IMPACT OF WORKING CAPITAL MANAGEMENT AND CORPORATE GOVERNANCE ON PROFITABILITY OF SMALL AND MEDIUM-SIZED ENTITIES IN NIGERIA

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ABSTRACT

This study aims to explore the impact of working capital management and corporate governance on the profitability of small and medium-sized entities (SMEs) in Nigeria. Working capital management is concerned with management of firms' short-term resources and short-term obligations; whereas corporate governance is the process and structure used to direct and manage the business affairs of a corporation with the objective of enhancing shareholders' value. Based on review of studies by different scholars, a conceptual model was developed and three underpinning theories were employed to explain the relationship between working capital management, corporate governance and SMEs' profitability. This study utilised a balanced panel data from 311 samples of Nigerian SMEs determined by the use of cluster sampling technique for a period of seven years from 2007 – 2013, which gave a total of 2,177 firms throughout the years of observation. Overall, findings of the study reveal that cash conversion cycle, board size and gender have a significantly positive relationship with gross operating profit; whilst accounts receivable period and family ownership show a significantly negative relationship. Further analysis shows that corporate cash holdings, cash conversion efficiency and board size have significantly positive relationship with return on assets; whilst accounts receivable period and inventory holding period have a significantly negative relationship. This study contributes to the body of knowledge theoretically by providing a factual conclusion on the impact of efficient working capital management and corporate governance on SMEs' profitability. Further, the study adds to the existing literature to explain the relationship of working capital management and corporate governance with SMEs' profitability by applying the three selected theories. Practically, the study will benefit SME owners/managers, the government, management consultants and financial institutions in policy and decision making related to SMEs in Nigeria.

Keywords: working capital management; corporate governance; cash conversion efficiency; SMEs' profitability, Nigeria.

ABSTRAK

Kajian ini bertujuan mengenal pasti kesan pengurusan modal kerja dan tadbir urus korporat terhadap keuntungan Perusahaan Kecil dan Sederhana (PKS) di Nigeria. Pengurusan modal kerja mempunyai kaitan dengan pengurusan sumber jangka pendek dan obligasi jangka pendek syarikat, manakala tadbir urus korporat adalah proses dan struktur yang digunakan untuk mentadbir dan mengurus hal ehwal perniagaan syarikat dengan matlamat meningkatkan nilai pemegang saham. Berdasarkan ulasan karya pelbagai penyelidik, model konseptual telah dibangunkan dan tiga teori telah digunakan sebagai asas untuk menjelaskan hubungan antara pengurusan modal kerja, tadbir urus korporat dan keuntungan PKS. Kajian ini menggunakan data panel yang seimbang daripada 311 sampel PKS di Nigeria yang ditentukan dengan menggunakan teknik persampelan kelompok (kawasan) untuk tempoh tujuh (7) tahun dari tahun 2007-2013, yang merangkumi sejumlah 2,177 syarikat sepanjang tempoh pemerhatian tahunan. Secara keseluruhan, penemuan kajian menunjukkan bahawa kitaran penukaran tunai, bilangan ahli lembaga pengarah syarikat dan jantina mempunyai hubungan positif yang signifikan dengan keuntungan operasi kasar, manakala tempoh akaun belum terima dan pemilikan keluarga menunjukkan hubungan yang negatif dan signifikan. Analisis lanjut juga mendapati pegangan tunai korporat, kecekapan penukaran tunai dan bilangan ahli lembaga pengarah mempunyai hubungan positif yang signifikan dengan pulangan terhadap aset, manakala tempoh akaun belum terima dan tempoh pegangan inventori mempunyai hubungan yang negatif dan signifikan. Kajian ini akan menyumbang kepada ilmu pengetahuan secara teori dengan menyediakan fakta mengenai kesan pengurusan modal kerja yang cekap dan tadbir urus korporat terhadap keuntungan PKS. Di samping itu, kajian ini akan menambah kepada ulasan karya yang sedia ada untuk menjelaskan hubungan pengurusan modal kerja dan tadbir urus korporat dengan keuntungan PKS dengan menggunakan tiga teori yang terpilih. Secara praktikal, kajian ini akan memberi manfaat kepada pemilik/pengurus PKS, kerajaan, perunding pengurusan dan institusi kewangan dalam pembentukan dasar dan pembuatan keputusan yang berkaitan dengan PKS di Nigeria.

Kata Kunci: pengurusan modal kerja; tadbir urus korporat; kecekapan penukaran tunai; keuntungan PKS, Nigeria.

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LIST OF ABBREVIATIONS

APP	Accounts Payable Period
ARP	Accounts Receivables Period
CAC	Corporate Affairs Commission
CBN	Central Bank of Nigeria
CCC	Cash Conversion Cycle
CCE	Cash Conversion Efficiency
CG	Corporate Governance
CCH	Corporate Cash Holdings
DAP	Days Accounts Payable
DAR	Days Accounts Receivables
FAGE	Firm Age
FEM	Fixed Effect Model
FSIZE	Firm Size
GDP	Gross Domestic Product
GDPGROW	GDP Growth
GLS	Generalized Least Square
GOP	Gross Operating Profit
GWC	Gross Working Capital
IASB	International Accounting Standard Board
IFRS	International Financial Reporting Standard
IHP	Inventory Holding Period
KSE	Karachi Stock Exchange
NBCI	Nigerian Bank for Commerce and Industries
NBS	National Bureau for Statistics
NEDEP	National Enterprises Development Programme
NEP	Nigeria Export Promotion
NTC	Net Trade Cycle
NWC	Net Working Capital
OLS	Ordinary Least Square

RBV	Resource Based-View
REM	Random Effect Model
ROA	Return on Assets
SEC	Securities and Exchange Commission
SGROW	Sales Growth
SMEDAN	Small and Medium-Sized Enterprises Development Agency of Nigeria
SMEEIS	Small and Medium Enterprises Equity Investment Scheme
SMEs	Small and Medium-Sized Entities
SSICS	Small-Scale Industrial Credit Scheme
U.K.	United Kingdom
U.S.A.	United States of America
WCC	Working Capital Cycle
WCM	Working Capital Management
WCME	Working Capital Management Efficiency

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Working capital management (WCM) is one of the fundamental components of the overall corporate financial management strategies aimed at creating shareholders' value. According to Shin and Soenen (1998); Muhammad, Jan, and Kifayat (2010); and Dung and Su (2010), the success or failure of a business concern is portrayed by the way working capital is being managed due to its impact on a firm's profitability and liquidity. Working capital management is defined as the management of a firm's short-term resources, namely current assets and short-term obligations, also known as current liabilities (Horne & Wachowicz, 2008; Filbeck & Krueger, 2005). In practice, most of a firm's financial decisions in the past have focussed on capital structure, capital budgeting and dividend policy; only recently have most companies across different industries realised the significance of efficient working capital management to a firm's growth and sustainability (Sen & Oruc, 2009).

Management of working capital is an important strategy that a business entity should take into consideration when making any operational decision (Al-Mwalla, 2012). Hence, a firm's level of profitability and liquidity is significantly influenced by the way its working capital is being managed. There are two major goals of working capital management; profitability and liquidity (Shin & Soenen, 1998). According to Smith (1980), trade-off between these two major goals (profitability and liquidity) is very important because any decision which tends to maximise a

firm's profitability may tend to minimise its liquidity. Further, any decision which is aimed to ensure adequate liquidity of a business entity tends to reduce the chance of maximising its profitability (Shin & Soenen, 1998; García-Teruel & Martínez-Solano, 2007).

Working capital management is concerned with the administration of a firm's short-term resources and short-term obligations, the analysis of the investment in operating assets and its corresponding financing (Etiennot, Preve & Allende, 2012). This relationship is very important as posited by Banos-Caballero, Garcia-Teruel, and Martinez-Solano (2010), that a firm's investment and financing decisions are interdependent under perfect market. In a perfect market, investment decisions are independent of financing decision, because investment decisions depend only on the availability of investment projects that have positive net present value (Modigliani & Miller, 1958) and firms have access to unlimited finances. However, according to Banos-Caballero et al. (2010, pp. 513), *"in practice, internal and external financing are not perfectly interchangeable*" because external financing through debt or issue of new shares tends to be more costly than internal financing due to market imperfection. In a nutshell, working capital management involves short-term investment and financing decisions of a firm (Bhunia & Das, 2012), such as investment and financing within one accounting period.

In a period of global financial crisis, stock prices crumble and firms' profit margins decrease; firms may require more cash for expansion from internal operations to invest in new technology, production activities and repay debts. Many businesses turn to working capital as a source to finance their operations (Ching, Novazzi & Gerab, 2011). Also, there are growing numbers of

entities that appreciate efficient working capital management as a true source of competitive advantage in their profit maximisation strategy. Horne and Wachowicz (2008) stress the importance of maintaining adequate investment in working capital because excessive investment in working capital may have negative impact on the firm's profitability. Similarly, very low level of investment in current assets in relation to current liabilities may lead to illiquidity which may affect the firm's operations. Managers should therefore ensure that at any point in time, a firm's short-term resources (current assets) can meet its short-term obligations (current liabilities), especially trade creditors or accounts payable and accruals. A business should avoid holding excessive amounts of current assets, which means funds are tied up in assets with no returns (opportunity cost). Further, holding excessive inventories, although preventing stock-out, may create additional costs, such as storage and insurance, which can affect the firm's level of profitability and investment opportunities. In addition, higher level of current liabilities relative to current assets has a negative effect on liquidity.

A firm is expected to maintain a trade-off in its working capital management policy on profitability and liquidity goals (Smith, 1980; Bhunia & Das, 2012). However, a firm can choose to follow one of the working capital management policies: conservative policy with higher investment in current assets; or aggressive policy by minimising investment in current assets to minimise cost and holding higher amount of current liabilities to total liabilities (Nazir & Afza, 2009). Each has an effect on the firm's liquidity and consequently on the profitability (Horne & Wachowicz, 2004). Managers can utilise firm's working capital effectively to increase sales and consequently the firm's profitability and financing.

Hence, working capital management aims to achieve an optimum balance of each of the working capital components. It is because the manner in which working capital is managed can have significant effect on the firm's profitability and risk (Baños-Caballero, García-Teruel & Martínez-Solano, 2012). However, Nazir and Afza (2009) argue that a firm can enhance its profitability level and reduce its risk of liquidity through effective and efficient working capital management. These items of working capital are known as the determinants or components of working capital management. They include inventory represented as inventory holding period, accounts receivable represented as accounts receivable period, accounts payable represented as accounts payable period, cash and marketable securities and cash conversion cycle. In essence, working capital management is concerned with strategies for managing these components and the interrelationships among them (Abuzayed, 2012). In other words, efficient working capital management is meant to ensure that the firm has adequate working capital which can guarantee business solvency and at the same time, not too much that it reduces the firm's profitability. According to Mathuva (2010), excessive investment in current assets of a firm would reduce profitability; conversely, insufficient short-term assets would result in risk of liquidity. To ensure growth and sustainability, a firm should have sufficient working capital to satisfy its maturing short-term obligations and other operational expenses; hence, efficient working capital management is highly desirable and necessary for a firm's growth and sustainability.

According to Filbeck and Krueger (2005), the success of any business depends on the financial manager's ability to efficiently manage the business' working capital components; accounts receivable, inventory and cash and accounts payable. Hence, efficiency of working capital

management involves planning and controlling current assets and current liabilities. The aim is to avoid excessive investment in current assets which can affect the firm's profitability and too little working capital which can lead to low liquidity (Hanuman, 2009; Şen & Oruç, 2007). According to Gitman (1976), financial managers spend a great deal of their time and effort on management of working capital because the components of working capital are usually changing over periods of time and influence the day-to-day operations of the business. One of the main reasons is the efficiency in the management of the working capital has changed. When efficiency in the management of working capital goes higher, a decrease is expected in the resources assigned to working capital and vice versa. Hence, business growth and sustainability are dependent on how efficiently the firm manages its working capital. However, this is not always simple since the financial manager must make sure that the firm's operations are geared towards efficient and profitable operations, although there may be a likelihood of mismatch of the short-term assets and short-term obligations in the process. If this occurs and the manager cannot control it well, it will affect the firm's profitability and risk (Bhunia & Das, 2012). Furthermore, empirical evidence has shown that firms with a desirable working capital level can potentially maximise their returns.

The existence of optimum level of individual working capital management components has been documented in previous studies. For example, in 2008, García-Teruel & Martínez-Solano reported that Spanish SMEs have the desired cash level which they aimed to achieve. Similarly, Banos-Caballero et al. (2010, pp. 513) reports that, "Spanish SMEs have a target cash conversion cycle to which they attempt to converge and they try to adjust to the target quickly". Emery (1984); and Nadiri (1969) also report that firms have favourable level of accounts receivable and

accounts payable, while Ouyang et al. (2005) report optimal level of inventories. On this basis, Baños-Caballero et al. (2012, pp. 517) argue that "*the relationship between working capital management and firm profitability is concave rather than linear*" as examined by previous scholars. Baños-Caballero et al. (2012) further elaborate that a firm's profitability increases as more funds are invested in working capital until a certain level is reached; then profitability begins to decline. Therefore, working capital management policies that favour profitability may tend to reduce a firm's liquidity level and policies that are geared toward liquidity may tend to decrease the firm's profitability.

