to collect personal reflections from each interviewee.

Face-to-face interviews were therefore conducted to solicit respondents' sufficient views, perceptions and valuable information. Ten interviews were conducted - five residential dwellers and five members of the press units. They were chosen for their relevance to the conceptual questions rather than their representativeness. Each participant was interviewed for forty-five (45) minutes approximately. The interview

was to get respondents reflect, comment and describe their understanding of the research questions asked. The medium of expression was English.

Leedy and Ormond (2005) argue that the validity of a measuring instrument is the extent to which the instrument measures what it is actually intended to measure. In order to ascertain the content validity of the instrument used, interview guide was subjected to careful scrutiny by professionals in the area of studies, finally the researcher's supervisor to identify and correct any unclear and misleading questions. These instruments were employed because they were the best tool to collect in-depth data related to the topic.

3.6.3 Document Review

The study required an existing data as proof for data collected. Ainsworth (2020) says using document review can be efficient and inexpensive because you are predominantly using research that has already been completed. However, since the researcher has less control over the results, information was sought from the internet on antique newspapers and accompanied photographs of antique printing press as physical evidence on the field. Details of works are found in appendix '4A and 4B'.

3.7 Methods of Data Collection

Once approaching the town, it was specifically advantageous to meet with people who have knowledge on the research topic. In preparation of the interviewees, questions were prepared and sent beforehand, yet not more than three days in advance to be able to keep respondents abreast before the main interview. Two interview guides were

administered to the respondents; questions one and three were responded by both members of the press units and residential dwellers while questions two was responded by members of the press units only. It took the researcher more than nine months to conduct the interview and observe activities that goes on in the town due to the busy schedule of respondents. Observing the activities helped establish findings for the study.

3.8 Data Analysis Plan

Hirsch et al (2007) says the validity and understanding that you will gain from your data will be more to do with data collection and analysis than with the size of your sample. In support of this assertion, Peshkin (1993) as quoted by Leedy (2005) illustrates qualitative research studies as relevant for the purpose of description, interpretation, verification and evaluation.

Case study research analyses can be overwhelming, initially to the neophyte because its purpose is to identify, sort through, and pattern relationships, dynamics, or other phenomena of interest within a bounded system (Swanson & Holton, 2005). In line with the case study research design, thematic data analysis plan was considered appropriate for the description, analysis and interpretation of data collected.

Thematic analysis is the process of identifying patterns or themes within qualitative data, i.e. patterns in the data that are important or interesting, and use these themes to address the research or say something about an issue. This is much more than simply summarizing the data; a good thematic analysis interprets and makes sense of it (Maguire & Delahunt, 2017). Braun and Clarke (2006) suggest that thematic analysis

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is the first qualitative method that should be learned as it provides core skills that will be useful for conducting many other kinds of analysis. The design was therefore pertinent to the study because it helped in the description of the body of material for study and gave precise definitions and descriptions of the characteristics to look for. Deductively, themes were formulated from data gathered and were analysed using the research questions stated as a guide. The recorded interviews from all respondents were played back, listened to and transcribed into written notes by either paraphrasing or writing in verbatim. Digital photographs taken from the research sites together with the observation of the researcher were used as evidence of interviews conducted during the analysis to answer who, what, where, whom, and how associated with the research questions stated. Afterwards, statistical elements such as pie charts and tables were also used in representing data analyzed where appropriate.
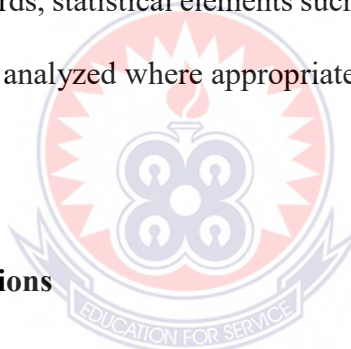
3.9   Ethical Considerations

Ethics is a branch of philosophy that deals with the conduct of people and guides the norms or standards of behaviour of people and relationships with each other (Blumberg et al, 2005). It refers to an "ethos" or "way of life", "social norms for conduct that distinguishes between acceptable and unacceptable behaviour" (Shah, 2011, p.205). Research ethics is important in our daily life research endeavours and requires that researchers should protect the dignity of their subjects and publish well the information that is researched (Fouka & Mantzorou, 2011, p.2). Akaranga and Makau (2016) says a researcher must be cautious in revealing his or her research findings if they impede the good working relations of his or her sponsor. This is evident if the information focuses on the policies of the organization and could reveal sensitive matters of the

people or organization. This calls for the need to collaborate well with other researchers and yet up hold the intellectual rights of the researcher. If this is not well adhered to, it could lead to rebellion or even protests. In this regard, the researcher issued a consent form to all participants to sign before they were interviewed. An introductory letter from the University of Education, Winneba backed this form. The respondents were assured of their anonymity though it was written on the interview guide. No respondent was allowed to disclose his/her name or photograph. Details of these documents are attached to the Appendices. After the interview, the transcribed document was sent back to the respondents to read through to make corrections or additions where needed.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Overview

Data gathered from the field research have carefully been presented for further discussions in this chapter. It also presents a keen representation of the gathered data in the form of pie charts and tables in order to facilitate easier analysis of the data.

4.1. Section A

4.1.1 Demographic Information about the Respondents

Personal data of each respondent were collected to make the research more reliable and valid. This information includes age, gender, nationality and educational background. Ten (10) respondents representing 100% were involved in the study. Respondents were further divided in two: residential dwellers and members of the press unit. Five (5) participants of each division represent 50%. Residential dwellers to the researcher is made up of authorities of the land; an elder, assemblyman and landlords while members of the press unit are press workers; graphic designers, machine operators and press owners in the town. Division of respondents on their demographics are presented in *Table 2*. Each respondent was coded to ensure confidence in data collected.

Table 2. Demographic Data of Respondents

Division of respondents based on the topic under study	Respondents engaged in the study	Code	Age (Years)
Residential dwellers	Elder	EL	75
	Assemblyman	AS	67
	1st Landlord	LL1	72
	2nd Landlord	LL2	64
	3rd Landlord	LL3	77
Members of the Press Units	Graphic Designer	GD	51
	Machine Operator	MO	40
	1st Press Owner	PO1	49
	2nd Press Owner	PO2	70
	3rd Press Owner	PO3	68

(Source: field data, 2019)

4.1.2 Age of Respondents

The age group of respondents is shown in *figure 8*. The dominant age group ranged between 70-79 years representing 40%, followed by 60 to 69 (30%), and 50-59 (20%). Forty and forty-nine (40-49) was the smallest group, representing 10% of the respondents. Most of the respondents fell within the age range of 60 to 69 and 70 to 79. It means majority of the residential dwellers and members of press unit in Ayawaso Central Sub-metropolitan district precisely ANT are not within the working class but are old people who have stayed in the town and have experienced most of the activities that goes on there. Although the purposive sampling technique was used, fewer respondents fell within 40-49.

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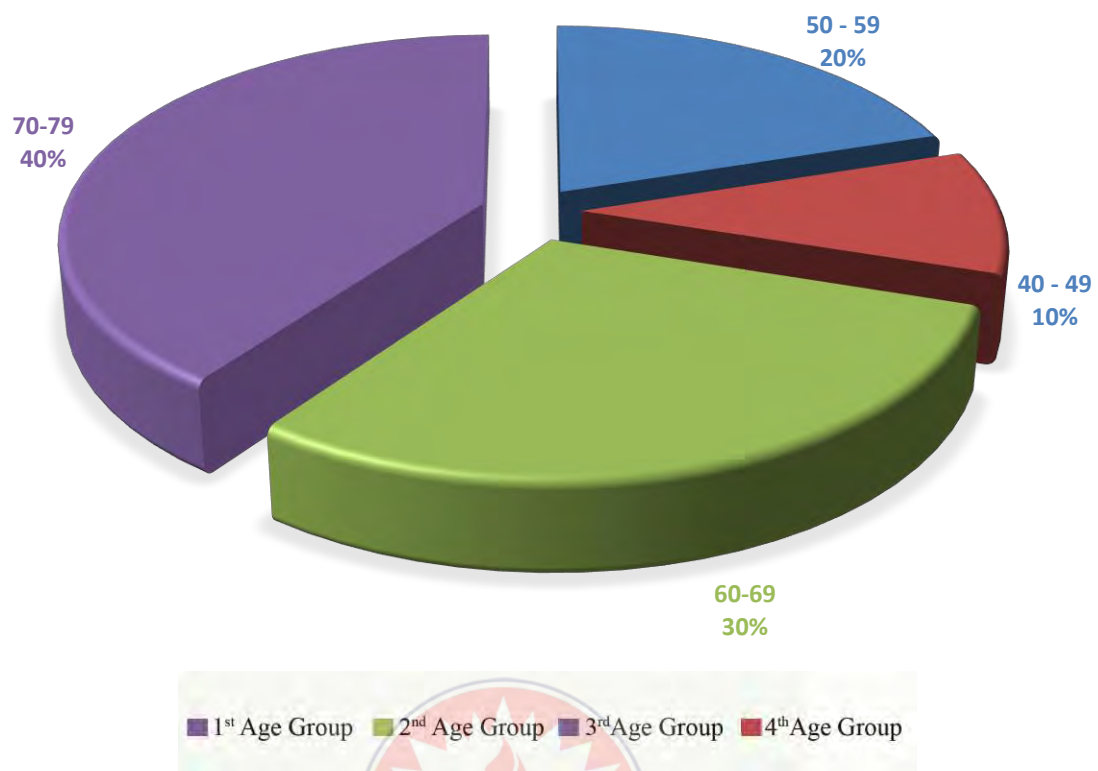
Figure 8. Age Distribution of respondents (Source: field data 2019)
(Source: field data, 2019)
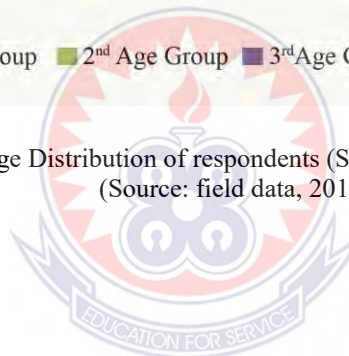
4.1.3   Sex Distribution of Respondents

The sex distribution of respondents indicated differences of 7 males representing 70% and 3 females representing 30% as shown in *figure 9*. Out of 5 respondents under residential dwellers, only 1 female was recorded representing 10% against 4 males representing 40%, whiles 2(20%) females and 3(30%) males were recorded as members of the press unit. This implies that, more males participated than their female counterparts did.

Table 3. Sex distribution of residential dwellers and members of the press unit

Division of respondents	Code	Sex
	EL	M
	AS	M
Residential dwellers	LL1	F
	LL2	M
	LL3	M
	GD	F
	MO	M
Members of the press units	PO1	M
	PO2	M
	PO3	F

(Source: field data, 2019)
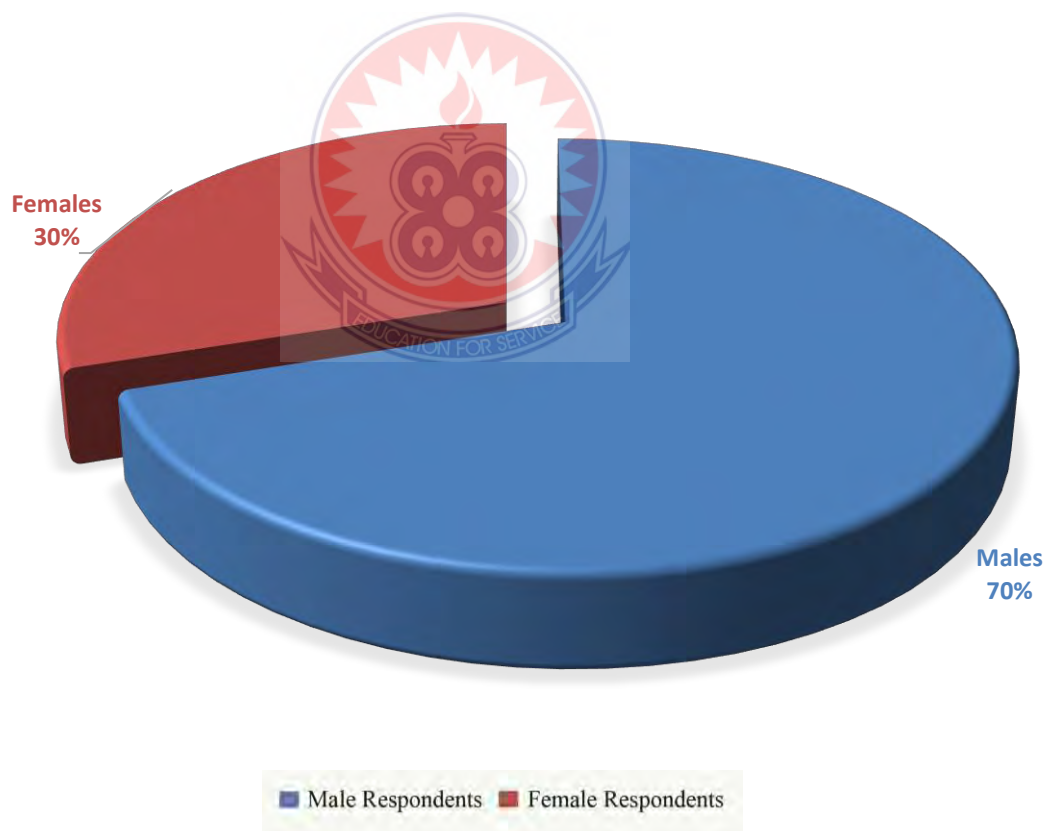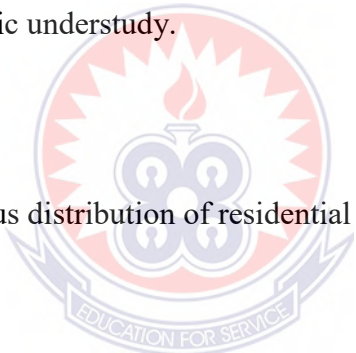
Figure 9. Sex distribution of residential dwellers and members of the press units
(Source: field data, 2019)

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4.1.4 Educational Status Distribution of Respondents

This category presents respondents without educational background, and those with lower and higher educational qualifications. *Figure 10* indicates that 2 (20%) respondents were without educational background. Two (20%) had completed SSS/SHS, 3 (30%) Vocational/Technical with the rest of each respondents representing 10% had O-level, A-level or a degree. Vocational/Technical holders constituted majority of the respondents for the study. It can be inferred from the results that, majority of respondents were educated whereas few were not. Those without educational background were old people who have experienced what has taken place in the town. Respondents were selected because the researcher believe they were knowledgeable in the topic understudy.

Table 4. Educational status distribution of residential dwellers and members of the press unit

Division of respondents	Code	Educational Status
Residential dwellers	EL	Without educational background
	AS	Vocational/Technical
	LL1	O-level
	LL2	Vocational/Technical
	LL3	A-Level
Members of the press units	GD	SSS/SHS
	MO	Vocational/Technical
	PO1	Degree
	PO2	SSS/SHS
	PO3	Without educational background

(Source: field data, 2019)

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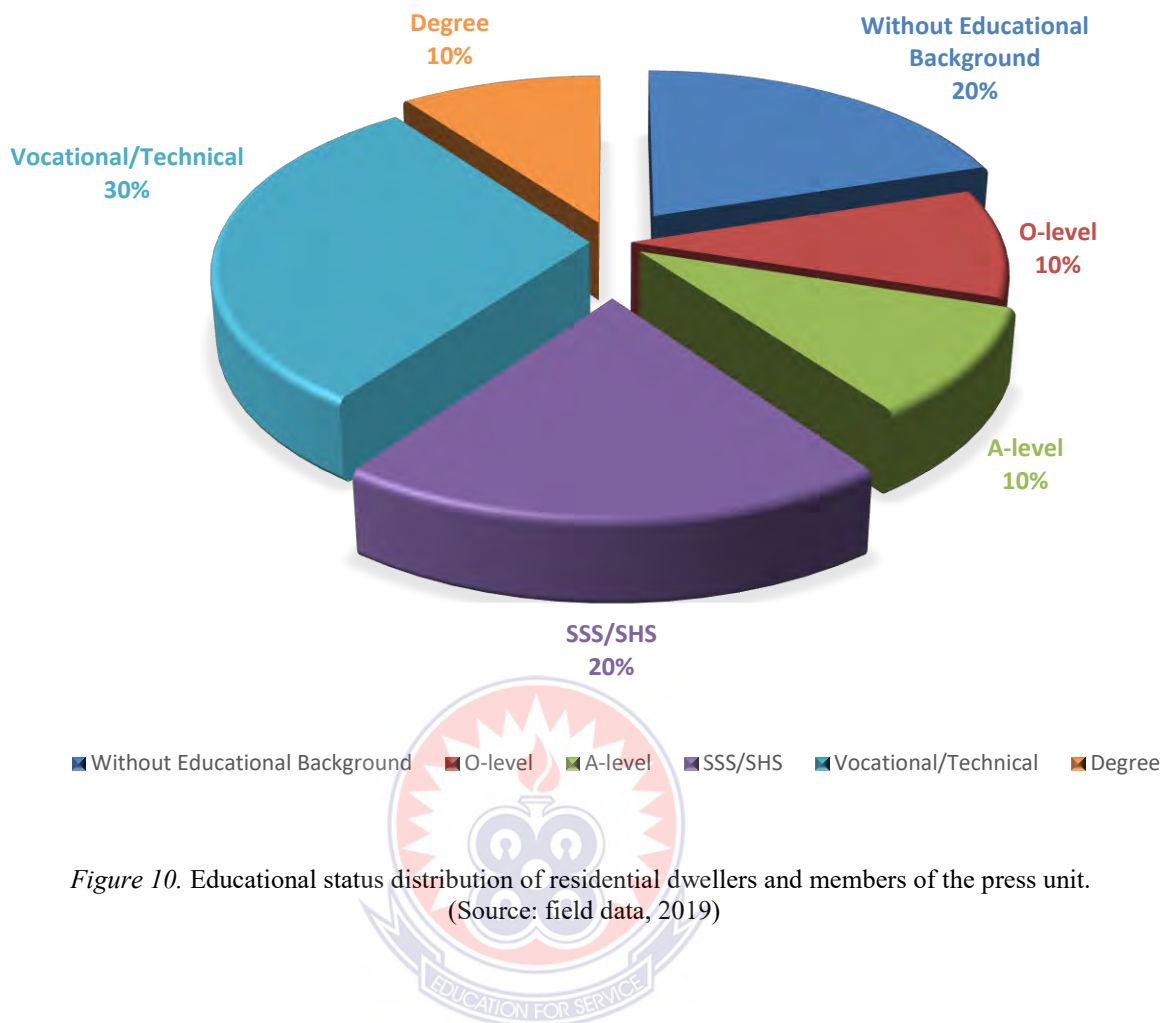
Figure 10. Educational status distribution of residential dwellers and members of the press unit.
(Source: field data, 2019)

4.2 Analyses of Data

Kothari (2004) is of the view that if data are not properly organized, the researcher may face difficulty while analysing their meaning. Kothari further cautions that careless mechanical processing of data gathered has great potency of distorting the findings. To arrive at a reliable and valid data for thematic analysis, the researcher's observations and interview questions that relates to the research objectives were highlighted. *Figure 11-14* are some pictures of ANT.

Figure 11. Hill Street, Accra New Town
(Source: field data, 2019)
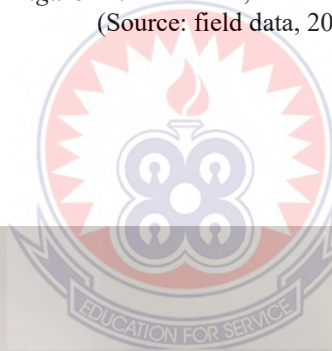
Figure 12. Akoa Ndor Street, Accra New Town
(Source: field data, 2019)

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Figure 13. Residences surrounded by press houses, Accra New Town
(Source: field data, 2019)

Figure 14. A house engaged in printing business, Accra New Town
(Source: field data, 2019)

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4.2.1 Findings of Research Question One: What is the Origin of Printing as a Business in Accra New Town?

Here, the researcher asked whether participants selected for the study are natives of the town. Per the researchers' own experiences and observations, ANT is occupied by people from different backgrounds. Being a native and stayed in the town for long makes respondents abreast with the previous and current activities that takes place in the town. Data collected proved that most of respondents representing 60% are natives of the land whiles 40% of the respondents are not, but are people from neighbouring towns and other countries who have stayed there to work *(see figure 15)*. Sixty percent (60%) representing the highest score gave the researcher assurance of reliable data.
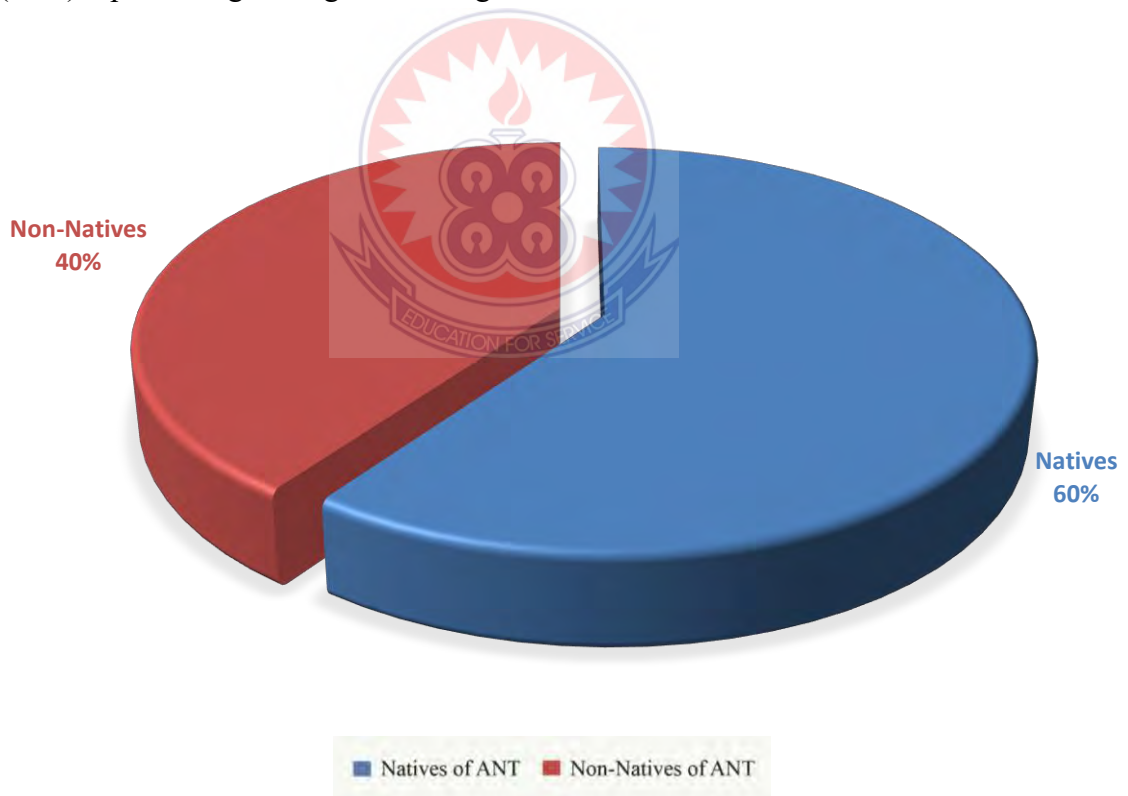
Figure 15. Responses of respondents indicating whether they are natives of the town or not
(Source: field data, 2019)

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When probed further, the data indicated that residential dwellers of ANT had the highest score as natives of the town representing forty percent (40%). They include EL, AS, LL1 and LL3 with the exception of LL2 who was recorded "No" indicating him as a foreigner not a native. Likewise, members of the press units had the least with GD and PO3 scoring 20% as natives of the town against MO, PO1 and PO2 who were not natives.

Discussing the number of years each respondent has stayed/worked in the town irrespective of their background, the following was recorded; EL, AS, LL1, LL3 and PO1 have stayed in the town since birth. GD, MO, PO2, has been in the designing and printing business in the ratio 36:16:27 number of years in the press. L2 said, *"I came here when I was very young around 17 years. I used to come with my dad to sell slaughtered animals to people in their residence and other business centres"*. PO3 who happens to be a Chinese also said, *"I am not a native of the town, but have stayed here since my entire life. I ventured into the printing business 21years ago with my friend, but has passed on'* she retorted. Knowing the number of years each participant has stayed/worked in the town helped the researcher know how groomed respondents were to issues and activities that goes on in the town.

Respondents further responded to how printing started in ANT and why people opt for printing business than any other business. Before printing business in ANT, EL said, trading and transport business were the most common activities that go on in the town. Printing started around 1970. By then, only three printing presses were available. One along the 'New-Town Caprice road' opposite a washing bay known as Asempa Printing Press. They were into printing of bibles and other publications. *"I was by then attending school at ANT Experimental School which is close to the press"*. According

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to him, the school was the first experimental school in Accra. Secondly, Midland Printing Press opposite the Bank of Africa in ANT was pointed as the first printing press before Asempa. They were into printing of receipts, books etc. Last is the Arakan Printing Press. In answering the question *'why printing and not any other business?* He added that, along the line people realized printing as a lucrative venture. They invested and those with no initial capital collected waste printed materials (off-cuts) and package it as jotters, calendars, etc. This is how come more printing started. Factors which sounded the printing business were commissioned works by WASS (West African Secondary School), secretarial services and the influence by telecommunication centres. They gave the press houses jobs like printing of question papers, receipt, exercise books etc. In that vein, people started selling printing materials ranging from printing inks to all kinds of papers. Small press houses who were not operating directly under the major press houses, mostly packaged works and distribute it to their clients. He added that, printing business took over other businesses because people get their money back after investing and because the business is easy to establish.