There are many reasons for the need for efficient working capital management in SMEs (Samson, Mary & Yemisi, 2012), especially for small manufacturing and trading companies. This is because for most SMEs, current assets constitute the larger proportion of their total assets. Further, most SMEs have low liquidity level, unstable cash flows and high reliance on short-term debts as compared to large companies (Howorth, Peel & Wilson, 2000). García-Teruel and Martínez-Solano (2007); Bhunia and Das (2012); and Samson et al. (2012) argue that working capital management is not only important but necessary to SMEs. It is because more than half of the assets of most small firms are in current assets and accounts payable is one of their major sources of financing. In addition, SMEs are prone to serious financial constraints (Fazzari & Petersen, 1993; Baños-Caballero et al., 2012), because of their inability to obtain financing in the long-term capital market (Baños-Caballero et al., 2012). Equally, SMEs are vulnerable to risk which make credit institutions so sceptical to advance loans to them. So, they need to manage their working capital appropriately for ensuring growth and sustainability.

In addition to efficient working capital management, another important element that a company needs to consider is corporate governance (CG). Research in corporate governance has gone beyond large corporations; it now also includes studies in relation to SMEs. According to Abor and Biekpe (2007); and Lappalainen and Niskanen (2012), most of the previous studies on the corporate governance mechanism (family ownership, board size and composition) and firm performance relationship have focused on large listed companies in the developed economies, such as the United Kingdom (U.K) and the United States of America (U.S.A). This is because traditionally, corporate governance has been associated with large corporations due to the separation between ownership and control (Abor & Biekpe, 2007). This is especially as a result of recent corporate scandals and financial crisis which led to the collapse of many large corporations in the USA, Southeast Asia, Europe and some African countries, including Nigeria. This has shaken the faith of both existing and potential investors in the capital markets and has begun the agitation for improvement in corporate governance practices. Furthermore, the limited literature in the area, particularly with respect to SMEs, has also focused mainly on developed economies (Eisenberg, Sundgren, & Wells, 1998; Bennett & Robson, 2004). Therefore, it is important to examine the issue of corporate governance in the SME sector, especially in the developing economies, taking into consideration the importance of the sector to economic development of such countries. Hence, this study is set to examine the impact of both working capital management and corporate governance on the SMEs' profitability in Nigeria, given the importance of this sector to the Nigerian economy.

According to Keasey, Thompson and Wright (1997, pp. 3), '*corporate governance is the process and structure used to direct and manage the business affairs of a company towards enhancing*

business prosperity and accountability'. Achchuthan and Kajananthan (2013, pp. 14) add that, '*corporate governance encompasses the authority, accountability, stewardship, leadership, direction and control exercised in the process of managing organisations'*. The major aim of corporate governance is to achieve long-term shareholders' value, while taking into cognisance stakeholders' other interests. For SMEs, corporate governance is about the respective roles of the shareholders as owners and managers, either as directors or other officers (Abor & Biekpe, 2007). They further argue that good corporate governance practices will assist SMEs in improving their efforts to secure financing from investors and financial institutions.

Despite the importance of working capital management and corporate governance to a firm's profitability, very few studies have investigated the influence of working capital management and corporate governance on profitability of SMEs. In their study, Gill and Biger (2013) report strong association between several features of corporate governance and efficiency of working capital management. Both efficient working capital management and good corporate governance can improve a firm's profitability, which is believed to be the main objective of any business organisation. However, maintaining liquidity is also an important goal that ensures a firm's survival (Deloof, 2003; Horne & Wachowicz, 2008). Hence, to increase a firm's profitability with low investment in working capital at the expense of liquidity can have negative impact on its liquidity level and consequently on its value (Soenen, 1993; Deloof, 2003; Ekanem, 2010; Klonowski, 2012). The thinking that a firm's profitability and liquidity are influenced by its working capital management is commonly acknowledged by scholars (Baños-Caballero et al., 2012). Therefore, trade-off between these two major goals is vital in working capital management because risk-return trade-off theory assumes that investment with high risk

provides more returns and vice versa. In other words, firms with high liquidity are less risky and less profitable, while firms with low liquidity are more risky but highly profitable (Khan, Akash, Hamid, & Hussain, 2011).

Furthermore, SMEs are found to be the most common form of business which is believed to have significant impact on the growth and development of many countries in the world (Boonpattarakan, 2012). SMEs have been recognised in the Nigerian economic policies and programmes as a viable business. This is especially in the area of income generation, poverty reduction and employment generation coupled with the fact that a small amount is needed to start SME operations (Sunday, 2011).

The relevance of SMEs and their contribution to economic development cannot be overemphasised. According to Sunday (2011), SMEs remain the most powerful instrument of economic growth and development of any nation. SMEs represent the major breakthrough in various emerging sectors. Sunday argues that most breakthroughs in information technology (IT) in the USA, China, South Korea, Malaysia and India are propelled by SMEs. Also, most consumables and industrial goods in the developing economy are the end-products of SMEs (Oni, Paiko, & Ormin, 2012).

The concept of SMEs does not have a universally accepted definition (Oni et al., 2012). Hence, several definitions of SMEs have been developed by different institutions and organisations for a broad range of purposes. Often, some institutional and organisational definitions are based on

quantified criteria, such as revenue (sales turnover), assets value and number of employees, or other factors (Sunday, 2011). For instance, in the U.S.A, a small business is defined, "*as an independently owned and operated firm*" (Sunday, 2011, pp. 272). Such business is excellent in its area of operations and "is not having more than $7.5 million to $22 million annual turnover and an average of 1,500 employees". Similarly, in Japan, small-scale businesses are described based on the industry.

In the manufacturing industry in the UK for example, SMEs are described as those firms with £100 million paid-up capital and with 300 employees. For wholesale, trade firms are, "those firms with £30 million paid-up capital and with 100 employees" (Sunday, 2011, pp. 272). However, the International Accounting Standards Board (IASB) in Section 1 of the International Financial Reporting Standards (IFRS) for SMEs (IFRS for SMEs, 2009) defines SMEs based on financial reporting obligations as, "*entities that do not have public accountability and publish general purpose financial statements for external users. External users include the owners of the business (stockholders) who are not involved in managing the business, creditors (existing and potential) and credit rating agencies"*.

The SMEs have been differently defined in Nigeria by different institutions and bodies and from different perspectives (Adeleke, Oyenuga, & Ogundele, 2003; Anderson, 1982). The Federal Ministry of Commerce and Industry defines a SME as a business entity with a total assets value not exceeding ₦5,000,000 (excluding cost of land). The Central Bank of Nigeria (CBN), in its guidelines to commercial banks, defines SMEs as, "*those entities with annual net sales not more*

than ₦5,000,000". But for merchants banks, they regard SMEs as those with total assets value not more than ₦2,000,000 (excluding cost of land) or with maximum net sales of not more than ₦5,000,000 (Onuoha & Uddin, 1994; Rogers, 2002; Udechukwu, 2003).

According to Small and Medium-Sized Entities Development Agency of Nigeria and National Bureau for Statistics SMEDAN/NBS (2012), the SMEs are defined under the Nigerian National Policy on SMEs; small entities are those with total assets value (excluding land and buildings) above ₦5 million but not exceeding ₦50 million with a total workforce of above 10 employees but not exceeding 49 employees; the medium-sized entities are those enterprises with total assets value (excluding land and building) above ₦50 million, but not more than ₦500 million with a total workforce of between 50 and 199 employees.

This study adopts the SMEDAN (2012) and IFRS (2009) definitions for SMEs. This is because they are recent and recognised byregulatory bodies, both locally and internationally. This study focuses on the impact of working capital management and corporate governance on SMEs' profitability in Nigeria. This is because working capital management and corporate governance have both positive and negative impacts on firm's profitability, which in turn, impact on shareholders' value (Gill, Biger & Mathur, 2010; 2013). Besides, SMEs are the backbone of any developing economy.

The government of Nigeria is showing much interest in growth, survival and sustainability of the SME sector through policies and programmes. The problems of the sector include higher cost of

operations (infrastructure), unavailability of external financing, poor management of resources and government policies (Sunday, 2011). Similarly, Bhunia and Das (2012) argue that efficient working capital management results in increased profitability which has led to firms' growth and sustainability; while poor working capital management results in low profitability and growth, which consequently, lead to financial distress and eventually bankruptcy.

This study utilises a sample of Nigerian SMEs with the objective of providing empirical conclusion on the impact of working capital management and corporate governance on their profitability. In Nigeria, the capital market is weak and the financial system is less efficient (Okpara, 2011). Further, SMEs have been fully recognised as the springboard for attaining sustainable economic development all over the world and generally regarded as the driving force of economic growth, employment generation and poverty reduction (Okpara, 2011). In particular, Nigeria, has since the 1970s, shown keen interest in the development of the SME sector as it can contribute positively to economic growth and employment generation (SMEDAN/NBS, 2012; Oyedijo, Idris & Aliu, 2012).

1.2 Problem Statement

Previous scholars, such as García-Teruel and Martínez-Solano (2007); Samson et al. (2012); and Baños-Caballero et al. (2012) establish that working capital management is most significant to SMEs. This is because SMEs are generally associated with higher proportion of current assets and current liabilities, which are the major sources of their financing. Further, findings from

most of the studies on working capital management and SMEs' profitability indicate that SMEs are generally subjected to financial constraints (Fazzari & Petersen, 1993; Howorth et al., 2000) due to their inability to obtain financing in the long-term capital market, poor financial management and their vulnerability to risk (Baños-Caballero et al., 2010; 2012). On this basis, most credit institutions are becoming more sceptical to advance loans to SMEs which means the problem of inadequate financing for growth and sustainability as compared to large firms listed on the stock markets.

Lack of managerial proficiency and poor governance system have been identified as critical to SME owners' efforts to securing financing and thus, are considered to be the major obstacles to SMEs' growth. Corporate governance and working capital management are two important aspects of a firm's management with the aim to maximise the firm's values and the shareholders' wealth (Goel, Bansal, & Sharma, 2015). According to Achchuthan and Kajananthan (2013), corporate governance are strategies formulated to meet the short, medium and long-term objectives of the firm and that of the shareholders. On the other hand, working capital management involves the management of the short-term resources of the firm to ensure trade-off between profitability and liquidity (Tsagem, Aripin, & Ishak, 2015). Efficient working capital management is the most vital strategy for ensuring firm's profitability, liquidity and solvency. According to Kamau and Basweti (2013), firms should adopt good corporate governance practices in order to obtain the best level of efficient working capital. In this respect, effective working capital management policy is influenced by good corporate governance, which will have a positive impact on the shareholders' wealth (Gill & Biger, 2013; Aghajari, Mirbaksh, Mousavi, & Mohammadipour, 2015).

Indeed, effective corporate governance serves as a check-and-balance on the management of a firm's resources for better performance. Poor working capital management results in poor liquidity management, which in turn, leads to cash shortage and insolvency. Similarly, poor governance practices will result in high investment in working capital in the form of inventory and cash, which may result in low profitability and consequently, low returns to shareholders. Furthermore, good corporate governance practices can ensure optimum level of working capital components, including cash, accounts receivable and inventory. Gill and Biger (2013, pp. 117) indicate that, "*excessive cash in the corporate accounts is not necessary in favour of the firm"*. Management potentially can build up unnecessary cash due to poor corporate governance. Faradonbeh and Dolatabadi (2015) support the view by Gill and Biger (2013) that corporate governance plays an important role in formulating policies and strategies relating to working capital management. However, few researchers have concentrated on exploring SMEs in this context, even though SMEs are recognised as the engine of economic development (Lappalainen & Niskanen, 2012).

Rajan and Zingales (1995) argue that, 'SMEs may find it relatively more costly to resolve informational asymmetries with lenders and financiers which relegate them to the use of internally generated funds. Hence, efficient management of resources is imperative to minimise waste which increases operational cost and consequently affects a firm's profitability. According to Abor and Biekpe (2007, pp. 290), "*good corporate governance practices assist SMEs in improving on their prospects of obtaining funding from investors and financial institutions*".

In recognition of the importance of the SME sector, different policies and programmes have been put in place by different countries, international organisations, such as the World Bank and other supporting agencies for SMEs' development (Boonpattarakan, 2012). For instance, in Nigeria, since the 1970s, several policies, programmes and initiatives have been put in place by different administrations in an effort to stimulate SMEs' development through infrastructural development, adequate funding and advisory services. These policies and programmes include Small-Scale Industries Credit Scheme (SSICS), Nigerian Bank for Commerce and Industries (NBCI), Nigeria Enterprises Promotion Decree, Small and Medium Enterprises Equity Investment Scheme (SMEEIS) and the Small and Medium-Scale Enterprises Development Agency of Nigeria (SMEDAN) (Oyedijo et al., 2012; SMEDAN/NBS survey, 2012). Furthermore, the National Enterprises Development Programme (NEDEP) was introduced in 2003 to address the needs of the SMEs in the areas of access to affordable finance, access to market, capacity support, business development services and formalisation of business operations. In addition, a reduction of 50% business registration cost for small businesses was made for capital conservation.