Besides, the immediate past Assemblyman of the town (from 2002 – 2006, 2010 - 2014) coded AS shared his thoughts. AS claimed not to visit the press house often, but go there only when he is invited or decides to print works. His dedicated duty still makes people rely on him for authentic information which makes him avail himself in any situation if he is called upon. He believed the history of printing can be traced about 42 years ago and is linked to a particular group of people who stayed in ANT some time ago. "In the beginning, ANT was called 'Ararami' by the Lagos people who are now called 'Alata' from Nigeria. *'Unfortunately, I didn't ask the meaning, but that was the name of the community'.* AS further pointed then political leaders, including Dr. Kwame Nkrumah, who renamed the community ANT. During this political era, New

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Town was not expanded like we see today. To him, the name was changed because the then Ga's in ANT couldn't pronounce the word 'Ararami' and moreover, the name had no relation to the Ghanaian setting.

Before printing, the whole town was a residential area occupied by tenants and workers from the town, Accra and other places. But the occupation of the populace was sewing and trade. In trade, women engaged in selling food stuffs at 'Mallam Atta' popularly known as 'Malata' market. In the past, the market was situated in 'Silence' Hotel. That was around 1959 to 1962. By 1962, it was moved to Malata where the permanent market is now. AS said it is quite recently that printing business is seen taking over houses, previously there was nothing like that. By then, Wisdom Printing Press which was situated on Pig Farm and another press house at New-Town Nima junction called Midland Printing Press were the press houses known. Midland Press has been there for more than 20 years. They were the only press houses operating at that time. *"It can be said that it was through those press houses that printing started in ANT despite I don't have any concrete evidence"* he added. Answering why printing business was taking over other business, AS said, because printing was a lucrative business and people were making a lot of money from it. Its atmosphere was conducive and reduced crime rates in the town. *"In the olden days, we used to have harden criminals here who come from Nima, Maamobi and other place to steal. They come and off they go. So I believe is out of the peaceful nature of the business that was why the community embraced it"* he added.

LL1 is into the printing business. She has different press houses managed by people aside selling printing materials, tools etc. LL1 opinion on how printing started was not vigorous in that no specific date was mentioned. She believed it was started by

our forefathers. They printed on leaves and other suitable surfaces which was delivered by messengers. Later the Nigerians came with innovative machine to facilitate the whole process. They saw the printing business to be good so substituted it with the trading business they do in ANT; walking miles to sell electrical gadgets before they eat. The printing business survived after which they employed more workers and expanded the business. *Why was printing business taking over other business?* LL1 sees, printing business as a profitable business that is why people invested in it. She cited an example where her friend had to borrow money from the bank to complete his press house, which he is still profiting.

Furthermore, it is usual to see people who are not natives of a town, but have stayed there and knows everything about the town. LL2 came to ANT as an adolescent and stayed with his grandparents. LL2 believed the Lagos people from Nigeria who settled in the town started the printing business. *"One of them was staying in our house so I know more about their ways of making money".* Some go to the extent of paying children to collect papers off cuts and other materials from the presses. They also buy used materials from press houses for their work because they do not have bulk capital for their business. The Nigerians were also into trading and other businesses like the people in the town did. The press houses were not as many as we see today; there has been just a hand full. Now, town folks operate most press houses. Press houses in ANT work jointly (hand-in-hand) with other companies to produce works. It is prudent to ask *why was printing business taking over other business?* To LL2, is because printing is a trending business and easy to do. In a community like ANT where job seeking is very difficult, the youth can engage themselves as apprentice in the various printing businesses.

As matured and natives of ANT it is expected of respondents to clarify doubts on the history of printing. At the expense of that, LL3 claimed not to have an idea about how printing started in the town. All he said was *"printing was practiced by our forefathers, it is part of our culture now, so should be continued"*. He could not state emphatically why they chose printing over any other business, but trust is an easy business to establish so everybody can do it without training.

In addition, GD who is a female graphic designer and a worker at the press also said she has no idea on how printing as a business started in ANT. But one thing she could recall is the people of ANT were mostly into trading. They carry items or placed them at vantage points to sell. Currently, it is surprising to see how printing has taken over trading. "*In as much I am concerned, we should accept that printing business has come to stay"* GD added". Availability of raw materials like paper, flexy for banner printing among others, made printing business fun to do. People invested and reap what they sow.

Having fetched the opinion of most respondents, the machine operator (MO) was the next to look at. He is also not a native, but have worked 18 years in the press. Asking of how printing started in ANT, he figured out natives of the town and foreigners to have started the printing business. *"Those foreigners were Nigerians, Togolese and people from different walks of life".* They influenced the printing business aside, trading. Employed Ghanaians were paid less salaries and wages after battling through their work schedules. *Why was printing business taking over other business?* Printing because, they like doing it than any other business. One can talk about the passion that workers have towards the job. They devoted their time and resources to get the best of work(s) for clients. Some workers go to the extent of staying in the press the

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whole night to work. *"Printing press are now in our homes, on the street, in fact everywhere. Apprenticeship and formal education are the two ways by which workers acquire experience needed to work in the press. In my press only few people had formal education, the rest learnt it through apprenticeship"* he testified.

Moreover, the Chief Executive Officer of Midland Press coded PO1 responded to how the printing business started in ANT. He explained in perspective of the commencement of their press because people see it as the first press house to be established in ANT. He said his father who was into printing business established the Midland Press around 1972. It started as a small venture, which in 1976 expanded and was named Midland Press. By then, there were some press houses in the town which include 'Arakan' Printing Press, Advanced Press and Akan Press. Advance Press was located in a storey building at 'Caprice'. Akan Press was located at Adabraka whiles Arakan was located on your way to Pig Farm. Arakan Press collapsed, leaving Advance Press and Midland. The CEO said Midland is among the oldest press in the town and the first press to be established in ANT. He added, *"Despite I was young when my father was operating the business, he used to tell me more about the printing business so I am sure of everything I am saying. Advance Press is not vibrant like it used to be because the owner passed on and those in charge couldn't maintain it".*

Continuing the history of printing in ANT, PO1 said Nigerians were the first to settle in the town. They traded in several businesses like food vending, 'trotro' etc. but printing business dominated. The researcher probed further to asked why was printing business taking over other business. PO1 said, every community has the type of business from which it is recognized. Examples were cited that, "Accra is noted for trading all kinds of goods, Okaishie Market is into selling of drugs, Abosay Okai is also

well-known for selling car parts and many more. Same thing applies to ANT which is famous for printing". Secondly, press houses previously were not common, but now people are investing into it. Most of the stores and houses have been converted into press houses. When moving through Nima and ANT, one could see most printing presses, but formally it was not so.

Notwithstanding, the CEO of Nar Press (PO2) attests that printing started 40 years ago. But before then, the town folks were into trading of local goods and other items from different places. People then did not know much about the printing business so thought it was for the less privileged until when people saw the printing business to be comfortable so started participating. Materials, tools and equipment were imported to the town to flourish the business. People took these printing items and paid in instalments.

Lastly, the CEO of Arty Press (PO3) affirmed not to have an idea about how printing started in the town. But one thing she believes is that, an elderly person once told her that a foreigner 25 years ago started it with a native of the town. They were into different business in which printing was part. They printed on bags, cooking utensils, etc. Currently, there is *Newtown Printers Association* unlike first where press houses operate on their own without any association. They meet at *Renco* around Newtown College junction on Mondays to discuss issues affecting the printing industry. The CEO of Midland Printing Press manages the association, which have a very big platform to house all printers in the town. Representatives of the various press houses attend the meeting.

In summary, all the respondents selected for the stay expressed their views on whether they are natives of the town, and also indicated how long they have lived in

the town. They further responded to how printing business stated in ANT. The study revealed that before printing started around 1970s in ANT, the populace had their own ways of carrying information to the target audience. They also engaged themselves in several trading activities to make a living. However, with the advent of printing as a business preference, job seekers and some traders geared to printing business – choosing printing business ahead of any other job. Printing defined their new way of seeing the reality in the town. Ogburn said the reality is already present, but people now see it for the first time (Vago, 1992). This what Ogburn termed it as Invention and Accumulation. Processes he argued as aspects of technology which cause social change. Invention initiated the blend of printing business to the existing culture of ANT populace. Items such as printers, computers, scanners, among others were brought to ANT by the Nigerians to pave way for printing business. Printing business still remains outstanding than other businesses in the town. There are print shops offering printing services to individuals, local business organisations as well as the public. There is a growth technology due to the invention of printing business which outpaces old inventions making them obsolete or are forgotten is what Ogburn refers to as accumulation. Mutekwe (2012) cited Christopher Columbus's "discovery" of North America, which had consequences so huge, that it altered the course of history. This example also illustrates another principle. A discovery brings extensive change only when it comes at the right time. Other groups such as the Vikings had already discovered America in the sense of learning that a new land existed (the land of course was no discovery to the Native Americans already living in it). Viking settlements disappeared into history, however, and Norse culture was untouched by the discovery. Discovering the root of printing business has brought to light how people survived without their engagement in printing businesses.

4.2.2 Findings of Research Question Two: What is the Nature of Printing Business in Accra New Town?

The intent of this research question was to bring to bear the operations/activities of the press houses in ANT and to find out if there has been an emerging trend in materials, tools/equipment and techniques used at press houses since the commencement of printing in ANT, and its effects on the printing industry if any.

Press houses such as Midland Press, Arty Press, Coded Press, Souvenir and More, and Nar Advertising Company Limited were used for the study. They are engage in different printing processes, which is not limited to screen printing, offset lithography, photocopying, 3D printing, digital printing etc. This affirms what Snook (1982) and Romano et al (1999) referred to as examples of minor and major printing processes. They listed letterpress, gravure, relief printing (letterpress, flexography), screen printing (stencil), planographic printing (offset lithography), recess printing (gravure/intaglio), digital printing (toner and inkjet) etc.

Printing Press Activities/Operations

When a customer first contact the press house with an idea or job, the graphic designer assist in the designing. The sales representative or executor of the printing firm then discusses with the customer the sort of job wanted. The sales staff needs to know all about printing processes in order to be able to advise customers. The estimator works out how much the job will cost and charge the customer. Estimators use their experience of printing processes to work out the most cost-effective way to carry out a job.

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Pre-press or Origination

The production controller or print production planner works out the schedule, to meet the customer's deadline and to fit in with other print jobs. The design and layout are created with desktop-publishing software. This may be done by the printer's graphic designers or the customer, may supply already designed work electronically. Once the final layout is checked, it is transferred from computer to printer, film or printing plate. Different jobs are involved in transferring text or artwork to printing plates ready for printing. It includes scanning, checking, retouching, platemaking etc. Computer skills are vital, as is an eye for detail, the ability to concentrate and a sense of design.

Press

Machine operators prepare and operate machines to perform a specific task. The operator may specialize in one particular printing process or may master in all. Most machines are computer controlled. However, jobs commissioned by client(s) determines the kind of machine to use. An operator's duty includes:

- Preparing the paper or card so that it runs smoothly through the machine.

- Positioning printing plates in the press to ensure accuracy before printing begins.

- Loading the press with inks and making sure colours are correctly printed.

- Maintaining quality checks during the running of the press.

- Looking out for problems, such as paper jams, to avoid machine downtime

- Routine maintenance and cleaning of the press.

Post-press or Finishing

Print finishers use machines to cut, trim, collate, drill, fold, staple, glue or stitch the printed material into books, magazines, cartons or other printed products. Accuracy is essential for that matter the specific presses are always used. Specialist skills are needed to make packages, embossment etc. Occasionally, book binding is done by hand; for special editions, and where the quantity to be printed is low.

Trends in Materials, Tools/Equipment and Techniques used in Printing

In addressing the trends in printing, the researcher asked respondents if there has been trends in materials, tools/equipment and techniques used. Data collected from the interview indicates that, three (3) respondents representing 60% of the respondents selected admitted to the emergence of new trends in the printing industry and that are making use of these new developments. One (1) out of the two respondents left representing 20% of the entire population admitted to the emergence of new trends, but have not been able to make use of the opportunity due to the cost involved. The one (1) left also representing 20% is not aware of any trend in materials, tools/equipment and techniques used in printing, hence stuck to the orthodox way of doing things. The analysis show clearly that the printing industry has experienced its own share of developing/developed trends many years ago; four out of the sample representing 80% are aware of the new trends developed in the printing industry whiles one was not aware.

Table 5. "Yes" or "No" responses on whether respondents practice the new trends in printing

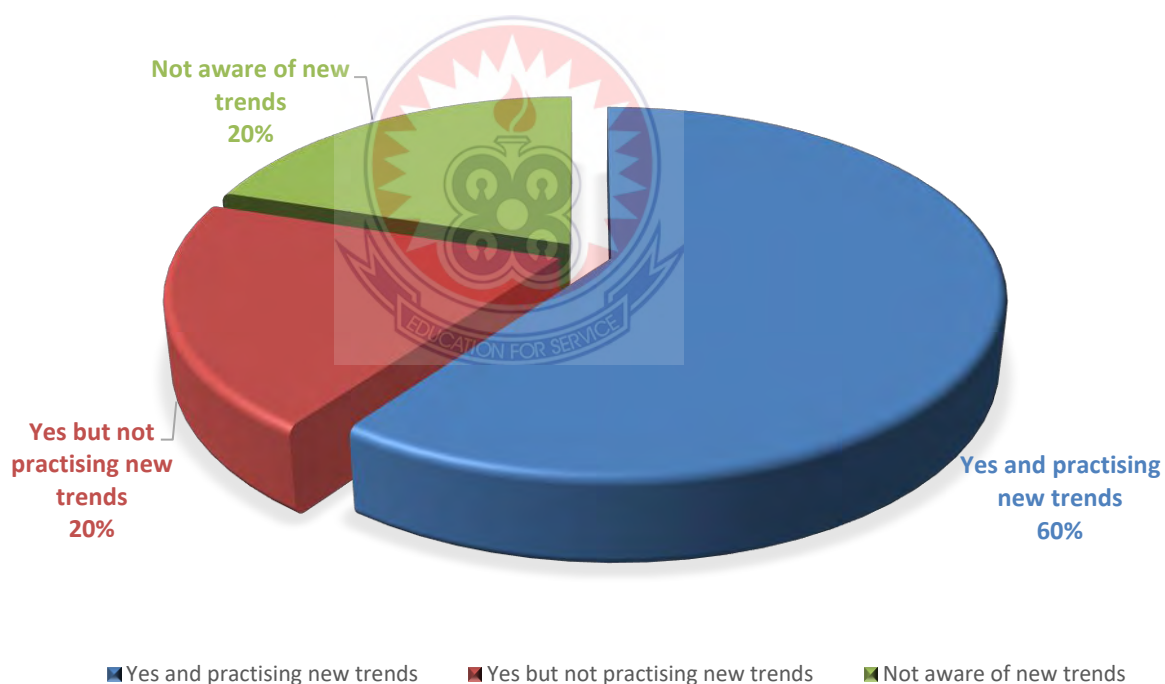| Practicing of New Tends in Printmaking	Frequency	Percentage
Yes and practising new trends	3	60%
Yes, but not practising new trends	1	20%
Not aware of new trends	1	20%
Total	**5**	**100%**

Source: Authors field study, 2019

Figure 16. Pie chart showing responses of respondents on the new trends in printing
(Source: field data, 2019)

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Trends in Materials

Out of the four respondents who admitted to the emergence of new trends, 3 representing 75% admitted to the introduction of new materials or otherwise an improvement on the materials they use whiles one (1) representing 15% believe there have not been changes but still make use of the same old materials. This is an indication that the entirety of members of the press unit chosen for the study has experienced new trends in the area of materials used.

Citing ink and paper as the main material used, responses from the four respondents revealed that, not up until the late 1990's, the inks that were used for printmaking (printing T-shirts, writing banners, signage etc.) were basically water based paste, oil paint, acrylics and emulsion paints. The early 1990's and early 2000 up to date have seen the emergence of materials such as plastisol, glitter/shimmer ink, expanding ink (puff), vinyl and mirrored silver. The heat transfer paper (both opaque and transparent) is also another material believed to have emerge in Ghana in or after the year 2000. T-shirt printing was done only by ink applications, but now the heat transfer paper performs the same function. Papers of all kinds, ranging from soft-to-hard and smooth-to-rough are easily accessible.

Again, many printing firms are now into large format printing (digital printing industry). They admitted that, not until the year 2000, most large format prints were done outside the country. According to Boadu (2016)**,** offshore printing is not a new phenomenon in Ghana and will continue to grow nationwide. Poor print quality, high price quotation, and others are some factors that may have led to offshore printing. This practice is good for any industry, but its adverse effect is that, it negatively affects the local printing industry in every developing country (such as Ghana). This study

presupposes that digital printing gained ground after the year 2000. Inferring from these facts, it is fair to say that materials such as flexi, started trending from the year 2000.

Trends in Technique

The survey uncovered new techniques that printmakers employ in the execution of their works. All the four respondents admitted to practicing new or improved techniques in the production of their works. The traditional way of stencil production, which involved manual construction of writing and cutting out letters and designs is becoming a thing of the past. Respondents claimed the trending way of stencil production involves the generation of letters with the aid of a computer. These letters are printed out in the form of outlines. The outlines are then cut to secure a stencil.

The use of computers and large format printing machines to produce signage, banners and posters is also taking over the hand written signboards, posters and banners. In the area of T-shirt printing, the technique that is quickly taking over is embroidery. The respondents said that most customers prefer the embroidered shirts to ink printed shirts lately. The technique employs the use of sewing threads in creating designs or writing on shirts and other fabrics. The main material used, thus thread served different purposes. Until the emergence of the technique, designs were made by hand. Printers have to waste the whole day on a simple multi-coloured design; in that changing of threads is even a problem. It is however not out of line to consider digital embroidery as a new trend in the printing industry. Another technique, which is quite new is the caviar bead technique. With this technique glue is printed

through a stencil in the form of a design; small plastic beads are then applied to this area. Only 3 (75%) respondents out of the respondents were aware of this technique.

Trends in Tools/Equipment

The printmaking industry in Ghana has undoubted seen the influx of tools/equipment over the last 25 years according to the respondents. Respondent who are into large format printing interviewed, admitted that large format printing machines and embroidery machines started trending around 2000. Additionally, different press houses were believed to have emerge into the system. They are heat press machine that aids in easy and fast drying of prints and the automatic screen printing presses which prints on large quantity of surfaces at a time. The screen printing hand bench which is used to hold screens for printing and the movable light box machines are the latest trends in machinery/equipment, the respondents revealed. These trends, since early 2000 until date is used extensively in the printmaking sectors.

Effects of these trends on the printing industry

In response to this question, the four (4) respondents believed that the emerging trends have both positive and negative effects. Below is an outline of some effects the respondents pointed out.

Positive effects

- The emerging trends help with quick execution of work.

- As compared to earlier trends, it is time saving.

- With the current trends, finishing is accurate and neat.

- The current trends help increase productivity and meet deadlines.

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Negative effects

- Most of the equipment/machinery that are currently trending are very expensive, thereby making it difficult for most press houses (printmakers) to own one.

- The use of computers to do almost everything is gradually killing creativity and this is an area to consider critically.

- Every individual wants to practice printmaking because the machines aid in almost all the processes, this makes it difficult to distinguish well trained graphic designers from the lot.

Probing further, it was obvious opportunities exist for non-professionals and those with all levels of qualification in publishing and printing. The study revealed all press houses selected for the study carry out the same printing process, despite same or different materials, equipment/machinery and techniques are used for productions. Digital printing, digital embroidery, souvenirs, large format printing, corporate branding among others are some major operations of the press houses. Large format printing works are printed on flxey, sticker, etc. Mug, handkerchief, umbrella, pen, brooch, tie, and wristband were the souvenirs recorded. Digital prints on materials such as paper, plastic and fabric were seen. Books, product package, leaflets, brochures, stationery, magazines, checkbook, credit cards, stamps, newspapers and posters were some items also seen. All the press houses have their own departments that design and print their items, but generally specialise in specific printing materials. The printing firms use computer-controlled machinery to handle digitally produced text and graphics. This has led to a decline in some traditional craft jobs, but increased the need for skilled technical workers (Yeboah, 2013).

Press houses in ANT engage in small-scale and micro scale business which confirms what the National Board for Small Scale Industries (NBSSI) said that most press houses in Ghana operate under small-scale industries with workers ranging from ten(10) to twenty nine (29); some are micro scale industries having about six(6) to nine (9) workers at the press house. Printing businesses are owned either by individual or by partnership. If someone wants to establish a printing business, he/she needs to secure a place either by buying or renting land, and after think of tools/equipment and materials to use.

Generally, there have been trends in materials, tools/equipment and techniques used by the then press houses until now. Some workers are aware whiles others are not. The researcher shares same opinion with Ogburn's explanation of adjustment that each time an invention is made, requires adjustment. Adjustment is the process by which the non-technical aspects of a culture respond to invention. Any retardation of this adjustment process causes cultural lag. Technology, he suggested, usually changes first, followed by culture. Press houses in ANT responds to trends in the printing industry to meet the needs of clients. Their employees ranging from six to twenty-nine workers are trained on how to use new tools/equipment and material to print works. Due to that, almost all printing processes goes on in the town making ANT lovely place to trust and do business.

4.2.3 Findings of Research Question Three: What is the Impact of Printing Business on Residential Livelihood of the People of Accra New Town and Vice Versa?

Responding to the impact of printing businesses on residential livelihood of the people of Accra New-Town and vice versa, first, the map of ANT was studied to identify the relationship that exit between them. Observing this served as a yardstick for the researcher to establish facts. Below is the map of ANT depicting the key landmarks: buildings, road network, waterway and boundary.
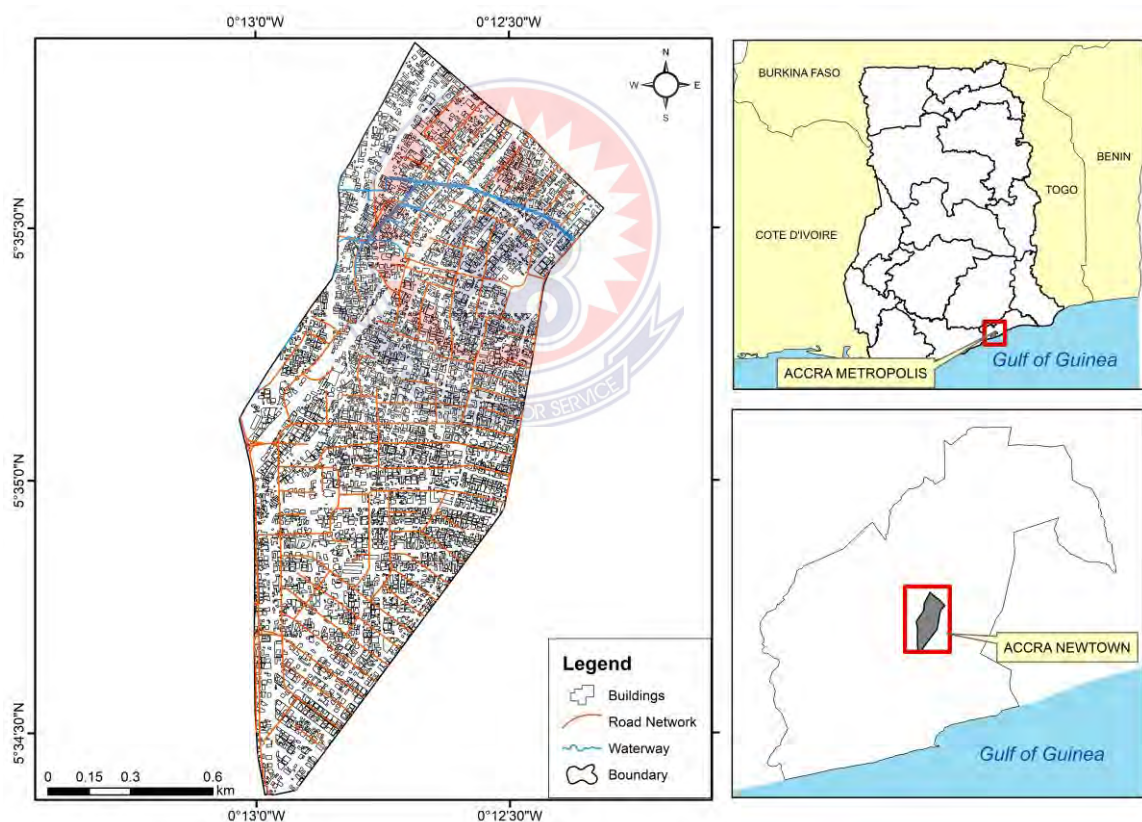
Figure 17. A map depicting buildings, road network, waterway and boundary of ANT
(Source: Town and Country Planning Division - Accra, 2019)