However, in spite of all these efforts by the Nigerian government, the SMEs are found to be underperforming in terms of employment generation, poverty reduction, provision of goods and services and contribution to Gross Domestic Product (GDP) (CBN, 2012, SMEDAN/NBS, 2012). For instance, the SME sector's contribution to employment generation in Nigeria was 58%, 70% and 60% for the years 2001, 2007 and 2012, respectively (NBS 2011; SMEDAN/NBS, 2012). This is against the World Bank's benchmark of 95% for the Middle Income Countries (World Bank, 2011). In terms of contribution to GDP, the Nigerian SME

sector's contribution dropped to 46.54% in 2012 against 62.1% and 50% in 2001 and 2007, respectively. In addition, these figures are far below the World Bank's projection of 70% SMEs' contribution to GDP in the Middle Income Countries (World Bank, 2011).

Another discouraging factor is the higher bankruptcy rate of SMEs in Nigeria. This is evident in the failure of HiTV Nig. Ltd., Leventis Store, Stationery Store, Michelin Nig. Ltd. and other firms in the textile industry, food and drinks companies, flour mills and paper mills. Toby (2007); Okpara (2011); and Sunday (2011) affirm that the bankruptcy rate of SMEs is higher within the first 2 – 5 years of their establishment. Studies have also shown that five out of 10 SMEs die within the first 12 months of establishment while two survived after 10 years; also, out of every 100 SMEs in the past ten years, only 33% survived, 39% died while 28% operated at half capacity (Ademola, Olaleye, Olusuyi, & Edun, 2013). The study further adds that the Corporate Affairs Commission (CAC) delisted 35,000 registered business names from the list of active businesses, of which majority were SMEs in 2010.

Specifically, according to the Director-General of the SMEDAN and the Governor of the CBN (*CBN*, 2012; SMEDAN/NBS, 2012), the contribution of SMEs to the Nigerian economy is low as compared to its contemporary Asian Emerging Economies, such as China, Indonesia, Malaysia, India and Singapore despite its resource endowment. They further affirm that the major challenges facing SMEs' development in Nigeria are lack of access to external finance and infrastructural facilities, poor resources management related to governance and working capital management (including cash) and poor records keeping, all of which result in low profitability,

growth and failure of many SMEs (Okpara, 2009; Sunday, 2011; SMEDAN/NBS, 2012; Ademola et al., 2013).

One of the reasons for the SMEs' low performance is the inefficient working capital management and poor governance practices. It is believed that weak corporate governance led to the recent corporate failure in Nigeria (SEC. 2011). Furthermore, Okpara (2011); Ihua (2009); and SMEDAN/NBS (2012) identify inefficient and poor management of working capital components, such as cash, inventories, receivables and payables as major factors that account for SMEs' low performance in Nigeria.

In addition, studies on WCM and firm profitability show mixed results. For example, Shin & Soenen (1998); Deloof (2003); Filbeck and Kruenger (2005); Lazaridis and Tryfonidis (2006); Garcia-Teruel and Martinez-Solano (2010); and Nobanee, Abdullatif and AlHajjar (2011) find a significantly negative relationship between cash conversion cycle and firm's profitability. Furthermore, Hayajneh and Yassine (2011) find a negative relationship between WCM efficiency and firm's profitability and risk. However, Padachi (2006); and Mustafa (2011) find a positive relationship between WCM and its components with firm's profitability. Gill et al. (2010); Muhammad et al. (2010); Abuzayed (2012); Samson et al. (2012); and Charitou, Elfani and Lois (2010) find a positive relationship between cash conversion cycle and firm's profitability. Gill et al. (2010) further observe that previous studies have somewhat ignored other components of working capital, such as corporate cash holdings which have a significant impact on WCM and firm's profitability relationship.

It is further argued that most of the previous literature on the WCM and CG relationship with firm's profitability have basically focused on large companies listed on the various Stock Exchange Markets mostly in developed economies (Shin & Soenen, 1998; Deloof, 2003; Filbeck & Krueger, 2005; Falope & Ajilore, 2009; Baños-Caballero et al., 2012), despite the fact that SMEs are the key to any economy in the developing world and still the most dynamic force for economic growth and development (Okpara, 2011; Sunday, 2011).

Based on the above reported mixed and conflicting findings in the literature, more studies on working capital management and firm's profitability are required to shed light on the issue. Gill and Biger (2013), in their study, utilise cash holdings and cash conversion efficiency as dependent variables. The study by Sutanto and Pribadi (2012); and Goel (2013) suggests future studies to consider efficient working capital management and firm's profitability model, specifically for the non-listed companies (SMEs). Accordingly, efficiency in the management of working capital is also introduced as a new variable in this study based on suggestions by Ramachandran and Jankiraman (2009).

1.3 Research Questions

On the basis of the above problem statement, the following research questions are formulated for testing:

1. Does cash conversion cycle have any impact on the SMEs' profitability in Nigeria?

2. Does number of days of accounts receivable have any impact on the SMEs' profitability in Nigeria?
3. Does inventory holding period have any impact on the SMEs' profitability in Nigeria?
4. Does number of days of accounts payable have any impact on SMEs' profitability in Nigeria?
5. Does a firm's cash holding have any impact on the SMEs' profitability in Nigeria?
6. Does cash conversion efficiency have any impact on the SMEs' profitability in Nigeria?
7. Do corporate governance (family ownership, board size and women on the board) have any impact on the SMEs' profitability in Nigeria?

1.4 Research Objectives

The main aim of this study is to empirically investigate the impact of working capital management and corporate governance on the SMEs' profitability in Nigeria. In addition, the study aims to examine the working capital management performance of the Nigerian SMEs and its impact on SMEs' profitability. In other words, the study focuses on the impact of working capital management components and corporate governance on the SMEs' profitability in Nigeria for growth and sustainability. This could be achieved through increased profitability to refinance SMEs' growth in Nigeria.

The objectives of the study are:

1. To examine the impact of cash conversion cycle on the SMEs' profitability in Nigeria.
2. To examine the impact of accounts receivable period on the SMEs' profitability in Nigeria.

3. To examine the impact of inventory holding period on the SMEs' profitability in Nigeria
4. To examine the impact of accounts payable period on the SMEs' profitability in Nigeria.
5. To examine the impact of a firm's cash holdings on the SMEs' profitability in Nigeria.
6. To examine the impact of cash conversion efficiency on the SMEs' profitability in Nigeria.
7. To examine the impact of corporate governance (family ownership, board size and women on the board) on the SMEs' profitability in Nigeria.

1.5 Scope of the Study

This study extends previous studies by investigating the impact of working capital management and corporate governance on firm's profitability with focus on the SME sector in Nigeria. Specifically, the study examines the relationship of working capital management components and three corporate governance mechanisms with SMEs' profitability. However, the corporate governance mechanisms in this study are limited to three elements: family ownership, board size and women on the board, based on the available data on corporate governance in the financial statement of the sample SMEs. In practice, the SMEs disclose limited corporate information because they are not required by law to comply with the Corporate Governance Code in Nigeria.

The study covers all registered non-financial and non-services SMEs in Nigeria using panel data obtained from the financial statements of the sample SMEs. According to SMEDAN/NBS (2012) joint survey, there are 22,918 registered SMEs in Nigeria. This comprises 21,264 small-sized and 1,654 medium-sized entities. The period of the study is seven years from 2007 - 2013.

Thus, the findings of the study can be generalised to all SMEs in Nigeria because the sample SMEs (except financial and services firms) are drawn from across all the six geopolitical zones in Nigeria. The sample SMEs fall under the definition by the national policy on SMEs in Nigeria (SMEDAN/NBS 2012).

1.6 Significance of the Study

The framework of this study is built on the impact of efficient working capital management and corporate governance on the profitability of SMEs. The motivating factor for selecting the SME sector is the importance of the sector to economic growth, employment generation and poverty reduction in Nigeria. There is very limited literature on SMEs because most of the previous studies in the area of working capital management and corporate governance in relation to firm's profitability are on large corporations, usually listed on the Stock Exchange Market (Banos-Caballero et al., 2010; 2012).

It has been observed that studies in relation to working capital management and corporate governance on SMEs' profitability has been given little attention despite the current assets (working capital) constituting more than 60% of the SMEs' total assets (García-Teruel & Martínez-Solano, 2007; Samson et al., 2012). Furthermore, this area in African countries, especially the Sub-Sahara African countries, has not been researched much because most of the previous studies have been conducted in developed countries, such as the USA, the UK, Japan

and some other European countries (Deloof, 2003; Filbeck & Krueger, 2005; Gill et al., 2010; and Baños-Caballero et al., 2010; 2012).

Therefore, the major contributions of this study towards the body of knowledge are both theoretical and practical. Theoretically, the study offers factual conclusion on the impact of the individual components of working capital, including SMEs' cash holdings and three corporate governance mechanisms on the SMEs' profitability in Nigeria. The study investigates the impact of working capital management efficiency and corporate governance on the SMEs' profitability in Nigeria. To the best of my knowledge, it is the first study which recognises the effects of working capital management and corporate governance simultaneously on the SMEs in Nigeria, specifically before unification of the Corporate Governance Code. Also, the study contributes theoretically by employing the resource-based theory, profitability-liquidity trade-off theory and pecking order theory on the relationship between working capital management and corporate governance with SMEs' profitability. Further, the study contributes by adding to the existing literature on working capital management and corporate governance on SMEs in developing economies, where the literature is inadequate, especially in Nigeria and other Sub-Saharan African countries.

Practically, this study provides guidance to SME owners/managers, particularly on efficient working capital management and good corporate governance practices for improvement of their financial management decisions and strategies, including improving their capacity to utilise their firm's short-term resources internally for attaining growth and sustainability coupled with their

financial constraints. Specifically, studies have shown that there is higher bankruptcy rate of SMEs in Nigeria, especially at the earlier stage, usually within the first 2 – 5 years of establishment (Ihua, 2009; Ayanda & Adeyemi, 2011; Okpara, 2011). This may be due to their inability to obtain external finance in the capital market due to information asymmetry (Shin & Soenen, 1998; Petersen & Rajan, 1997; Baños-Caballero, et al. 2010, 2012); and the poor attitude towards efficient resources management as a result of poor financing, risk aversion and financial management strategies (Olorunshola, 2003; Ebben & Johnson, 2011; Baños-Caballero et al., 2012; Al-mwalla, 2012). Thus, the result of this study could serve as a means to sensivitise the SMEs on the significant impact of efficient working capital management and good corporate governance in increasing the entities' value and financing strategy.

Further, the government and its agencies and other SME regulatory and policy making bodies are particularly interested in the performance, growth and survival of SMEs for sustainable economic development in Nigeria and other Sub-Sahara African countries. This is in line with the fact that SMEs have been fully recognised as the prime mover of sustainable economic development and a driving force of economic growth, employment generation and poverty reduction (Okpara, 2011). Hence, the result of this study may assist the Nigerian government in formulating policies relating to SMEs' development. Furthermore, the result of the study sheds some light on working capital management, corporate governance and firm's profitability to future researchers. Equally, support institutions, such as management consultants and financiers, may benefit by understanding the areas of strengths and weaknesses of SMEs in Nigeria and other Sub-Saharan African countries for possible improvement.

1.7 Organisation of the Study

The remaining part of the work is organised as follows. Chapter 2 reviews the important concepts and literature on working capital management and corporate governance. In particular, the working capital management components include cash conversion cycle, inventory holding period, accounts receivable period, cash and accounts payable period and the cash conversion efficiency; while the corporate governance mechanisms are family ownership, board size and women on the board. It is then followed by review of SMEs development and the constraints in Nigeria. The relationship of working capital management and corporate governance with SMEs profitability is developed based on three established theories, namely the resource-based theory, profitability and liquidity trade-off theory and the pecking order theory.

Chapter 3 describes the proposed methods and techniques utilised in the study. It also includes research hypotheses, framework and design, operational definitions, measurement of variables, population of the study, sample size, data collection procedures and techniques of data analysis. Chapter 4 provides an overview of the data collected, sample description and the statistical results, including the descriptive statistics, correlation analysis and regression analysis. The Chapter also presents the findings of the study and the discussions on the relationship between WCM and CG with SMEs' profitability.

Chapter 5 summarises the findings of the study, test of the study hypotheses and the contribution of the study to the body of knowledge, methodology and the managerial implications of the

findings. Further, the Chapter provides the limitations of the study and the suggestions for future studies and the final conclusion.