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Detail map of ANT showing buildings, road network, waterway and boundary
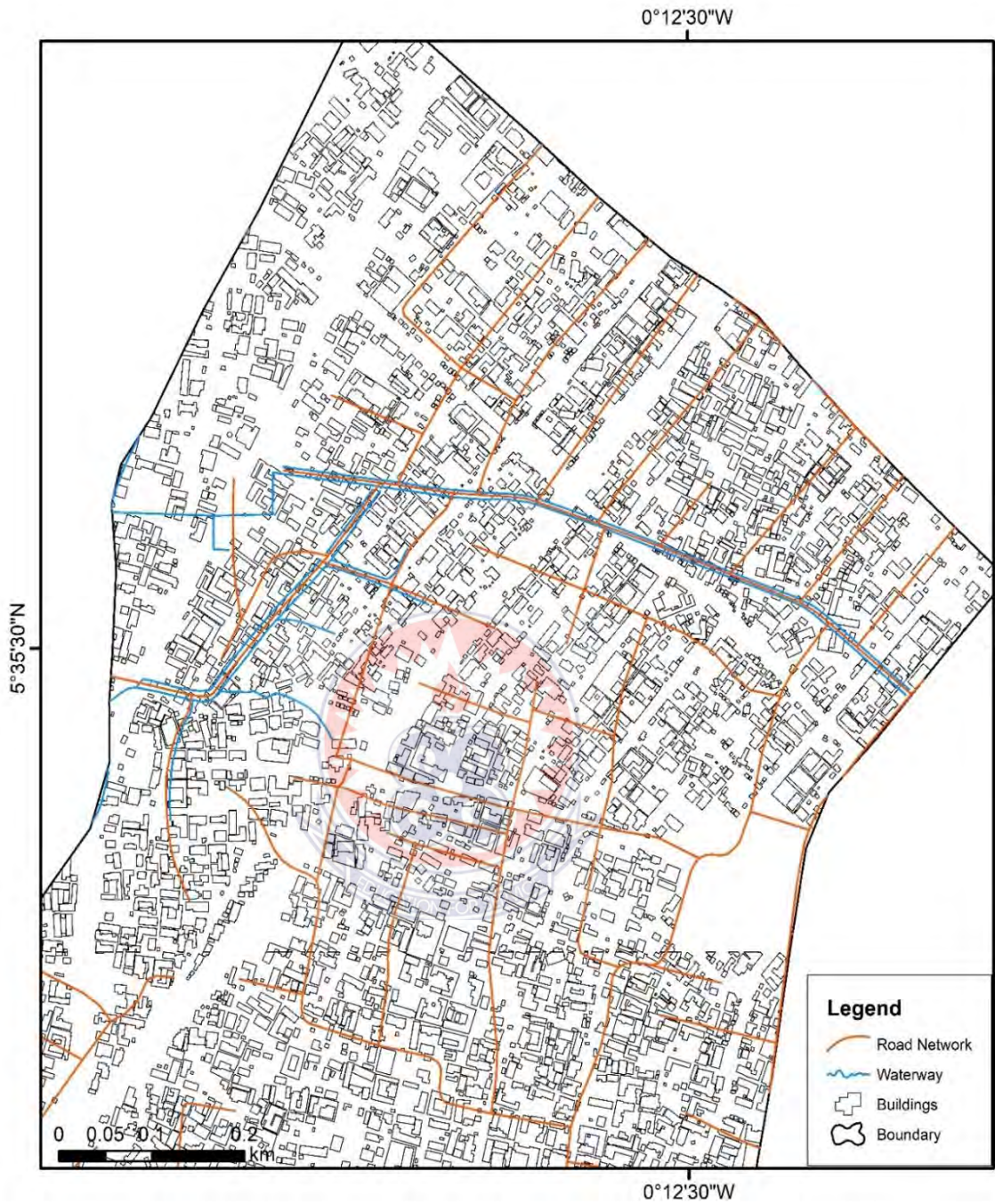
Figure 18. A detail map depicting buildings, road network, waterway and boundary of ANT (A)
(Source: Town and Country Planning Division - Accra, 2019)

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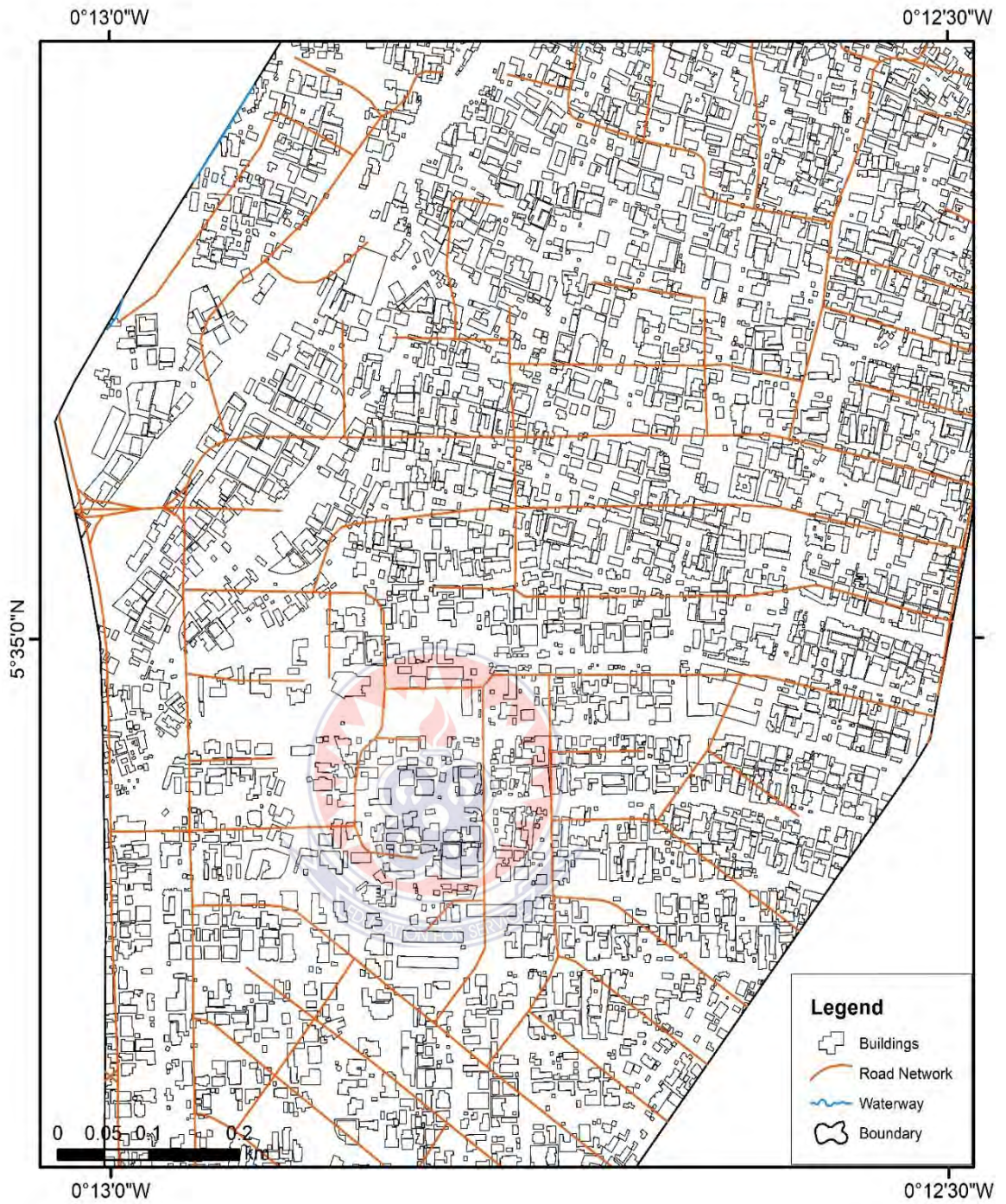
Figure 19. A detail map depicting buildings, road network, waterway and boundary of ANT (B)
(Source: Town and Country Planning Division - Accra, 2019)

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To locate places where press business operates in ANT, the researcher used a mobile phone GPS application in picking the coordinates of almost every press house in the town. With the help of a cartographer, these coordinates were overlaid on the ANT layer boundary to produce a map of the area using Arc GIS 10.5 version. Features of the map are shown in *figure 20*.

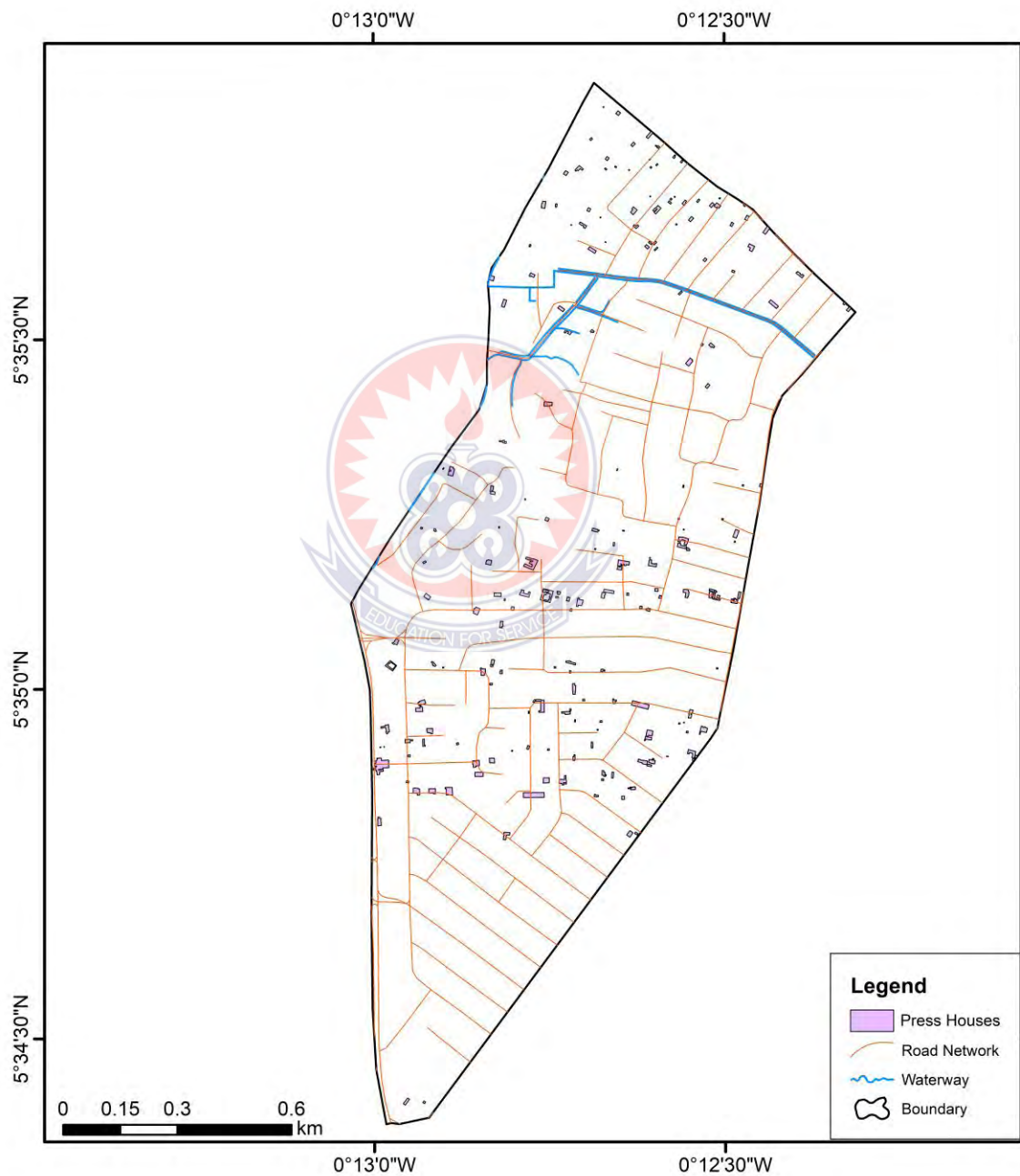*Figure 20.* A map depicting press houses, road network, waterway and boundary of ANT
(Source: field data, 2019)

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Accra New Town is composed of buildings, road networks and waterways. Road networks are very close to buildings. Buildings happen to be residence of town folks, shops, market, banks, filling stations, press houses, offices etc. scattered within the boundary. Tipple (1987) said failure of the various housing policies may be attributed to frequent policy abandonment due to political instability, lack of coordination, poor housing management practices and corruption. These might have caused the scattered scenery of ANT.

Out of the 3,555 houses, confirmed by the Ghana Statistical Service (2010), 203 press businesses were seen operating within ANT. One hundred and thirty (130) press businesses out of the total recorded were working within houses. *Figure 20* shows majority of the press houses are concentrated in the central part of the town. The Northern part follows with the rest of the press houses located within the Western, Eastern and Southern sector.

There is no front door or welcoming sign to ANT. Before you know it, you have been sucked in a pool of press houses and houses. The environment for the printing business is conducive for business which connects the residence and press houses. Walking around Mallam Attah Market, streets and residence of ANT, the researcher observed many businesses but printing businesses were everywhere. Some residential dwellers were engaged in selling stationery, printing tools etc which is purchased by press houses. They buy outside the town only when there is a shortage. This relationship is attributed to the fact that there are countless number of press houses at the disposal of the town folks.

Finally, ANT has a variety of infrastructure (roads, hospitals, houses etc) that bonds the printing business and residences. Infrastructure includes intangibles as well,

such as business networks, professional organizations and small business development centers. These structures are enjoyed and shared by them because they are always at their disposal. With public transportation, road networks make it easier and less costly for employees to get to work irrespective of the distance. Travelling on a business agenda, ANT has a variety of levels of housing from extremely affordable to extremely pricey. The variety means employees from the lowest line staffer to press owners will find accommodations that are comfortable and that they can afford.

Probing further the impact of printing business on residential livelihood of people in ANT, the respondents responded to Yes/No question on whether there is any impact of printing business on residential livelihood of the people of ANT and vice versa. Out of the respondents who responded, 9(90%) agreed that there is an impact of printing business on residential livelihood of the people of ANT and vice versa with the exception of PO2 who disagreed representing 10%. Besides, those who agreed emphasized on the negative and positive socio-economic impacts the printing business have on the residential livelihood of people in the town and vice versa. Below were the views gathered.

Table 6. "Yes" or "No" responses on whether there is any impact of printing business on residential livelihood of the people of ANT and vice versa.

Respondents	Response to "Yes/NO"
EL	Yes
AS	Yes
LL1	Yes
LL2	Yes
LL3	Yes
GD	Yes
MO	Yes
PO1	Yes
PO2	No
PO3	Yes

(Source: field data, 2019)

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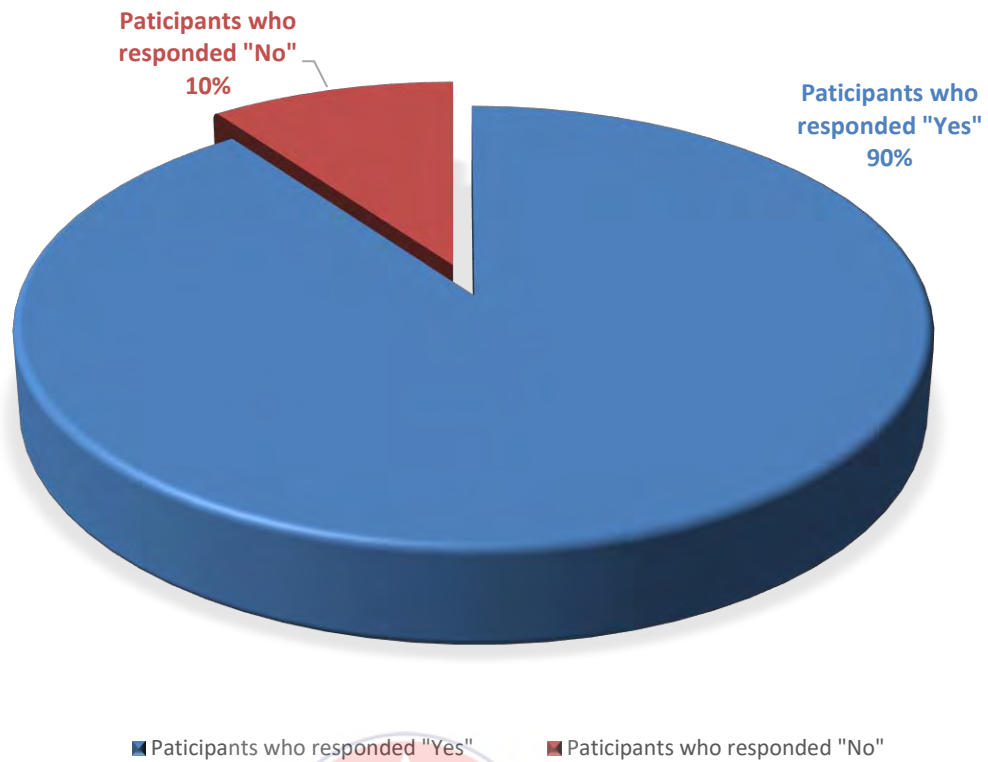
Figure 21. Pie chart showing "Yes" or "No" responses of participants on impact of the printing business on residential livelihood of the people of ANT and vice versa. (Source: field data, 2019)

The impact of printing business on residential livelihood of the people of ANT and vice versa could be positive or negative. Referencing the impact of printing business on the residential livelihood of the people of ANT, EL mentioned that printing business has created jobs for the youths. Some men drive cars of the press house whiles others have learnt how to repair the machines and do printing as well. The negative aspect of the business has to do with noise pollution and high rate of electricity consumption. Noise of machines is everywhere (street and room) in the town at night. This is because most press houses within houses and the main street operates at night. By then, people may be asleep and more electricity is consumed. He said, '*they were told to go to the electricity company and request for bigger transformers which can take more load but they refused. They use huge machines to the extent that upon*

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delivery it sometimes blocks the road or destroy items'. He added that there is a press in his house but have personally informed them not to bring any machine to his house. Therefore, they now deal with packaging only. They buy, cut the paper and do the printing outside the house just to prevent noise.

Job creation, availability of more presses making easy access to printing and revenue collection by government were the main positive impacts of printing business outcome established by AS. In the past people travel far to work or print. However, creating jobs and engaging youths in printing has help curb the problem of unemployment and complaints on criminal cases. Printing presses are everywhere in the town and have taken over most of the activities that goes on there. He said, *'if I want to print an item, with just a phone call to any printing house, the work will be done unlike previous years where I have to go to Guinea Press around Brew way in Accra Central to print'.* As the saying goes, "everything that is good comes from bad". Talking about the negative impacts of the printing business, AS highlighted on high electricity consumption and poor payment of electricity bills by the printing firms, and complaints by residence on noise making by the press houses. He said, most printing presses work at night because they claim to be the best time for printing. *"I can tell you with authority that most of them use the power but do not pay for electricity bills. Illegal connections of electricity go on at night. This is an open secret,"* he added. Aside this, he claimed residence of community report presses for disturbing their peace. The noise of the machine is heard everywhere in the town. Sometimes after going through the busy schedules and needs a rest, the noise of machines *"gba gba gba"* prevents you from sleeping. You cannot do anything about it than to plead with them, which sometimes they may listen and others times turns deaf ears. Upon reporting them to the

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right authorities to deal with them, they will tell you they have no legal means to arrest them unless parliament do that.

LL1 attested to the fact that adaptation of printing business socially as part of the town's culture has helped bound the people together. Initially, most of the town folks use to stay separately from the foreigners but now, they all work at the same press houses. Renowned printing press like Nar Advertising Company Limited, Shinning Colours, among others are owned by people who are not natives of the town but have stayed there for long and employed town folks to work with. Again, information dissemination has become easier compared to days back when people have to travel all the way to different towns to send information. Notwithstanding the social aspect, printing business economically has created more employment for the youths although its negative implication is seen in large number of school dropouts. Some youths are self-employed whiles others work under other press houses.

LL2 is of the view that the printing business has made the town folks rich in that one could purchase products and goods which previously could not. Hardly would you see shops owned by individuals but now it is normal. Press houses are all over the town including residence. LL2 cited himself as an example when he gave out one of his room to his grandson to run a press because he saw the business profitable. His grandson now owns two presses aside the one in the house and other businesses. Discussing the negative impact of the printing business on the town, LL2 laid emphasis on persistence increase in prices of products as a result of uncountable printing businesses in the town. Foreigners who trip to town to print usually effect this cost margin.

Adding to the impacts printing business have on the residential livelihood of people in the town, LL3 said printing has contributed in making the town popular.

People from all walks of life be it Accra or outside agrees that in Accra, ANT is recognized as the core of printing. This confirms what Yeboah (2013) says that in ANT the industrial areas are not separate from the residential settlements, changing the residential status to become the hub of printing industry in Ghana. Day in and out people come to the town to get their work done. However, this has created jobs for people in the town. Having responded to the positive impacts, he specified that there is always pressure on the towns facilities (electricity, water and others) since many people visit the town. Most people stay with their friends for them to get easy access to the press houses.

GD said the social and economic impact of a business is easy to identify but difficult to measure, however understanding the effects businesses has on society and the environment is vital to achieving sustainability. The payment of tax is one of the most important contributions of the printing industry to the society. The society relies mainly on taxes paid by the people for development. Developmental projects include organizing communal labour, educating people on outbreak of a disease etc. In the other way round, because printing firms pay tax to the government they feel they own the town so do whatever they like to the extent of insulting town folks when they complain about their noise making. Notwithstanding, workers sacked from printing firms mostly operate as thieves who invade into houses or press houses to steal. An example was a quarrel she witnessed between a boss and a worker, which she felt the boss should have been a little considerate, but threw him out with no tangible reason.

Again, in understanding the relationship between printing business and residential livelihood of the people of ANT, MO said printing business has always been part of ANT and therefore should not be seen as a separate power but, as the centre of

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production that must be embraced for the greater good of society as a whole. In addition, employment creation is one major need of the society that has bound the town and the presses together. At first, people used to depend on rich family members to make a living or sit beside the roads to beg for money but with more businesses in town in which printing is no exception, most of them now have jobs. Some work as factory-hand whiles others engage in cleaning and security services. Besides, noise making was the only problem expressed by MO to have impact on the town folks. He said, *'barely will you come to work a day without hearing complaints from residential settlers on noise of machines. Some reporters go to extent of coming into the press to turn off machines by themselves but the printers sometimes talk to them peacefully because they have no option than to work'*.

PO1 in his experience at the press and town believes creation of social interventions such as clean-up exercise, job creation, health screening, among others were esteemed as the positive impacts of printing businesses on the residential livelihood of people in the town. Funds are raised from the various press to support this initiative. He said, *"We do so in order for them to benefit from us. We disturb them a lot and I think they deserve that"*. He added printing business has contributed to the identity of ANT. *"When you take a stroll down Main Street of any town, you'll likely notice that every community has its own unique character and charm. However, many people walk in here to prioritize our works which has helped preserve the unique character of the town as a printing hub in Accra – transforming that character into an advantage"*.

Lastly, in a democratic world, one has the right to oppose to views. In context of that, PO2 disagreed that there is no relationship between printing business and

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residential livelihood of the people of ANT and that said nothing on the negative and positive impacts. However, PO3 said press owners are integral part of the community so is aware of how their decisions affect the town. In effect, press owners sponsor the town's local leagues, participate in charity events and contribute to the welfare of upcoming entrepreneurs by giving loans. He said *'it's uncommon for successful business owners to lecture upcoming entrepreneurs on small business establishment but, Newton Printers Association does that'*. Mentioning the negative influence of the printing business on the town, littering surrounding of ANT with printing materials was the only point stated.

Contrary to the question responded, the researcher further delved into the impact of residential livelihood of the people of ANT on printing businesses. EL said residential settlements are important for employers to have a place to rest after their busy schedule. Most workers travel from a long distance to work in the town, which impose threats on their wellbeing and strength. He said, "*I know someone who travel all the way from Tema to work here. Imagine the kind of stress he may go through during the day"*. He said, because ANT is a residential settlement, it is very difficult to locate some press houses when directed. This is due to poor layout of buildings, deprived location of some press houses (within residence, along the street, rubbish dump areas) etc.

Again, AS also agrees with EL that, without access to adequate residence (shelter), the general health and of press workers will be at risk. Conversely, the provision of adequate housing protects people from myriad vulnerabilities. Housing protects people against floods and associated stagnant waters, which bleeds mosquitoes and other insects - the key factors in spreading infectious diseases. Above all, good

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health is instrumental to human security because it enables the full range of human functioning, which could collectively be referred to as human capital. Negatively, he said, too much complaint from the town folks reduce the productivity of the press houses in that working day and night as they wish wouldn't be possible. *"I quiet remember the day I visited a family friend who owns a press. We worked all night but around 12:00am, 'macho men' from nowhere came and asked us to stop our machine because they can't sleep. What could we do? We off some of the machines, which prevented us to meet deadline of the commissioned work as, communicated to the client. He eventually lost that contract".* Therefore, residential livelihood of the people of ANT has great impact on the printing businesses in the town.

LL1 confirmed most residence is occupied with press houses because it is easy to establish. Formally, landlords used to give their rooms out for tenants at the normal prices, but upon realizing they were cheating them decided to increase the price. She cited an instance where a tenant she gave out a room to was operating printing business in the house without her consent. She said, *"I realized that when I felt many people were trooping in my house".* Aside this, most landlords depend heavily on presses for their daily bread. In effect, this has led to an increase in prices of rents and scarcity of rooms to rent.

Labour productivity is the measure of a worker's output as used in both business and the economy as a whole. A small-printing business owner focuses on labour productivity as a means of streamlining costs and maximizing output. Getting the best out of workers requires a business owner to invest in his/her press and build facilities with an eye to the long-term health of the business. LL2 sees ANT as an avenue that provides cheap labour force (people) for presses to work with because press houses are

fused to the town. Besides, workers report to work early but cannot boost of any property because they are paid less. He said, *"My grandson used to work for a press before establishing his own press. But, I felt at times money to buy soap was even a problem for him so I sat him down and after gave him room to start his business which he is now flourishing. Printing business is profitable if you manage it yourself "*

Another impact of residential livelihood of the people of ANT on printing businesses expressed by LL3 is higher sales as a result of increase in production. Increase in demand for printed products leads to increase in production. Because there is ready market for printed products, presses in ANT get clients that are more loyal for the works they produce. However, the negative impact of residence on presses is seen where there is a keen competition on available resources such as water, electricity etc. LL3 claimed, "*hardly will you see water flowing and lights on for the whole week but, bills given is always more than the consumed. I happened to speak to the authorities involved but upon submitting all the bills they requested, denied not to have anything to do about it"*. He believed the advent of printing business in the town has really disturb their peace.

Furthermore, GD affirms residence serving as press houses has impact on the patronage of the printing business. ANT is popular and noted for the printing business they do. Every house happens to have a printing press. Upon reaching ANT specific press houses could easily be identified regardless of it been the first visit. Almost all the press houses are into same business such as printing on different materials like paper, plastic, wood etc. GD trusts there is no need to ask of a particular press, just walk into any press house and your work will be ready. Yet, because most printing businesses are within houses, people take advantage over that to steal. *"I happened to bang into*

someone braking the door of my neighbour. When I confronted him, he said my neighbour sent him to pick up something in the room, but he misplaced the key. Meanwhile, this same person told a worker at the press to estimate prices of books, which he intends publishing. It was later realized he wanted a way into the house to steal but claimed to publish his books. GD emphasied residences used for printing business has contributed to stealing because is difficult to differentiate clients and thieves. It has also reduced profit press houses make due to abundance of printing businesses.