1.8 Summary of the Chapter

This chapter discusses the background of the study, the problem statement, the research questions and objectives, scope of the study and the significance of the study. This study aims to investigate the impact of working capital management and corporate governance on SMEs in Nigeria. It thus fills the gap in the existing literature regarding the impact of working capital management components and corporate governance mechanisms which include cash, inventory, accounts receivable and accounts payable, board size, women on board and ownership structure on the SMEs' profitability in Nigeria. As shown in the previous studies, working capital management has a significant impact on firm's growth and sustainability. Therefore, the outcome of the study may add value to the previous studies that have focused mostly on large companies with very little attention to SMEs. Hence, this study looks into the phenomenon from the SMEs' perspective in a developing economy (Nigeria), where most SMEs are constrained by inadequate financing and poor financial management.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses about the literature related to working capital management, corporate governance and firm's profitability with much emphasis on SMEs. The chapter comprises nine sections. Section 2.1 is the introduction, while in Section 2.2, the underpinning theories utilised in this study are presented. Next, Section 2.3 explains the concept of working capital management (WCM). Section 2.4 explains the concept of corporate governance and Section 2.5 discusses the concept of profitability. Section 2.6 describes the SMEs in Nigeria; while, Section 2.7 links WCM and SMEs' profitability and finaaly Section 2.8 presents a summary of the related literature.

2.2 The Underpinning Theories

The framework of this study is supported by many leading theories that explain firm behaviour and practices. Although there are many theories in relation to corporate financial management, particularly related to working capital management (WCM), the following are found to be more related and suitable to this study. These theories are adopted for this study in order to test the research questions and the relevant variables to direct the study.

2.2.1 Resource-Based Theory

The resource-based theory was developed by Penrose (1959) who postulates that, "a company should be considered as a collection of both human and material resources bound together in an organisational structure". Similarly, resource-based theorist, Wernerfelt (1984), adds that firm owners and managers can create competitive advantages for their firms when they accumulate operational resources (i.e., tangible and intangible assets) that are rare, valuable and hard to duplicate. Thus, the main concern of the theory is how firm's resources are developed and how they affect its performance (McIvor, 2009). However, Barney (1991) argues that firm's behaviour and practices are directed by its resources that might open up or limit its operations.

According to Westhead, Wright and Ucbasaran (2001), the resource-based theory has been adopted in different studies on the development of small business entities. Hence, the theory explains the differences in the behaviour between small firms with limited resources and large firms with large volume of resources or within the small firms. Therefore, the resources available to SMEs may be related to its level of profitability. An entity with high investment in working capital, if efficiently managed, might generate high profit and vice versa.

The resource-based theory can be linked to the variables of the study (working capital management components and corporate governance mechanism) by explaining the relationship between firm's resources and its level of profitability. For instance, the independent variables used in this study are the main components of working capital (short-term resources) that are

utilised on a daily basis with the aim to make profit (dependent variable). With respect to corporate governance, the major tasks of SMEs' board of directors are to formulate policies and strategies that are related to efficient utilisation of the firms' short-term resources. Through good governance practices, firms' profitability can be improved and consequently increase the shareholders' wealth. For example, with respect to family ownership, Dyer (2006) argues that some family influence can result in different agency benefits and resources which can improve firm's performance. Similarly, the resource-based theory assumes a positive association between board diversity (gender inclusive) and firm's performance (Barney 1991).

2.2.2 Profitability-Liquidity Trade-off Theory

Profit is the amount by which a firm's total revenue exceeds its total cost; while liquidity is the firm's ability to meet its current liabilities using its current assets (Eljelly, 2004; Saluja & Kumar, 2012; Zainudin, 2008). Profitability and liquidity are vital issues in corporate finance literature (Patel, 2013; Reddy, 2015; Mwizarubi, Singh & Prusty, 2015). Traditionally, profitability-liquidity trade-off theory is a capital structure theory (Modigliani & Miller, 1958), like other capital structure theories (Cole, 2008).

Thus, profitability-liquidity trade-off theory presents a model of how a company should arrange its finances to optimise profitability and expand the business operations. In other words, profit maximisation is the goal of any business organisation. Similarly, a firm should have enough funds in the form of cash or near-cash assets to meet its financial obligations. In addition the

trade-off theory can explain the cost and benefit of holding cash for a significant business operation (Iturralde & Maseda, 2004). Both profitability and liquidity are significant for the successful operations of a firm.

According to Saluja and Kumar (2012); and Niresh (2012), profitability and liquidity are two conflicting goals of working capital management which lie at two extreme ends that require a trade-off. Hanuman and Dash (2009) argue that a small investment in working capital can enhance a firm's profitability but may affect its liquidity, as current assets are more costly than fixed assets. When a firm decides on high profitability, it means moving away from liquidity and vice versa. So there is a middle ground between the two extremes where the firm is to reside and efficient working capital decision should target this level for ensuring firm survival and growth (Saluja & Kumar, 2012; Niresh, 2012).

Thus, firm's profitability and liquidity are significantly influenced by the way working capital is being managed (Shin & Soenen, 1998; Awad & Jayyar, 2013). Smith (1980) is the first to signal the need for trade-off between profitability and liquidity of working capital management. He adds that management decisions that tend to maximise profitability do not guarantee adequate liquidity. Equally, decisions that focus entirely on liquidity may tend to reduce profitability.

The profitability-liquidity trade-off theory can be linked to working capital management and corporate governance practices in the SMEs because of their limited resources due to inability to

obtain external financing from the financial market, such as banks and other credit institutions. SMEs are characterised by information asymmetry which makes it difficult to make effective decisions. This is in line with Oncioiu's (2012) findings that financing is a crucial constraint to SMEs' development. Therefore, a firm is always required to strike a balance between liquidity and profitability goals in its short-term operational decision for achieving a sustainable growth. Any additional financing can positively improve a firm's growth and liquidity which can lead to sustainability.

2.2.3 Pecking Order Theory

This theory was first developed by Donaldson in 1961 and it was later modified by Myers and Majluf (1984). The theory postulates that in corporate finance, a firm's cost of obtaining financing increases with its level of asymmetric information. A firm's financing comes from two sources: internally generated and externally generated financing, which is subdivided into debt and equity financing. The asymmetric information influences the firm's choice between internal and external financing; and between debt and equity financing. Therefore, this resulted in the development of the pecking order theory for a firm's financing needs (Owolabi & Obida, 2012).

The principle of the pecking order theory assumes that firms arrange their financing sources in the order of preference, first by preferring internal financing, then debt, and using equity as a last resort. Thus, the theory maintains that a firm does adhere to its hierarchy of financing sources. Internal financing is preferred when available; then external financing and debt financing are

preferred over equity if external financing is required. Myers argues that in corporate finance decisions, equity financing is a less preferred means of raising funds because managers are assumed to know the true condition of the firm compared to investors. Therefore, unless internal financing is used and depleted, then debt is issued and unless it is no longer possible for a firm to raise funds from debt, equity is issued.

The pecking order theory is linked to SMEs because they are characterised by information asymmetry, where managers and insiders possess private information on the firm's return stream and other investment opportunities. Similarly, SMEs are characterised by a high degree of risk in business and this makes it difficult for SMEs to secure external financing. Hence, SMEs have to rely on internal sources of financing, retained earnings and trade credit by way of efficient working capital management as the major source of financing investment projects and operations. Thus, efficient management of the working capital components by optimising each of the components might improve SMEs' profitability and consequently increase internally generated funds to finance investment projects for growth and sustainability.

Table 2.1

Summary of Literature on the Underpinning Theories

Author(s) and year	Title	Sample	Findings
Eljelly (2004)	Liquidity-profitability trade-off: An empirical investigation in an emerging market	Saudi Arabia/ 1996–2000/ 29 listed firms	Significantly negative relationship between firm's profitability and liquidity
Saluja & Kumar (2012)	Liquidity and profitability trade-off: A study on Airtel Bharti Ltd.	India/ 2005-2006/ /Airtel Bharti Ltd.	Negative relationship between profitability and liquidity
Zainudin (2008)	Tracking the credit collection period of Malaysian SMEs	Malaysia/1999–2002 /279 SMEs	Different sectors have different average collection period (ACP). Negative correlation between ACP and firm's profitability
Niresh (2012)	Trade-off between liquidity and profitability: A study of selected manufacturing firms	Sri Lanka/ 2007-2011 /31 listed manufacturing firms	No significant relation between liquidity and profitability
Iturralde et al. (2004)	Cash management routines: Evidence from Spain	Spain/4,699 Spanish firms	There is a culture of cash management in the Spanish firms
Dash & Hanuman (2009)	A liquidity-profitability trade-off model for working capital	India/ 2004 -2009 / Vijaya Krishna Spice Farms Ltd.	Excess liquidity of inventory converted to fixed assets to improve profitability
Oncioiu (2012)	Small and medium enterprises' access to financing – a European concern: Evidence from Romanian SMEs	Romanian/2007 –2009 /Romanian SMEs	Access to financing is a priority issue in the actual economic situation for the SMEs
Owolabi & Obida (2012)	Liquidity management and corporate profitability: Case study of selected manufacturing companies listed on the Nigerian Stock Exchange	Nigeria/2005 – 2009 / 12 manufacturing firms	Credit policies, cash flow management and cash conversion cycle show significant impact on firm's profitability
Awad & Jayyar (2013)	Working capital management, liquidity and profitability of the manufacturing sector in Palestine	Palestine /2007 – 2012 / 11 manufacturing firms	Bidirectional and causal relationship between working capital management and gross operating profit
Reddy (2015)	Trade-off between liquidity and profitability: A study on Tata Steel Ltd	India/ 2009/2010– 2013/2014 - Tata Steel Ltd	A negative relationship between liquidity and profitability.
Mwizarubi et al. (2015)	Liquidity-profitability trade-off in commercial banks: Evidence from Tanzania	Tanzania / 2006 – 2013 / 34 banks	No significant relationship between profitability and liquidity.

2.3 Working Capital Management

There are many studies in the field of working capital management in relation to firm's performance, profitability and financing. For instance, Shin and Soenen (1998) investigated the efficiency of working capital management of a sample of USA firms for the period 1975 - 1994. Deloof (2003) investigated how working capital management affects profitability of a sample of Belgium firms for the period 1992 - 1996.

Other researchers, including Gill et al. (2010), studied the relationship between working capital management and corporate profitability of a sample of USA manufacturing firms in the period of 2005 - 2007. Ching, Novazzi and Gerab (2011) investigated the influence of working capital management on profitability of a sample of Brazilian companies within the period 2005 - 2009. Charitou, Elfani and Lois (2010) examined the influence of working capital management on firms' profitability in the emerging Asian countries using dataset of all Indonesian firms over the period of 1998 - 2010. The previous studies imply the relevance of efficient management of working capital to the growth and sustainability of business entities, whether large or small. Martínez-Solano and García-Teruel (2007); and Afeef (2011) argue that an efficient working capital management increases a firm's profitability and financing. Ademola (2014) adds that working capital management is central to a firm's growth and sustainability.

Every organisation, profit or non-profit oriented, large or small, manufacturing or trading or service providers, needs requisite amount of working capital. Efficient working capital management is an important strategy for a firm's survival, liquidity (solvency) and profitability

aspiration (Ramachandra & Jankiraman, 2009). Working capital management means management of short period resources of business (current assets) and short period obligations (current liabilities) (Filbeck & Krueger, 2005). It involves the relationship between a firm's current assets and current liabilities. That means the relationship between a firm's short-term investments and short-term financing, usually within one accounting period (Bhunia & Das, 2012). Sabri (2012); and Takon (2013) describe working capital management as a criterion of a debtor's ability to pay debt when it falls due. Furthermore, working capital management is defined as representing operating liquidity available to a business (Ni, Huang & Tung, 2012).

To analyse a firm's working capital, two approaches are commonly used: ratio analysis approach and analysis of individual components of working capital. For the ratio analysis approach, some of the key performance ratios of the working capital management are used, such as the working capital ratio, liquidity ratio, debtors' ratio and inventory turnover ratio (Raheman, Qayyum & Afza, 2011). Ratio analysis assists owners/managers to ascertain the areas of focus, like liquidity management, inventory management and/or trade credit management. The second approach analyses the firm's working capital measures based on the individual components of the working capital, such as the use of cash conversion cycle, days of accounts receivable, inventory days and days of accounts payable. In this study, the individual components of working capital management are analysed based on the number of days taken by a firm in a year for each of the components. This approach assists managers to optimise each of the components of the working capital for increase in the firm's profitability and value (Deloof, 2003; Gill et al., 2010; Baños-Caballero et al., 2010; 2012; Ademola, 2014).

2.3.1 Objectives of Working Capital Management

The main aim of working capital management is to maintain a balance between liquidity and profitability by optimising each of the components of working capital (Filbeck & Krueger, 2005; Takon, 2013). This means working capital should be sufficient to ensure liquidity, but not too much as it can diminish the firm's profitability (Padachi, 2006). According to Savita (2011), the objectives of efficient working capital management are:

- To optimise investment in current assets and to minimise the level of current liabilities for improvement in the return on capital employed and reduce capital tied up in working capital;
- To ensure that the firm is in a position that properly supports its current obligations with its current assets available; and
- To effectively manage the firm's short-term resources so that the marginal returns on the investment is greater or equal to the cost of capital employed to finance it.

Therefore, to ensure that a firm can sustain its operations and has adequate resources to pay its short-term debts and forthcoming operating costs, efficient working capital management is highly desirable for high firm performance (Aktas, Croci, & Petmezas, 2015). Hence, the viability of any business depends on the ability of the business to effectively manage its accounts receivable, its inventory and cash. However, this is not always simple since the financial manager has to make sure that the firm's operations are geared towards efficient and profitable operations. According to Bhunia and Das (2012), possibilities of conflict may occur in the

process of matching the current assets and current liabilities, and if this happens and the manager is unable to manage the components effectively, it will affect the firm's profitability.

2.3.2 Significance of Working Capital Management

Previous studies have demonstrated the link between efficient working capital management and firm performance, particularly how vital it is to SMEs. According to Samson et al. (2012), more than half of the resources of small businesses are in the form of current assets and current liabilities and these constitute the major source of SMEs' external financing due to their inability to secure funds in the capital markets. Generally, the day-to-day financial undertakings of SMEs are normally supported by working capital, such as purchasing of raw material for production, payment for business running expenses and financing of credit sales (Samson et al., 2012). Thus, the significance of working capital is undisputable, especially since financial decision-making of SMEs is part of investment in assets. This clearly shows that working capital is the lifeblood of any business entity which requires effective and efficient management.

Sunday (2011) investigated the different working capital management strategies of a sample of SMEs in Nigeria. The study reveals that the SMEs show a sign of overtrading and illiquidity. Thus, working capital management satisfies financial needs of SMEs. Etiennot et al. (2012) argues that it is possible for Latin American firms to present higher constraints to arrive at optimal figures both in terms of investment and financing. Working capital management supports both profitability and the financing needs of the SMEs (Afza & Nazir, 2007).

Similarly, Azam and Muhammad (2011) analysed the effects of working capital management on the performance of non-financial firms listed on the Karachi Stock Exchange (KSE). The finding of the study shows significant impact of working capital management on the firms' performance; they conclude that managers can create value for the shareholders and improve the return on assets ratio by reducing the inventory holding period, the length of the cash conversion cycle and the net trading cycle.

Raheman et al. (2011) investigated the effects of working capital management on a firm's profitability using ratio analysis. The study used a sample of manufacturing firms listed on the KSE during the period of 1998 - 2007. The findings of the study show that working capital management has a strong effect on the performance of manufacturing firms listed on the KSE. It affirms that efficient working capital management has a direct bearing on the firms' profitability, liquidity and productivity, including investment in fixed assets. On the other hand, inadequate working capital can be a serious threat to growth and survival of manufacturing firms.

In another study, Arunkumar and Radharamanan (2012) analysed the effects of working capital management on corporate profitability of Indian manufacturing firms with a sample of 1,198 firms. The study suggests that firms have to maintain a comparatively long period of inventory and accounts payable and investments in current assets to be equal to the amount of current liability to ensure liquidity. Koumanakos (2008) used a sample of 800 Greek manufacturing firms to test how efficient inventory management can improve the financial performance of the sampled firms within the period of 2000 - 2003. The finding of the study indicates that holding

large volume of inventory can affect the firms' rate of returns. Thus, finding of the study shows the significance of inventory management on the firms' profitability and suggests efficient inventory management to increase firms' profitability. Similarly, Deloof (2003) investigated the relationship between working capital management and firm's profitability. The outcome of the study indicates a significantly positive impact of working capital management on the profitability of a large sample of Belgian firms. Therefore, he suggests that managers can create value for their shareholders by shortening the accounts receivable period and inventory holding period.

In a nutshell, the findings of all the above studies indicate the significance of working capital to corporate liquidity and profitability for business growth and sustainability. Thus, efficient working capital management is highly desirable to SMEs for meeting maturing short-term debts and other operating expenditures. Similarly, efficient working capital management can improve SMEs' profitability and liquidity which consequently can enhance the shareholders' value. In other words, SME owners/managers can increase value of their shareholders and return on assets by reducing the cash conversion cycle, days of accounts receivable, inventory holding period and prolong accounts payable period to a reasonable level (Baños-Caballero et al., 2012).

2.3.3 The Nature and Theory of Working Capital

Working capital refers to the short-term capital needs for the day-to-day operations of an enterprise. These comprise a cycle of four principal working capital elements: inventory, accounts receivable, incoming cash and accounts payable (Paul & Boden, 2011). It is

represented by short-term resources (current assets) and short-term obligations (current liabilities). According to Adeniji (2008), working capital management is the administration of a firm's items of current assets and current liabilities.

The current assets items include inventory (i.e., raw materials, work-in-process and finished goods), accounts receivable and cash (i.e., liquid cash and demand deposit) and marketable securities; while the current liabilities items include trade creditors, accrued operating expenses and debts. Working capital can be permanent or temporary. Permanent working capital is the amount of working capital which is required and maintained by the firm over a period while temporary working capital is the part of working capital which fluctuates up and down with seasonal nature of the business (i.e., high in one period and low in another period). Working capital can be gross working capital or net working capital (Al-Debi'e, 2011; Samson et al., 2012).

Gross working capital is the sum of the current assets of the entity within a given accounting period, which includes inventory, debtors or accounts receivable, marketable securities, prepayments, bills receivable and cash (in the bank and in hand). According to Sunday (2011), this concept advocates that an entity should possess adequate and sufficient working capital to meet its operating cycle. A firm should therefore ensure an adequate investment in current assets but should avoid holding excessive inventory and cash because too much of these assets, though resulting in excess liquidity, can potentially lead to loss of income and profit. On the other hand, net working capital is the excess of firm's total current assets over total current liabilities. The

concept emphasises on the firm's level of liquidity which can be positive or negative. Similarly, net working capital concept advocates financing of the working capital using permanent sources of funds, such as common stock, preferred stock, debentures and/or retained earnings (Sunday, 2011).

Samson et al. (2012) opined that a firm with insufficient working capital is bound to suffer financial distress. The business operations of such firm will be affected, as well as its profitability level, which can consequently affect its growth and sustainability. Entities under this condition have to utilise their short-term source of funds to finance their operations. Hence, business entities must have sufficient funds to finance their operations to ensure continuity and growth. The following are the effects of insufficient working capital on a business entity as stated by Samson et al. (2012):

- Stagnant growth**:** A firm with insufficient working capital may face difficulties to pursue new opportunities or develop new products or alternative production processes when the need arises.
- Loss of credit opportunity**:** A firm may be unable to secure credit opportunities due to inadequate working capital because most suppliers require a certain liquidity level of a customer before accepting large orders. In contrast, suppliers are normally willing to offer goods on credit to customers with sufficient working capital (adequate liquidity).
- Loss of cash discount**:** This is another effect of insufficient working capital. On many occasions, customers make early payment of their bills because they want to enjoy cash

discount off the actual price. Therefore, a firm with inadequate working capital may not enjoy this additional income.

- Loss of goodwill**:** Normally, firms with history of good reputation and high liquidity can expect cooperation from its suppliers in the event of financial difficulties; while a firm with the liquidity level that cannot honour short-term obligations may lose its reputation and consequently, face tight credit terms from suppliers.
- Loss of control**:** A firm with persistently insufficient working capital may resort to using short-term debts to finance its operations. However, if the debt reaches a certain level, the creditors may be unwilling to extend further loans to such a firm, because an additional loan will jeopardise the survival of the firm since it relies on creditors**.**

2.3.4 Working Capital Management Policies and Strategies

As earlier stated, working capital management has different policies: there is aggressive policy and conservative and/or moderate policy (which is somewhere between aggressive and conservative policy). Generally, it is a matter of firm policy or decision to adopt either conservative policy by maintaining a lower ratio of current assets to total assets or to adopt aggressive policy by having more investment in current assets and holding high ratio of current liabilities to total liabilities. However, adopting any of the aforementioned policies may have an effect on the firm's liquidity and consequently, on its profitability (Horne & Wachowicz, 2004).

Higher volume of current assets, although ensuring smooth operations, increases operation costs and has a negative effect on the firm's profitability, whereas, very low level of current assets

may result in risk of liquidity and stock-outs (Aktas et al., 2015). According to Al-Mwalla (2012), firms that follow conservative working capital management policy may have positive effects on their profitability and value, whereas firms with aggressive working capital management policy may have negative effects on their level of profitability. Al-Mwalla further affirms the positive effects of firm size, sale growth, firm age and fixed financial assets on the firms' profitability and value whereas leverage exhibits a negative effects on firms' profitability with a significant effect on the firms' value.

According to Anand and Gupta (2001, pp. 3), '*a well-designed and implemented working capital management must contribute positively to the creation of a firm's value*'. A firm can follow conservative working capital financing policy by having too much investment in current assets, inventory and accounts receivable. These reduce the firm's level of profitability and value. On the other hand, a firm can adopt an aggressive working capital financing strategy by having small investment in inventory and accounts receivable, which leads to high risk of illiquidity.

The two main approaches to working capital management are static and dynamic approach (Moss & Stine, 1993). The static approach or dimension focuses on the use of traditional liquidity ratios, such as current ratio and quick ratio computed from the firm's balance sheet figures. These ratios measure the firm's liquidity at a given period. On the other hand, the dynamic approach measures on-going liquidity from the firm's operations. This view is supported by Samson et al. (2012) that the two main approaches to working capital management are: the management of individual working capital components and the ratio analysis approach.

Samson et al. (2012) add that the key working capital management ratios are: the working capital ratio, stock turnover ratio and the debtor's turnover ratio. The importance of these ratios is to assist management in short-term operational decisions.

2.3.5 Working Capital Cycle (WCC)

Working capital cycle measures the time between paying for goods supplied to a firm and the final receipt of cash from sales. It is defined as the amount of time it takes to turn the net current assets and current liabilities into cash (Horne & Wachowicz, 2008). The longer the cycle, the more a business is tying up capital in its working capital without generating a return on it. It is therefore desirable to keep the cycle as short as possible as it increases the efficiency of the working capital. Hence, firms should strive to minimise their WCC by speeding up receivable collections as quickly as possible or stretching accounts payable.

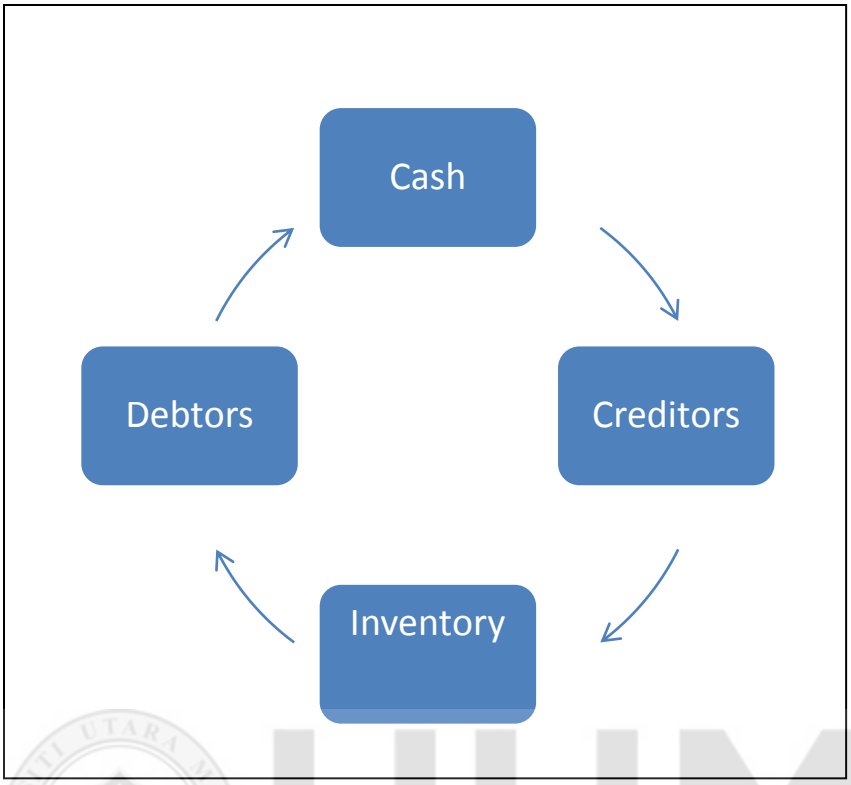

Figure 2.1
Working Capital Cycle
Source: Akinsulire (2008)

2.3.6 Components of Working Capital Management

The items that make up the working capital, according to Adeniji (2008) (who explains that the components of working capital are the short-term assets and short-term liabilities), include: inventory, accounts receivable, marketable securities, cash, accounts payable, accruals, dividends and tax payable. However, the major working capital management components used by the previous studies are cash conversion cycle, accounts receivable represented by days of accounts receivable, inventory represented by inventory holding period and accounts payable represented by days of accounts payable.

Many scholars have related these components to firms' performance or profitability with the aim of ascertaining the relationship between the two variables. Therefore, working capital management can be measured using one or more of these components. In many studies, these components are independent variables and measures of working capital that influence firm's profitability or performance as the dependent variable, for example in Shin and Soenen (1998); Deloof (2003); Filbeck and Krueger (2005); García-Teruel and Martínez-Solano (2007); Mathuva (2010); Gill et al. (2010); Afeef (2011); Baños-Caballero et al. (2010; 2012); and Aminu and Zainudin (2012). However, there are some studies, including Azam and Muhammad (2011); Bhunia and Das (2012); and Biswal, Samantaray and Sahoo (2012), that have used accounting ratios and working capital cycle to measure working capital. This is also done to examine the relationship between working capital management and firm's profitability.