All the same, MO mentioned dynamic town management attracts quality businesses, employers and employees. ANT is a thriving environment, which in return has increase opportunities for printing business and growth. Businesses in ANT get support from credit unions, banks, authorities of the land like the chief and others to enhance their business. *"My press house and most of the press houses here go for loans to buy machines, material and things for their business. Although it is a good initiative, the blind spot is the huge percentage interest paid. Some loan establishments go to the extent of seizing people's properties and sometimes the businesses if they failed to pay on the stipulated time".* Therefore, in respect to the impact of the residence on presses, it is clear to say loans gives room for young entrepreneurs and existing printing business in ANT equipped for the job market.

To start a profitable printing business, there is the need to choose a location that is easily accessible to customers for them to find you with ease. Speaking to PO1 about the impact of residential livelihood of the people of ANT on printing businesses. He believed establishing press within residence is more advantageous than choosing any other locations. In the mix of ANT dwelling where printing business is known to take

over any other business, it is unusual to see press houses advertising their products for people to purchase. That money could be saved and invested back to the business. PO1 expatiated that, although advertisement is an avenue to bring clients, presses in ANT don't need it much because clients themselves come to them. Highlighting on the negative impact of residential livelihood of the people of ANT on printing businesses, he thinks some landlords who give out apartments to presses to work contribute to massive loss of clients by presses in that, when they see business flourishing mostly sack them or increase the rent which affect sales and profit they make. *"This is very bad! Getting clients is not easy so they must desist from that inhuman attitude".*

Finally, PO3 said, aside the printing business whether your business category is retail, restaurant, office, co-working, professional or something else, consumers identify a place with the brand with the aim of getting quality but affordable things to purchase. ANT is known for printing business, which makes people move to the town to do their printings. Named streets and houses helps clients to easily identify presses aside it being overcrowded area. Most of the workers including those at the press have moved to the town. *"In Accra because of the traffic jam, workers see it best to move in here than to be late for job always"* PO3 responded. Again, because they stay in residence they work all day and night without fears unlike businesses separated from towns who are always attack by armed robbers.

For better insight into the questions answered by respondents, the researcher further asked respondents if in spite of the negative and positive issues addressed wish for the establishment of more printing presses. Aside PO2 who did not comment on the impact of printing business on residential livelihood of the people of ANT and vice versa, the nine respondents left responded by answering "Yes" and "No" question on whether they wish for the establishment of new printing presses in spite of it been a residential town.

Table 7. "Yes" or "No" responses by respondents on whether they wish for the establishment of new printing presses in spite of it been a residential town.

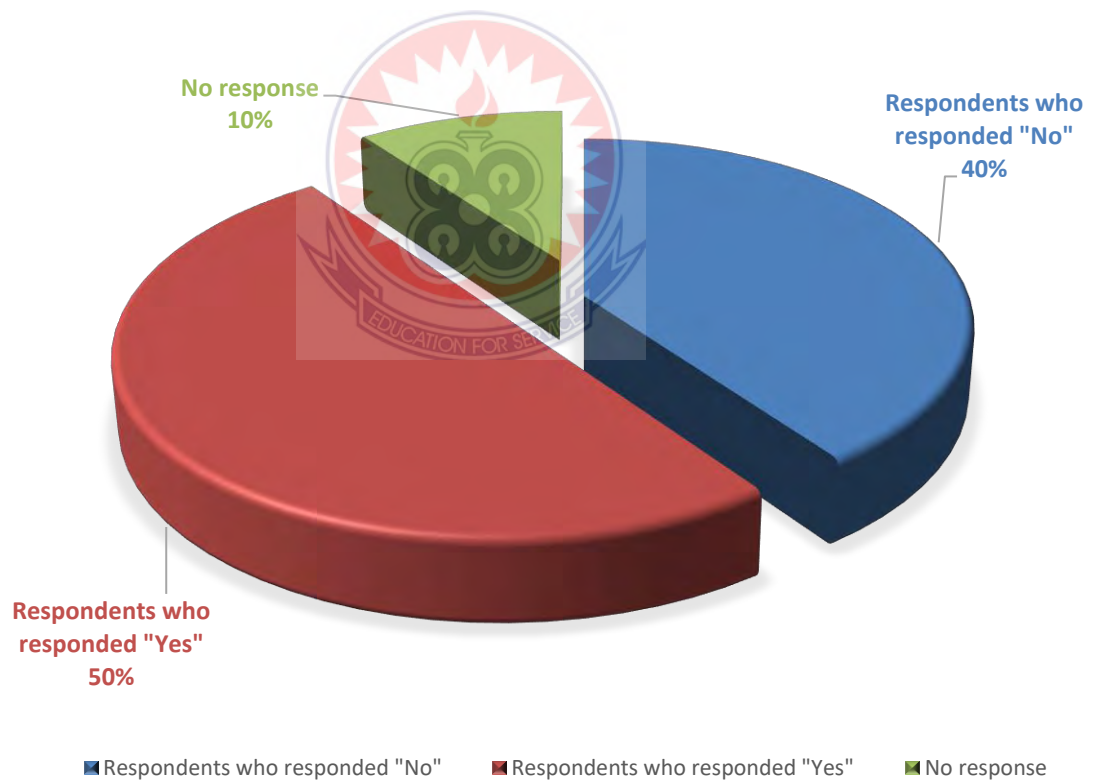| Respondents	Response to "Yes/NO"
EL	No
AS	Yes
LL1	No
LL2	Yes
LL3	Yes
GD	No
MO	Yes
PO1	No
PO2	*No response*
PO3	No

(Source: field data, 2019)

Figure 22. Pie chart showing "Yes" or "No" responses by respondents on whether they wish for the establishment of new printing presses in spite of it been a residential town
(Source: field data, 2019)

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In all, nine (9) out of ten (10) respondents who represents 90% responded to the question above. 4(40%) retorted "No" with low percentage whiles 5(50%) replied "Yes" with the highest percentage indicating that there should be new or more printing press despite its positive and negative impacts on the town folks. Notwithstanding, it was analysed that those who work at the press expressed strongly their dislike for new press in town to prevent business competition. Whereas the town folks advocate for an increase in the number of printing press because of the positive impacts the printing business have on them.

Printing business now is practiced everywhere in ANT. It is the spread of this invention or discovery from one area to another that Henslin (1998) termed it as diffusion. Ogburn viewed diffusion as the major process of social change and argues that it can have far reaching effects on human relationships. Diffusion, however, is established in the connection between printing business and residential livelihood of the people in the town. Henslin (1998) says contact between cultures is the source of diffusion. Sharp (1995) cited the missionaries who introduced steel axes to the aborigines of Australia which upset their whole society. Before then, the men controlled the production of axes, using a special stone available only in a remote region and passing axe-making skills from one man to another. Women had to request permission to use the stone axe. When steel axes became common, women also possessed them, and the men lost both status and power. With diffusion, spreading of ideas is easy. The idea of printing business, for example, has transformed the socio-cultural behaviour of the people of ANT.

Ogburn rightly observe that, "the most wonderful and universal phenomenon of modern life is not capitalism, but science and technology and capitalism is only it's by

product." His four stages of technical development: invention, accumulation, diffusion, and adjustment contributed to the union of printing business and the residential livelihood of the people of ANT.

In modern world we are aware that society is never static and that changes occur constantly. Technology brings about changes in the physical environment and the material culture of each society which in turn gives birth to social change; in old values, norms and ideals. Changes are bound to come. In some societies, these changes are very slow while in others changes are rapid and fast. However, no society can escape from changes. It is therefore required to take these changes into consideration for proper study of society.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Overview

This chapter of the research gives an abridged version of the entire write-up. It presents the summary of the research conducted, conclusions drawn and proposed recommendations from the findings.

5.1 Summary of Findings

The study geared towards documentation of the fusion of domesticity and printing business at ANT. It traces the origin of printing as a business in ANT; investigate the nature of printing business in ANT and, identify the impact of printing business on residential livelihood of the people of ANT, and vice versa. The researcher used observation, photography, and prepared interview guide to solicit information from ten respondents (five residential dwellers and five members of the press units) based on the topic understudy.

In light of the presentation and analysis, thematic analysis plan was appreciated. In this regard, data gathered were presented, analysed and discussed with the help of research questions stated. Statistical elements such as pie charts and tables were also used in representing the analysis of data collected where appropriate. The researcher set three research questions as a tool to fish out possible data to assist the research.

5.1.1 The Origin of Printing as a Business in Accra New Town

Historically, ANT was formally called 'Ararami' by Nigerians. Ararami simply means 'struggling to free yourself'. The name Ararami was later changed to ANT by then political leaders and Dr. Kwame Nkrumah. Nigerians were the first to settle in the town. They started the printing business by engaging the town folks around the 1970's and still served as a hub for printing in Accra. Midland Printing Press, Asempa Printing Press, Arakan Printing Press, Wisdom Printing Press, Advanced Press, Akan Press, just to name a few were the press houses available by then before many press houses spring-up. Before the printing business, the whole town was a residential area. People from all walks of life, Accra and neighbouring towns moved in to rent rooms and sell their products. Trading (food vending, selling of electronic gadget etc), sewing and transport businesses 'trotro' were the common activities people engaged in to make a living. Today, most press houses are operated by town folks. They work jointly (hand-in-hand) with foreigners to produce printed works; printing of receipts, fliers, brochures, souvenirs, publications etc. Again, there is a printing association in ANT called *Newtown Printers Association* unlike first where printing businesses were operated without any association.

The development of the ANT is complex, however, factors contributing to the continuous and present "co-existence" of residential and printing business activities in Accra New Town includes; the inhabitants saw printing as trending and lucrative business so invested into it. Other reasons are low prices in purchasing a piece of land for printing business establishment, and easy access to cheap labour and resources.

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5.1.2   Nature of Printing Business in Accra New Town

Four thousand workers are employed in press houses in ANT. They work as designers and machine operators at small and big press houses. These press houses engage in printing processes such as screen printing, photocopying, 3D printing, digital printing, letterpress, gravure, relief printing (letterpress, flexography), planographic printing (offset lithography), recess printing (gravure/intaglio), digital printing (toner and inkjet) etc.

Commissioned works at the press houses goes through the pre-press or origination, press, post-press or finishing before the work is executed. They use computer-controlled machinery to handle digitally produced text and graphics.

The respondents admitted to the emergence of new trends in materials, tools/equipment, techniques used in the printmaking industry and that are making use of these new developments. As a new technological practice, some press houses are aware whiles others refrain from such practices due to the cost involved in securing items needed, hence, still practice the traditional way of printing. Further analysis steered the discovery of the following;

- Major trends in materials for printmaking that have developed over the years include; plastisol, glitter/shimmer ink, expanding ink (puff), mirrored silver, vinyl, sticker, flexi and heat transfer paper.

- Concerning techniques, the major trends that have developed are embroidery, large format printing and caviar bead technique.

- Machinery that have been trending include, the heat press, the embroidery machine, the large format printers, movable light box machines and the automatic screen press.

- Positive effects of the developing trends include; quick execution of work, accurate finishing of work, increase in productivity and time saving.

- Negative effects of emerging trends include; dwindling level of creativity, expensive to practice and the influx of untrained designers on to the market.

- Press houses in ANT engage in small-scale and micro scale printing business which owned either by individual or by partnership.

5.1.3   The Impact of Printing Business on Residential Livelihood of the People of Accra New Town and Vice Versa.

After picking the coordinates of nearly every printing press in ANT, the map plotted depicted a scattered scenery of press houses and residences (houses). Out of the 3,555 houses registered by the GSS (2010), 203 printing business were seen to operate within ANT. One hundred and thirty (130) out of the total printing business recorded were operating within houses. Hierarchically, bulk of the press houses are located at the Central part of the town with others disperse in the Northern, Western, Eastern and Southern sector respectively.

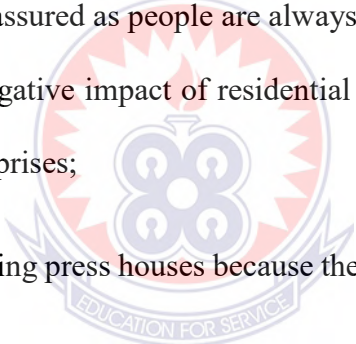**Impact of Printing Business on the Residential Livelihood of the People of ANT.**

Positively, the printing business has contributed by making ANT known, created jobs for the youths, unite habitants, produce printed materials for information dissemination, pay revenue (tax) to government for development and organizing clean-up exercise,

health screening, etc for the town folks. The negative aspect of the printing business has to do with noise pollution, high rate of electricity consumption, large number of school dropouts and inflation due to uncountable printing businesses in the town.

Impact of Residential Livelihood of the People of ANT on Printing Businesses.

Positive impact of residential livelihood of the people of ANT on printing businesses includes; houses serving as shelter for press workers or used as press houses, inhabitants assisting in press activities (employees), lending money to press owners for printing business establishment, serve as ready market to buy products, etc. Lastly, in residential area business security is assured as people are always walking in the town.

On the same vine, the negative impact of residential livelihood of the people of ANT on printing business comprises;

- Difficulty in locating press houses because the town is overpopulated with poor layout.

- Complaints from residence which prevents press houses from working late.

- Convention of houses to press houses has led to an increase in rent payment and overpopulated press houses.

- Low salary of press workers because of cheap labour.

- Scarcity of resources due to competition between press houses and residence.

- Thieves invade houses engaged in printing business to steal because is difficult to identify the victims, tenants and clients.

- Immense loss of clients by press houses due to mobility caused by landlord's selfish interest. They sack or increase prices of rented houses when they see press houses prosperous.

Lastly, residential dwellers in ANT encouraged the establishment of more press houses whiles those in the printing business objected to that.
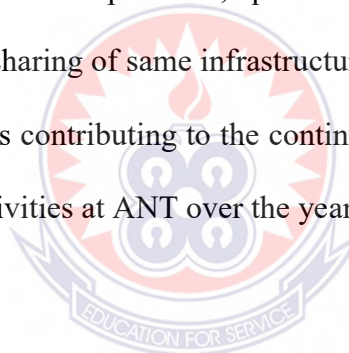
5.2 Conclusions

The compactibility of printing business to residential living of ANT has become prevalent such that it has taken precedence over their culture. ANT experience with printing business affected their businesses, mode of disseminating information to the public, among others. Although the actual date for the commencement of the printing business in ANT remains anonymous, it is believed Nigerian's started around 1970's and continue to serve as a major business in the town but due to globalization and uniqueness of printing business in ANT, press houses are now owned by Ghanaians and other foreigners than Nigerians.

Press houses in ANT engage in different printing processes including screen-printing, photography, 3D printing etc to print on all substrates ranging from paper to metal using modern tools/equipment and materials with varied techniques. Items to be printed pass through pre-press, press and post press departments responsible for designing and printing works. They use computer-controlled machinery to handle digitally produced text and graphics. This has meant an increase in printing business establishment because computer does everything. If pragmatic measures are not taken

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ANT as a residential settlement may entirely wiped off to an industrial area as press houses are often established.

Again, bulk of the press houses are located at the Central part of the town with others disperse in the Northern, Western, Eastern and Southern sector. The study revealed inherently correlated positive and negative impacts; a cordial relationship between residences and press houses in ANT but sometimes attribute to social vices.

The researcher based on the findings concluded that the continuous and present blend of residential and printing business activities is as a result of availability of resources needed for press houses establishment, huge profit gained after less investment, easy access to cheap labour, quick loans, first-hand access to printed products by town folks, sharing of same infrastructure etc. It is therefore imperative to frequently explore factors contributing to the continuous "co-existence" of residential and printing business activities at ANT over the years as there might be changes.

5.3 Recommendations

Based on the findings and conclusions of the study, the researcher wishes to make the following recommendations:

- Museums should be established in ANT to take charge of their old machines, tools/equipment and materials used for tourist attraction.

- The history of printing business in Accra New Town should be often reviewed, published and studied in schools etc. to help generations appreciate how printing started in the town, it's up and turns and improve areas where necessary.

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- Graphic designers should exploit the various opportunities that the trends in printing business provides to establish themselves in any of the sectors of printmaking when the need arise.

- Humans have endless needs, and to satisfy these we need business activities. In order not to wipe off ANT as a residential settlement completely to a printing hub, measures are to be put in place to create an industrial area within the town where all printing activities will take place. Printing businesses should be separated from the residence.

- To maintain the cordial relationship between residences and press houses in ANT, institutions of regulatory bodies in the town are to ensure that the continuous growth of industrial and residential activities in Accra New Town takes place in a way that promote safe and environmentally friendly livelihood. Establishing such policies will help shape the town as a whole. The policy should map out clearly, where to establish a printing business to prevent problems such as scattered scenery, noise making etc. It should also include the time to close and start printing businesses.

5.3.1 Suggestions for further studies

Upon recommendations stated, the researcher wish the following areas should be researched;

- Find out if all press houses in ANT operate with a license and pay tax to the government.

- To investigate why most printers in ANT do not join the Newtown printer's association.

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APPENDIX 1A

Department of Music Education
School of Creative Arts
University of Education, Winneba
P. O. Box 25
Ghana.
4th October 2018.

Dear Sir/Madam,

I am Festus Danso Gyamfi, a final year student of Department of Music Education, UEW pursuing MPhil Arts and Culture conducting a research on **"Residential and Industrial Compatibility: The Case of Accra New Town Printing Business"**.

With regards to this, I humbly request you permit me 45 minutes of your tight schedule to respond to interview questions which will enrich the findings for documentation.

Your responses would be treated with much confidentiality.

Thank you for your co-operation.

Yours faithfully,

……………………..

(Festus Danso Gyamfi)

Researcher

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APPENDIX 1B

UNIVERSITY OF EDUCATION, WINNEBA
SCHOOL OF CREATIVE ARTS
DEPARTMENT OF MUSIC EDUCATION

✉ **P. O. Box 25, Winneba, Ghana**
☎ **+233 (033233) 22035/ (020) 2041084**

2nd October, 2018

Our Ref: SCA/DMF/Vol.1/105

…………………….………

…………………….………

Dear Sir/Madam,

INTRODUCTION LETTER – FESTUS DANSO GYAMFI (8171750013)

Festus Danso Gyamfi is a final year student pursuing Master of Philosophy (Arts & Culture) at the University of Education, Winneba, Graduate School.

He is currently writing his thesis on the topic "**Residential and Industrial Compatibility: The Case of Accra New Town Printing Business**" and therefore needs your assistance to enable him acquire the necessary information for his thesis.

I am officially introducing him to your organization/institution to provide him with the necessary information and assistance that be might need.

We count very much on your cooperation and understanding in this regard.

Thank you.

Yours faithfully,

Emmanuel Obed Acquah
Ag. Head of Department

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APPENDIX 1C

INFORMED CONSENT FORM

"Residential and Industrial Compatibility:
The Case of Accra New Town Printing Business".

October 2018

Project Supervisor: Dr. Patrique deGraft-Yankson
Researcher: Festus Danso Gyamfi
Department of Music Education
School of Creative arts
University of Education, Winneba, Ghana

Purpose of this research

The thesis aims is to document the compatibility of residential and printing business at Accra New Town. It will unearth factors contributing to the continuous and present "co-existence" of residential and printing business activities that goes on in the town.

Description:

Throughout this study, you will be asked to respond to a number of questions per your experiences in the town. Approximately 45 minutes of your time will be needed to respond to questions.
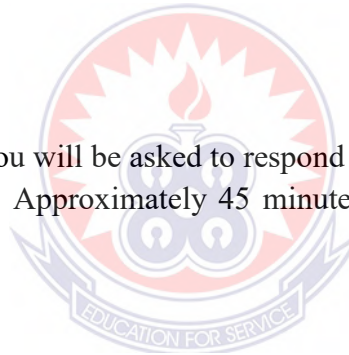
Potential harm

There are no harms associated with your participation in this research only that the outcome is expected bring to light the culture of residential and printing business at Accra New Town. It will create historical awareness on printing as a business, and educate the public and authorities about the nature of printing business in the town. Besides these, the research hopes to enlighten authorities about the impact of printing business on residential livelihood of the people of Accra and vice versa. Lastly, it will serve as a useful research material for governmental and non-governmental organizations, policymakers, all stakeholders in the printing industry in making decisions, and as a reference material for students, teachers, researchers and the nation as a whole.

Confidentiality

All records of participation would be kept strictly confidential, such that only my supervisor and I will have access to the information. Data would be stored appropriately and no information will be released to expose your identity.

Participation

Your participation is absolutely voluntary. You may pull out at any time for any reason without explanation. You may choose not to answer any question for any reason.

Dissemination

The results would be disseminated through MPhil thesis. They may also be disseminated in journals.

Concern about treatment in the research:

If you have any concern about your treatment as a research participant in this study, please contact the Department of Music, University of Education, Winneba. If you have any question about research project, or would like more information, please be at ease to contact me at the email address provided below or my supervisor by telephone on +233 248882966.

Festus Danso Gyamfi
Arts and Culture Student
University of Education, Winneba
fedanscity@gmail.com
fegggg@live.com
+233 241308690

Consent

I have read and understood the information on the above form that requires of you to protect me and requires of me to pull out at any time where not convenient. I consent to participate in this research activity.

_____

Participant's Name

_____

Participant's Signature   Date

Please keep a copy of this consent form for your records

APPENDIX 2

UNIVERSITY OF EDUCATION, WINNEBA
DEPARTMENT OF MUSIC EDUCATION

OBSERVATIONAL CHECKLIST

Topic: Residential and Industial Compatibility:
A Case Study of Accra New town Printing Business

Nº	Criterion	Yes	No	Comment(s)
1	Is Accra New Town a well-planned settlement?			
2	Are press houses in Accra New Town well located?			
3	Is the town polluted with prints?			
4	Are there any other vibrant business apart from the printing business?			
5	Do printing business and residential settlement have impact on each other?			
6	Has there being emerging trends in materials, tools/equipment and techniques used at press houses since the commencement of printing business?			
7	Do customers move in and out of the town often?			

Additional Observations

- Relationship that exit between printing business and residential livelihood of the people of Accra New Town.

- Activities that goes on in the town; press houses and residences.

APPENDIX 3
UNIVERSITY OF EDUCATION, WINNEBA
DEPARTMENT OF MUSIC EDUCATION
INTERVIEW GUIDE

Type of Interview: Semi-structured interview.

Sampling Techniques: Purposive and Simple Random Sampling

Data Collection Technique: Face-to-face interview.

Topic: Residential and Industrial Compatibility: A case study of Accra New Town

Note: The interview guide is in two sections which is further divided into parts. The first section deals with the personal data of respondents. The second section answers the research questions stated. The first part (of the second section) answers research questions 1 and 3 which is to be responded by both members of the Press Unit and Residential Dwellers whiles part two is to be responded by members of the Press Unit only which answers research question 2.
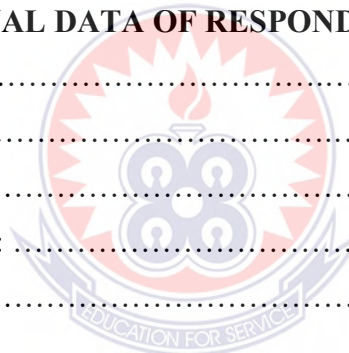
SECTION A: PERSONAL DATA OF RESPONDENT

Name: ………………………………………………..…………………….

Age: …………………………………………….………………………

Gender: ……………………………………………………………….…...

Educational Background: ………………………………………….…………

Occupation: ……………………………………………………………...

SECTION B: ANSWERS TO RESEARCH QUESTIONS

Part 1

UNIT OF ANALYSIS 1: QUESTIONS TO BE RESPONDED BY BOTH MEMBERS OF THE PRESS UNITS AND RESIDENTIAL DWELLERS

Research Question 1: What is the origin of printing as a business in ANT?

1. Please are you a native of the town? Yes/No. If yes, how long have you stayed/work in the town?
2. How did printing started in ANT?
3. Why printing and not any other business?

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Research Question 3: What is the impact of printing business on residential livelihood of the people of ANT and vice versa?

4. Is there any impact of printing business on residential livelihood of the people of Accra New-Town and vice versa? If Yes/No, state it.

5. Do you wish for the establishment of new press houses in spite of it been a residential town? If Yes/No, why?

Part 2

UNIT OF ANALYSIS 2: QUESTIONS TO BE RESPONDED BY MEMBERS OF THE PRESS UNIT

Research Question 2: What is the nature of printing business in Accra New Town?

6. What is the name of press?
7. When was the press houses established?
8. What services do the press houses render?
9. How is designing and printing done at the press houses?
10. What type of materials/tools do the press houses use currently in its production?
11. Has there been a revolution in the materials/tools used, if yes what are they?
12. What machine(s) does the press houses use for production?
13. Has there been a change in machinery used in production, if yes what are they?
14. What technique(s) does the press house employ in its production process?
15. Has there been changes or improvements on techniques used in the past years, if Yes, what are they?
16. What are the effects of the new trends on the printing business?

APPENDIX 4A
DOCUMENT REVIEW
ANTIQUE PRINTING PRESS

Figure 23. Guillotine machine, Accra New Town
(Source: field data, 2020)

Figure 24. Jobber- Letterpress, Accra New Town
(Source: field data, 2020)

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Figure 25. Offset, Accra New Town
(Source: field data, 2020)

Figure 26. Arab platen press - Letterpress, Accra New Town
(Source: field data, 2020)

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APPENDIX 4 B
ANTIQUE PRINTED NEWSPAPER

Figure 27. First Printed Newspaper - Ghana (Gold Coast) Gazette
(Source: googleimages.com)

Figure 28. Gold Coast Times
(Source: googleimages.com)

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