The interrelationship of the working capital components is cyclical in nature and measures the time that the firm pays for goods invoiced to it by suppliers to the time it receives payment from the customers (Takon, 2013). The cycle is referred to as the working capital cycle as shown above and demonstrated as follows. The cycle begins with the time inventories are received from the supplier to the time of its sales to customers. This period is referred to as inventory holding period. Not all customers pay their bills immediately; some pay their bills later. Hence, the period between the sales of the goods to the customers on credit to the time of cash collection is referred to as accounts receivable period. Accounts payable period begins when the firm receives inventories from the suppliers to the time of paying the bill. The effect of the cycle to the firm's cash flow is that when inventories are purchased on credit, this helps the cash flow as there is no immediate payment to the supplier. When the goods are sold to customers on credit,

there will be no inflows of cash immediately. Therefore, to pay trade creditors, the firm has to collect payment from the trade debtors. As such, the firm collects cash payment from accounts receivable in order to pay accounts payable; otherwise, there is going to be a cash flow (i.e., liquidity) problem.

Thus, an efficient working capital management keeps the cycle at a minimum to ensure efficiency and cost minimisation. According to Horne and Wachowicz (2004), the shorter the length of the cycle, the better it is for the firm, as inventories are moving faster, accounts receivable are collected as quickly as possible and the firm takes maximum period to pay accounts payable. In contrast, the longer the cycle, the more capital is required by the firm to finance the working capital.

It is important to note that the right level of working capital depends on the industry and the particular circumstances of the firm. For instance, service businesses do not require cash to pay for inventory; as such, it only requires a small amount of working capital. But a business that takes a substantial amount of time to produce and sell its products will need higher level of working capital.

2.3.6.1 Cash Conversion Cycle (CCC)

Cash conversion cycle was introduced in 1974 by Gitman and modified in 1980 by Richards as an instrument for analysing a firm's cash management and as a predictor of firm outcomes. Gitman (1974) says that cash conversion cycle is one of the major components of working capital management and a standard for measuring the period between payment of cash for raw materials purchased and collection of cash from customers for credit sales. Similarly, Shin and Soenen (1998); Nobanee et al. (2011); Raheman et al. (2011); and Baños-Caballero et al. (2012) describe cash conversion cycle as an additive and popular measure of efficiency of working capital management.

Cash conversion cycle has been defined differently by scholars. For example, according to Richards and Laughlin (1980, pp. 34), cash conversion cycle is, "*the net time interval between actual cash expenditures on a firm's purchase of productive resources and the ultimate recovery of cash receipts from product sales*". Stewart (1995) defines it as a standard measure of the average period of time a firm takes to turn a dollar invested in purchasing raw materials into a dollar collected from receivables. Similarly, Deloof (2003); Besley and Brigham (2007); Lazaridis and Tryfonidis (2006); Nobanee et al. (2011); and Takon (2013) describe cash conversion cycle as the time lag between the payments for the purchase of a firm's raw materials to the time of collection of receivables associated with the credit sales. In effect, cash conversion cycle refers to the time-period between the purchase of raw materials, converting to finished goods and to accounts receivable and then to cash.

The cycle defines the number of days on average taken by a firm from the purchase of inventories on credit to the time of cash collection from customers. Simply, cash conversion cycle measures a firm's accounts receivable period and inventory holding period versus accounts payable period (Deloof, 2003). The cycle process is represented in the model below:

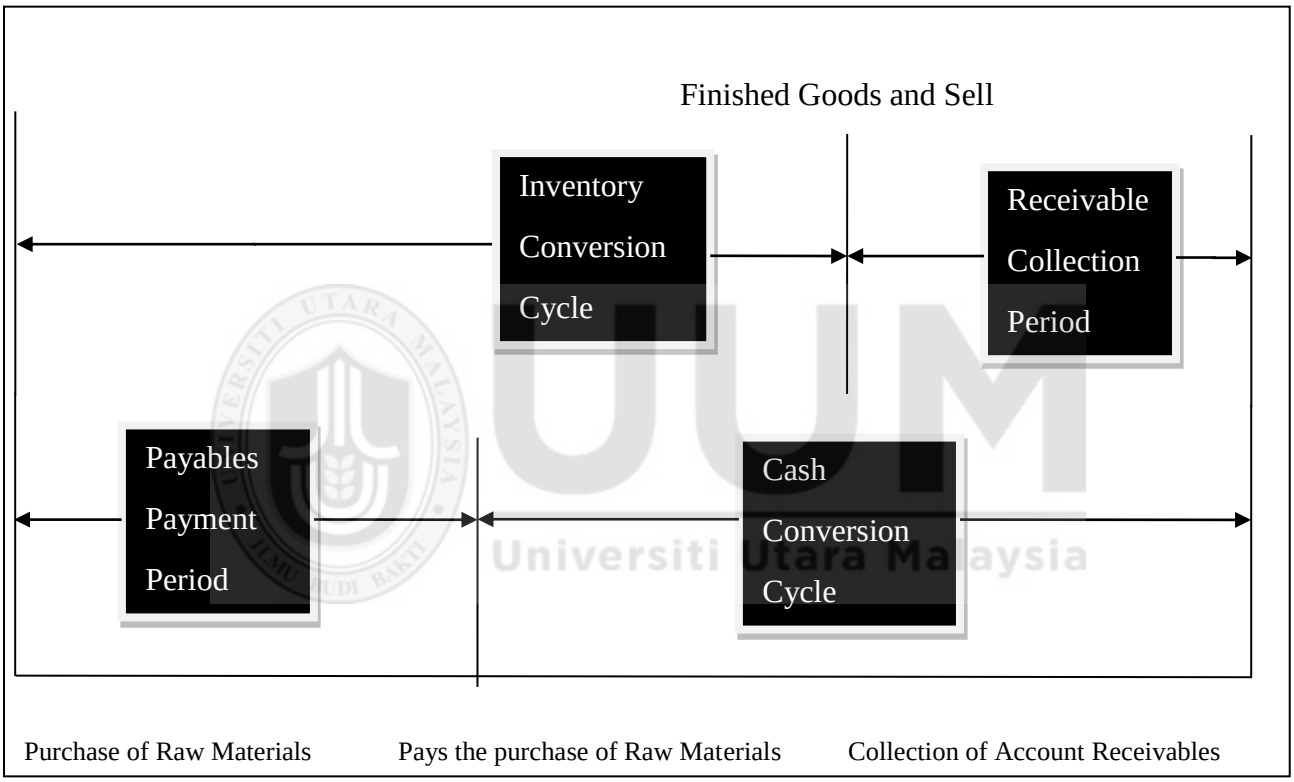

Figure 2.2
Cash Conversion Cycle Model
Source: Hayajneh and Yassine (2011)

Different scholars have used cash conversion cycle as a component of working capital management and a measure of working capital management efficiency (Nobanee & Ellili, 2015). For example, Smith and Begemann (1997); Nobanee et al. (2011); and Takon (2013) use cash

conversion cycle as an independent variable for measuring working capital in relation to corporate profitability and conclude that cash conversion cycle is the most widely (standard) used measure of working capital management efficiency. It is a common tool for evaluating the liquidity and profitability of a business, especially for small businesses that usually have limited financial resources in comparison to large corporations that have unlimited access to financial markets.

Wilson (1997), in his study, found a strong relationship between efficiency in managing cash conversion cycle and the firm's profitability. Sabri (2012) studied the different working capital management policies and the profitability of 45 Jordanian companies listed on the Amman Stock Exchange between the years 2000 - 2007. The result of the study reveals that there are significant differences between firms with high cash conversion cycle and those with low cash conversion cycle. Similarly, Deloof (2003) investigated the relationship between working capital management and corporate profitability of Belgian firms for the period 1992 to 1996 and observed that most of the firms have large amount of cash invested in working capital and large amount of accounts payable. So, the study affirms that firms with cash shortage may face risk of stock-out and cannot extend large trade credit and most of the sample firms source funds by having large amount of accounts payable.

Nobanee et al. (2011) analysed the effects of cash conversion cycle on the performance of Japanese firms. The study utilised a sample of 34,771 non-financial firms listed on the Tokyo Stock Exchange from 1990 to 2004. The finding of the study reveals a strong negative

relationship between the length of the firm's cash conversion cycle and its profitability. This indicates that a shorter cash conversion cycle is associated with higher profitability. Hence, a firm can increase its profitability level by shortening the length of its cash conversion cycle. Efficient cash conversion cycle results in increase in the firm's profitability, whether of large or small firms (Shin & Soenen, 1998). Furthermore, a firm with shorter cash conversion cycle may not require external funding and this leads to incurring less borrowing cost and interest expenses which potentially increase a firm's profitability.

Shin and Soenen (1998) further elucidate that one possible way to increase a firm's profitability and create shareholders' value is by reducing the firm's net trade cycle. Net trade cycle and cash conversion cycle are almost equal where all the three components (receivable, inventory and payable) are expressed as a percentage of sales (Nobanee & Ellili, 2015). Azam and Muhammad (2011); and Takon (2013) also affirm that cash conversion cycle and net trade cycle reveal a significantly negative association with return on assets and return on equity. Thus, a firm's performance can be improved by shortening both the cash conversion cycle and net trade cycle.

Charitou et al. (2010) used net trade cycle as a measure of working capital management. The study examined the effect of working capital management on the return on investment of all Indonesian firms over the period of 1998 – 2010. The finding of the study reveals that firms' profitability is positively associated with its net trade cycle. Similarly, Gill et al. (2010); and Abuzayed (2012), in their studies, report a significantly positive relationship between cash conversion cycle and firm's profitability, which signifies that highly profitable firms give less

attention to efficient management of working capital. However, Afeef (2011) found insignificant association between firm's profitability and cash conversion cycle of 40 sample SMEs listed on the KSE for the period of 2003 – 2008. In addition, Arunkumar and Radharamanan (2012) found that cash velocity is positively correlated with profit before the depreciation of tax account. It appears that if the firms' efficiency in utilisation of cash is increased, its profitability also increases. It also indicates that cash velocity and firm size are positively correlated with profitability of manufacturing firms in India.

The findings of these studies above show some inconsistency on the results; while the latter results report a positive relationship between cash conversion cycle and the firm's profitability, the former reveal a negative association between cash conversion cycle and firm's profitability. Hence, the inconsistency of the findings justifies the need for further research to be carried out in the area and in a different environment. In this respect, this study further investigates the impact of cash conversion cycle on the profitability of SMEs, by empirically testing the trend of the phenomenon in an emerging economy with a less developed financial market, like Nigeria. Essentially, this will expand the boundary of knowledge and create more avenues for further investigation.

2.3.6.2 Inventory Management

Inventory holding period (inventory turnover period or stock holding period or days of inventory or inventory conversion period) is one of the major items of working capital. It is the number of

days on average that a business takes to turn inventories or stock into cash or debtors in a year (inventory turnover per annum) (Azam & Muhammad, 2011). The goal of inventory management is to maintain an optimal level of inventory that ensures continuous and uninterrupted business operations at minimum cost (Koumanakos, 2008; Yusuf & Idowu, 2012).

According to Koumanakos (2008), efficient inventory management is one of the key factors that influences firm's profitability and value (Koumanakos, 2008). Thus, efficient working capital management ensures optimal inventory level that minimises cost and maximises profitability while satisfying customers' demands. Inventories represent a firm's short-term investment which requires efficient management in order to maximise shareholders' value (Savita, 2011). According to Horne and Wachowicz (2004), inventory constitutes the major portion of current assets which a firm holds in the form of either raw materials, work-in-process and/or finished goods. However, this depends on the nature of the business for a manufacturing firm's inventory which can be in all the three forms, (raw materials, work-in-process and finished goods); while for non-manufacturing firms, inventory can only be stock of finished goods. Efficient inventory management involves balancing between the benefits and cost of holding inventory. The question of how much inventory a firm should hold has been extensively discussed in the operational management literature. For example, Koumanakos (2008) elucidates that holding too much inventory involves cash tied up funds in stock which generates no return, increases holding cost and increases possibility of spoilage, damage and stock loss. However, Baños-Caballero et al. (2012) argue that larger inventories can prevent interruptions in the production process due to stock-out and loss of business as a result of scarcity of products and can also reduce supply cost and price fluctuation.

In addition, the benefit of holding stock is that it allows a firm to sell a range of goods which are immediately available to customers at low production costs. According to Savita (2011), there are three motives for holding inventory as follows:

- Transactional motive: under this motive, a firm holds inventory to guard against any interruption in the production process and sales operations.
- Precautionary motive: this is to take care of any unforeseen changes in processing rate and delivery time.
- Speculative motive: this is to take advantage of price instability.

Similarly, empirical studies on inventory management and firm's performance relationship have produced mixed results. This indicates the need for more research to be carried out in order to revalidate and contribute to the existing literature. For example, Deloof (2003) reports that there is a significantly negative relationship between inventory holding period and firm's profitability and suggests that firms can create value for their shareholders by shortening their inventory holding period. This finding is in line with the result obtained by Shin and Soenen (1998).

Koumanakos (2008) found a linear relationship between inventory holding period and accounting-based measure of performance only in the chemical sector of the manufacturing firms of Greece. The scholar concludes that the study is limited in that it uses only one determinant of firm's performance, i.e., inventory, out of several determinants. This suggests considering omitted variables in future research. In their study, García-Teruel and Martínez-Solano (2007); and Azam and Muhammad (2011) report a significantly negative relationship between SMEs'

profitability and the number of days of inventory and days of accounts receivable. Therefore, firms can enhance their profitability level by shortening the number of days of inventory holding.

In contrast, Mathuva (2010) found a highly significant and positive relationship between inventory holding period and profitability of 30 sample firms during the period of 1993 - 2008. This implies that by shortening inventory holding period, stock-out costs of the inventories may increase, resulting in decrease in sales and profitability as well. Further, Vastag and Whybark (2005), in their study of an international group of manufacturing firms, found insignificant association between firm's profitability and inventory turnover ratio. This is in line with Demeter (2003); and Tunc and Gupta's (1993) findings that inventory turnover ratio has insignificant effect on a firm's return on sales.

Gill et al. (2010) found insignificant relationship between average days of inventory holding and firm's profitability of 88 sample USA firms. Voulgaris, Doumpos and Zopounidis (2000) analysed the financial performance of a sample of 143 Greek SMEs using financial ratio analysis. The findings of the study reveal that efficient management of inventory measured by the inventory turnover ratio is positively associated with SMEs' performance. Based on the inconclusive findings reported by the previous studies on the relationship between inventory holding period and firm's profitability, this study extends further investigation on the impact of inventory holding period on the profitability of SMEs, particularly in an developing economy.

2.3.6.3 Accounts Receivable Management

The next important item of working capital is accounts receivable (i.e., average collection period or days of accounts receivable). Accounts receivable period is defined as the number of days a firm takes to collect debts (receivables) from its customers. In other words, it is the number of days a firm takes to collect the amount owing by customers or debtors in a year (i.e., average collection period per annum). According to Horne and Wachowicz (2008); and Savita (2011), accounts receivable constitutes a major portion of current assets of a business concern after inventory. A firm needs a normal stock and debtor's level (permanent working capital) to keep it moving. Thus, firm's profitability is partly affected by accounts receivable management (Biswal et al., 2012). They further assert that an efficient management of receivables will improve firm's performance.

Firms create accounts receivable as a result of trade credit arrangement with its customers in which the customers are allowed to defer payment for the product or services to future date (Savita, 2011). The primary aim of trade credit is to increase sales which consequently can increase a firm's profitability. According to Deloof (2003, pp. 573); and Baños-Caballero et al. (2012, pp. 519), "*trade credit stimulates sales because it allows a customer to assess the product quality before paying*".

Trade credit can be viewed from two perspectives. To the buyer, trade credit is a source of free financing through accounts payable, whereas, to the seller, trade credit is an investment in

accounts receivable. Martínez-Sola, García-Teruel and Martínez-Solano (2014) examined the profitability implications of trade credit for a sample of 11,337 Spanish manufacturing SMEs during the period of 2000 - 2007. The finding of the study suggests that managers can improve firm's profitability by increasing their investment in accounts receivable (i.e., granting more trade credit). They further argue that trade credit plays a major role in the firm's financial decision and on its profitability and liquidity.

In their study, Garcia-Teruel and Martinez-Solano (2010, pp. 519) state, "*firms have a target level of accounts receivable and take decisions in order to reach that level*". Garcia-Teruel and Martinez-Solano further reveal that, firms' decisions to grant trade credit is based on several factors, which include: positive growth in sales, size of the firm, ability to obtain short-term financing, generation of funds internally and GDP growth. An efficient trade credit management ensures speeding up of receivables collection as fast as possible and slowing down of payments to trade creditors as much as possible.

Trade credit here focuses on the seller's side (accounts receivable). Scholars have advanced different motives for trade credit, i.e., why firms grant trade credit to their customers. For example, Martínez-Sola et al. (2014) enumerate four different motives for trade credit: financial motive, operational motive, commercial motive and product quality motive. Poutziouris, Michaeles and Soufani (2005) investigated the trade credit management practices of UK SMEs. The scholars suggest that SMEs owner-managers can minimise firm's operational cost and increase profitability through efficient trade credit management. Similarly, Emery (1984) states

that, firms have an optimal level of accounts receivable where the marginal revenue of the trade credit lending is equal to the marginal cost, and this level produces an optimal credit period. Therefore, firm owners/managers should endeavour to efficiently manage the firm's trade credit (both receivables and payables) which make up the largest proportion of working capital of most SMEs.

Several scholars have investigated the effect of accounts receivable on corporate profitability. For example, Padachi (2006) examined working capital management and its influence on corporate profitability. The finding of the study shows that too much investment in inventory and accounts receivable is associated with low profitability. Similarly, Zainudin (2008) investigated the influence of credit collection period and firm's performance of 279 manufacturing SMEs in Malaysia during the period of 1999 - 2002. The findings of the study reveal that credit collection period is positively correlated with firm's performance. Hence, companies that collect debt faster are found to generate higher returns. Zainudin (2008) found a negative association between collection period and firm size. This indicates that small firms suffer more in their credit collection.

Gill et al. (2010); and Afeef (2011) both report a significantly negative relationship between the receivables collection period and the firm's profitability measured by operating profit. The result of the studies suggests that managers can enhance their firms' profitability and create shareholders' value by reducing the receivables collection period. Further, the result indicates that few profitable firms will attempt to decrease their accounts receivable collection period in

order to minimise their cash gap in the cash conversion cycle. In other words, speedy collection of accounts receivable is associated with higher profitability. Bolek and Grosicki (2015) argue that reducing the accounts receivable period may result in reduction in the firm's profitability caused by reduction in sales revenue as a result of loss of good credit customers. Biswal et al. (2012) investigated the impact of accounts receivable on the profitability of 32 Indian pharmaceutical companies listed on the Bombay Stock Exchange for a period of 11 years from 2000 - 2011. The finding of the study reveals that an efficient management of accounts receivable will yield a significant result and its neglect can be highly dangerous to any firm.

Martínez-Sola et al. (2014) conclude that previous literature on accounts receivable has focused on the determinants of trade credit and mostly in large firms and developed economies (Petersen & Rajan, 1997). Moreover, trade credit management is specifically more important to SMEs because trade debtors constitute the major asset in most of their balance sheets. Further, SMEs have very limited access to the capital market (Petersen & Rajan, 1997) and have more difficulties in obtaining finance from credit institutions due to their information asymmetry. On this basis, this study examines the impact of working capital management components, including accounts receivable on SMEs' profitability in Nigeria, i.e., an emerging economy where the capital market is less developed.

2.3.6.4 Accounts Payable Management

Accounts payable (i.e., average payment period or days of accounts payable) is a major item of current liability and a major component of working capital. Accounts payable period is created

as a result of trade credits or unpaid invoices of suppliers for goods supplied or services received and yet to be paid (Falope & Ajilore, 2012). In this section, the focus is on the buyers' side (accounts payable). Firms regard accounts payable as a source of free financing (Martínez-Sola et al., 2014; Filbeck & Krueger, 2005). It is viewed as a supplement to bank's finance through a deferred arrangement. According to Deloof (2003), trade credit allows a customer to examine the quality of the products bought and is the cheapest and most flexible source of financing to a business. Accounts payable period (APP) is defined as the number of days a firm takes (on average) in a year to make payment to trade creditors.

Accounts payable is one of the major items of current liabilities where the firms take credit for the goods or services with agreement to pay in the future. Several studies have offered empirical evidence on the association between accounts payable and corporate performance. For example, Howorth et al. (2000) investigated late payment and credit management practices of small firms. The findings of the study reveal significant association between firm's performance and good credit management. The study further argues that small firms with late payment problems are mostly dependent on short-term finances and are very weak in credit management practices. This indicates that small firms prolong payment of their accounts payable to take advantage of free financing.

In their study, Mathuva (2009); and Azam and Muhammad (2011) report a highly significant and positive association between accounts payable period and firm's profitability measured by return on assets and return on equity. This indicates that firm's profitability can be increased by increasing the days of accounts payable. However, lengthening the accounts payable period

hurts the firm's credit worthiness, which in turn, reduces its sales and profitability as well (Bolek & Grosicki, 2015). Bhunia and Das (2012) analysed the financial ratios of Indian small and medium steel companies in order to determine the influence of working capital management on the firms' profitability. The result of the study shows that three liquidity ratios of the sample firms, current ratio, liquidity ratio and cash position ratio, are satisfactory as their averages are better than the grand industry average.

Also, the solvency ratios, debt-equity ratio and interest cover ratio are higher than grand industry average. This is an indication that the sampled SMEs are meeting their short-term and long-term debt obligations during the period of the study. However, Gill et al. (2010); and Afeef (2011) found no statistically significant associations between the payables deferred period and the firm's profitability. Thus, the relationship found in the previous literature between accounts payable and firm's profitability indicates mixed and inconsistent findings. Therefore, on the basis of the above reported mixed findings, this study further examines the impact of the accounts payable period on the SMEs' profitability in Nigeria.

2.3.6.5 Management of Corporate Cash Holdings

Corporate cash holding is an important component of working capital. According to Iturralde and Maseda (2004), researchers have paid little attention to cash management in spite of its relevance to working capital management. Cash is the lifeblood of any organisation (Owolabi & Obida, 2012); hence, a firm needs sufficient cash to be able to run the business operations, but at

the same time, keeping idle cash generates little or no return at all. Management of cash is one of the major tasks of the financial manager in working capital management.

Thus, effective cash management is critical to all organisations, especially in a depressed economy (Owolabi & Obida, 2012). Similarly, Larsson and Hammarlund (2005), in Kaur and Singh (2013), affirm that improving cash management can create a better profit margin and high turnover ratio which results in increase in firm's profitability. According to Horne and Wachowicz (2008), management of cash encompasses determining the firm's motives for holding cash (transactional, precautionary and speculative), cash collection and payment policies, outsourcing, electronic commerce and determining the firm's cash balance. Owolabi and Obida (2012) further argue that proper liquidity management policies and procedures improve firm's profitability, reduce the risk of corporate failure and improve chances of the firm's survival.

Equally, policy on investing idle cash into marketable securities is paramount in cash management (Horne & Wachowicz, 2008). Yusuf and Idowu (2012, pp. 93) suggest a number of strategies for efficient cash management as follows:

- To lengthen accounts payable period by delaying payment to suppliers as much as possible without considering the effect of the strategy on the credit rating of the firm. However, enjoying any favourable discount is an outgrowth of this strategy.
- Effective inventory/production management. In this strategy there is need for high inventory turnover while controlling for stock-out. The best way of doing this is either to

increase the raw material turnover by decreasing the production rhythm or increasing the stock of finished goods.

- To speed up the collection of accounts receivable. This can be done by granting discounts that might stimulate customers to pay their bills as quickly as possible.
- To commit any unused cash into suitable investment in marketable securities or in more income-yielding projects. Factors, such as returns, marketability risk and ease of convertibility, should be taken into account in this strategy.

Furthermore, cash can be managed through the following models:

- Miller-Orr Model: - This model postulates that cash should be held in an environment of uncertainty. It involves setting a lower and upper cash limit after studying the cash movement over a period of time mainly to get an idea of how cash fluctuates without controls being put in place. If cash exceeds the upper limit, the excess cash should be invested in marketable securities and if the cash falls below the lower limit, more cash should be generated by selling marketable securities in order to operate effectively and to guard against illiquidity.
- Baumol's Model:- This model is used to determine the optimal cash balance by equating the two conflicting costs, marginal costs associated with ordering and holding cost of inventory, thereby reducing the total costs (transaction costs and opportunity costs).
- Cash Budgets: - This is a tool of management accounting and a statement showing cash receipt and disbursement during a given period. In other words, it is a statement of all inflows and outflows of cash for a given period.

In corporate finance administration, marketable securities are usually regarded as the practical equivalent of cash; hence, the two variables, cash and marketable securities, may be considered under one heading (Walter, 1937). In their study, Martínez-Solano and García-Teruel (2008) examined the factors that influence the cash holdings of the Spanish SMEs. The study utilised a sample of 860 Spanish SMEs during the period of 1996 to 2001. The findings reveal that SMEs have a planned cash ceiling which they seek to achieve and the target level is higher for companies with more growth prospects and large amount of cash flows. Martínez-Solano and García-Teruel (2008); and Ozkan and Ozkan (2004) used cash and marketable securities in their studies as dependent variable, measured by cash ratio.

According to Martínez-Solano and García-Teruel (2008), investment in liquid assets has an opportunity cost for the firm due to its low returns, particularly if the firm forgoes more profitable investment to hold that level of cash. Abushammala and Sulaiman (2014) investigated the effect of cash holding level on firm's profitability of 65 listed non-financial firms during the period 2000 – 2011. The finding of study shows a significantly positive relationship between cash holding and firm's profitability. Similarly, Naoki (2012) reveals a significantly positive relationship between cash holdings and firm's performance of Japanese listed firms. These previous studies utilised data from listed firms whereas the current study utilises data from non-listed Nigerian SMEs. Efficient cash management for firm's growth and sustainability is a major challenge to SMEs (Tsagem et al., 2015). However, it is observed that very few studies have investigated the importance of corporate cash holdings to firm's profitability in business operating efficiency (Kariuki, Namusonge, & Orwa, 2015). Hence, this study examines the

impact of corporate cash holdings on SMEs' profitability in Nigeria within the period of seven years from 2007 - 2013.

2.3.7 Efficient Management of Working Capital

Efficiency in working capital management is a vital area of corporate finance strategies. Corporate finance traditionally focuses on long-term capital structure and capital budgeting; however, in recent times, many firms from different industries have focused their attention on working capital management efficiency to increase profitability and growth (Sen & Oruç, 2009). Efficient working capital management means keeping the components of working capital, accounts receivable, inventory and accounts payable at optimal level and efficient utilisation of cash for the day-to-day operations (Deloof, 2003; Filbeck & Krueger, 2005; Kaur & Singh, 2013).

Several studies in the finance literature have demonstrated the relevance of efficient working capital management. In 2005, Filbeck and Krueger (2005) investigated the working capital management of different firms from different industries in Europe using data from the chief financial officer's magazine. The result of the study reveals that there are varying measures of firm's working capital management efficiency across different industries. Similarly, Kaur and Singh (2013) report a strong association between working capital management efficiency and firm's performance. This indicates that firm's profitability can be increased through efficient management of working capital. The study also found a significantly negative relationship between efficient working capital management and firm's profitability and liquidity. The study

further affirms that efficient working capital management significantly impacts on firm's profitability. Sen and Oruç (2009), in their study, conclude that finance managers can positively affect firm's profitability through efficient increase in management of working capital. Hence, efficient working capital management is necessary for achieving a trade-off between firm's profitability and liquidity goals and vice versa (Ramachandran & Jankiraman 2009). Based on previous studies, most reported findings have used listed companies as their sample. In order to enrich the body of knowledge, this study attempts to investigate the impact of efficient working capital management on a differerent type of firm by utilising SMEs as a sample.

Table 2.2
Summary of Literature on Working Capital Management

Author(s) and year	**Title**	**Sample**	**Findings**
Smith Beaumont and Bergmann (1997)	Measuring association between working capital and return on investment	South Africa	Current liabilities tofunds flows have a great relationship with return on investment
Shin and Soenen (1998)	Efficiency of working capital management and corporate profitability	United States of America/ 1975 – 1994/ 58,985 firm year observations	Strong negative relationship between length of net trade cycle and profitability
Deloof (2003)	Does working capital management affect profitability of Belgium firms?	Belgium/ 1992 – 1996/ 1,009 Belgium firms	Significantly negative relationship between cash conversion cycle, days account receivables, days inventory, days accounts payable and profitability
Filbeck and Krueger (2005)	An analysis of working capital management result across industries	UK/ 1996 – 1999/ 26 industries	Negative relationship between profitability and liquidity Positive relationship between debts and profitability
Lazaridis and Tryfonidis (2006)	Relationship between working capital management and profitability of listed companies on the Athens Stock Exchange {ASE)	Greece (Athens)/ 2001 – 2004/ 131 sample companies	Negative relationship between cash conversion cycle and profitability Positive relationship with fixed financial assets and accounts payable
Padachi (2006)	Trends in working capital management and its impact on firms' performance : Analysis of small manufacturing	Mauritania/ 1998 – 2003/ 58 sample small manufacturing firms	Positive impact on working capital management components and profitability

	firms		
Garcia-Teruel and Martinez-Solano (2007)	Effects of working capital management on SMEs' profitability	Spain/ 1996 – 2002/ 8,872 Spanish SMEs	Negative relationship between return on assets and days of accounts receibable, inventory and payables Significantly negative relationship between cash conversion cycle and profitability
Raheman and Nasir (2007)	Working capital management and profitability: Case of Pakistan firms.	Pakistan/ 1999 – 2004/ 94 firms listed on Karachi Stock Exchange	Strong negative relationship between all the independent variables and profitability
Garcia-Teruel and Martinez-Solano (2008)	On the determinants of SMEs' cash holdings: Evidence from Spain.	Spain/ 1996 – 2001/ 860 Sample firms	Firms have target cash level Cash level is high for firms with more growth opportunities and larger cash flows Target cash level reduces when firms use bank loan & cash substitute Cash level reduces with increase in interest rate
Afza and Nazir (2009)	The impact of aggressive working capital management policy on firms' profitability	Pakistan/ 1998 – 2005/ 204 non-financial firms listed on Karachi Stock Exchange	Negative relationship between profitability and degree of aggressiveness of working capital
Mathuva (2010)	The influence of working capital management components and corporate profitability	Kenya/ 1993 – 2008/ 30 firms listed on Nairobi Stock Exchange	Significantly negative relationship between receivable collection period and profitability Highly significant and positive relationship between inventory coverage period and profitability Highly significant and positive relationship between accounts payble period and profitability
Falope and Ajilore (2009)	Working capital management and corporate profitability: Evidence from panel data analysis of selected quoted companies in Nigeria	Nigeria/1996 – 2005/ 50 firms listed on Nigeria Stock Exchange	Significantly negative relationship between independent variables and profitability
Gill et al. (2010)	The relationship between working capital management and profitability: Evidence	USA/2005 – 2007/ 88 American firms listed on New York Stock Exchange	Negative relationship between days account receivables and profitability Positive relationship between

	from USA		cash conversion cycle and profitability No statistically significant relationship between payables and profitability
Banos-Caballero et al. (2010)	Working capital management in SMEs	Spain/2001 – 2005/ 815 Spanish SMEs	SMEs have a target cash conversion cycle. Older firms with greater cash flows maintain longer cash conversion cycle and firms with large leverage and return on assets maintain a more aggressive working capital policy.
Nobanee et al. (2011)	Cash conversion cycle and firms' performance of Japanese firms.	Japan/ 1990 – 2004/ 2,123 listed companies onTokyo Stock Exchange	Significantly negative relationship between cash conversion cycle and return on investment
Afeef (2011)	Analysing the impact of working capital management on the profitability of SMEs in Pakistan.	Pakistan/2003 – 2008/ 40 SMEs listed on Karachi Stock Exchange	Efficient working capital management does have a substantial impact on profitability of SMEs
Samson et al. (2012)	The impact of working capital management on the profitability of SMEs in Nigeria	Nigeria/2009/30 SMEs	Positive relationship between working capital and net profit margin. Negative relationship between working capital and gross profit margin.
Melita et al. (2012)	The relationship between working capital management and firm's profitability: An empirical investigation for an emerging Asian country	Indonesia/ 1998 – 2010/ 728 firms	Positive association between working capital management and profitability Inverse relationship between firms' riskiness & profitability
Banos-Caballero et al. (2012)	How does working capital management affect the profitability of Spanish SMEs?	Spain/ 2002 – 2007/ 1008 SMEs -	Relationship between working capital management and firm's profitability is concave, not linear, as per previous studies.
Harsh and Singh (2013)	Managing efficiency and profitability through working capital: An empirical analysis	India/2000 – 2010/ 164 manufacturing companies	Relationship between working capital management efficiency and corporate profitability.
Abushammala and Sulaiman (2014)	Cash holdings and corporate profitability: Evidence from Jordan	Jordan / 2000 – 2011 / 65 non-financial firms listed on Amman Stock Exchange	Significantly positive relationship between cash holding and profitability
Ademola (2014)	Working capital management and	Nigeria / 2002 – 2011 / 120 listed manufacturing	Significant relationship between account collection period,

	profitability of selected quoted food and beverage firms in Nigeria	firms	aggressive investment policy, accounts payable period with profitability
Nobanee and Ellili (2015)	Working capital management and profitability of Kuwait construction companies	Kuwait /2001– 2013 / construction companies	Significantly negative relationship between net trade cycle and profitability of large firms
Kariuki et al. (2015)	Determinants of corporate cash coldings: Evidence from private firms in Kenya	Kenya/ 156 manufacturing firms	Leverage and firm size are significant determinants of corporate cash holding. A positive relationship between cash flow and corporate cash holding A negative relationship between growth and corporate cash holding
Tsagem et al. (2015)	Impact of working capital management, family ownership and board size on SMEs' profitability.	Nigeria /2008–2012/ 47 Nigerian smes	Significant relationship between accounts receivable period, accounts payable period, cash conversion efficiency and board size with SMEs' profitability. Positive relationship between inventory holding period, cash conversion cycle and cash ratio with SMEs' profitability.

This study examines the impact of working capital management and corporate governance on firm's profitability. A review of previous literature on working capital management and its components with firm's profitability is reported in the previous sections. The next section reviews previous studies on corporate governance with firm's profitability. Literature on corporate governance and its mechanisms is restricted to three governance mechanisms, namely: family ownership, board size and women on the board, as only these variables are tested in this study. This is to provide an insight into the state of the relationship among the variables and the importance of the need for further investigation of the relationship and the profitability of SMEs.

2.4 Corporate Governance

In a large corporation, the major source of conflicts is the separation of ownership from management (i.e., ownership and control). These conflicts originate under the principle of the agency theory and is referred to as 'moral hazard problem' in finance literature (Lecomte & Ooi, 2013). These conflicts are based on the assumption that corporate managers do not act in the interest of the shareholders. According to Jensen and Meckling (1979), managers are prone to make decisions and carry out policies that entrench their position and enhance their reputation and value at the expense of the owners' interest. Based on the past corporate scandals and global financial crisis which affected large corporations in the world, having good corporate governance for transparency and accountability in the management of corporate resources is crucial. According to Achchuthan and Kajananthan (2013), effective corporate governance practices ensure reduction of risk for investors, attract investment capital and improve the firm's performance.

According to Mulili and Wong (2011), two major theories explain the concept of corporate governance: agency theory and stewardship theory. The assumption of the agency theory is that the role of the organisation is to maximise the wealth of shareholders or owners of the firm (Ujunwa, et al, 2012). The agency theory is concerned with analysing and resolving the conflicts of interest that occur between the shareholders or owners and the agents or the management (Mulili & Wong, 2011). The conflict originates from the separation of control from ownership in which the owners or shareholders perceive that the manager's actions are based on self-interest (Achchuthan & Kajananthan, 2013; Ujunwa et al., 2012). This implies that the agency

theory is practically applicable in the public listed companies rather than the SMEs where the owners retain both control and management (Adegbite, 2014). Duality leadership is most common in the SMEs where both ownership and control remain with the owners or their family members. Most of the SMEs are family businesses where the founder Chief Executive Officers (CEOs) are more concerned with the survival of the business to safeguard their legacy for the benefit of the future generation (Amran, 2011). Similarly, in the SMEs, the owners and their family members or close associates constitute the board of directors. Thus, corporate governance can be instituted in the SMEs to ensure a check-and-balance in the process of managing the organisation for the benefit of all the stakeholders, despite the absence of the agency theory.

The stewardship theory, according to Mulili and Wong (2011, pp. 17), suggests that, "*organisations serve a broader social purpose than just maximising the wealth of the shareholders*". The stewardship theory is also referred to as stakeholders' theory which suggests that companies are social entities that affect the welfare of many stakeholders (Achchuthan & Kajananthan, 2013). The stakeholders are either a group or individuals that interact with the companies and are affected by the achievement of the companies' objectives (Mulili & Wong, 2011). According to Achchuthan and Kajananthan (2013), the corporate board of directors and the CEO, acting as stewards, are more motivated to act in the best interests of the firm rather than for their own interests because they view the firm as an extention of themselves. This implies that the top management tends to give much attention to the long-term success of the firm compared to shareholders (Mulili & Wong, 2011). The stewardship theory is most applicable in

the listed companies where the management assumes the responsibility of serving all stakeholders rather than just maximising the shareholders' wealth as in the case of SMEs.

In practice, compliance with codes of corporate governance traditionally lies with public listed companies in many countries of the world. The small and medium-sized firms are not obliged to comply with the codes due to absence of agency problem and less pronounced separation of ownership and control (Abor & Biekpe, 2007). Furthermore, SMEs have few employees who are mostly related to the owner and the financing of the business is mostly dependent on the owner's personal resources, hence not requiring public accountability (Abor & Adjasi, 2007). However, in the past few years, there has been a growing concern globally for the application of the code of corporate governance to SMEs (Abor & Biekpe, 2007).

In Nigeria, there exists multiplicity of codes of corporate governance set by different regulatory agencies; they include the Securities and Exchange Commission (SEC) code for public listed companies; the CBN code for banks; the Pension Commission (PENCOM) code for pension funds and administrators and the National Insurance Commission (NAICOM) code for insurance companies. According to Adegbite, Amaeshi, and Nakajima (2013); and Osemeke and Adegbite (2014), there are conflicting areas among the various codes which account for poor corporate governance practices and regulatory compliance by public listed companies. Adegbite et al. (2013) further argue that the presence of the conflicts among the various codes do not only contribute to low compliance by public companies but result in ineffective enforcement by the regulatory agencies.

In 2008, the board of the SEC set up a committee to review the 2003 code of corporate governance for listed companies and to address the areas of weakness in the code which had accounted for some corporate failures in Nigeria (SEC, 2011). However, all the aforementioned codes of corporate governance applied only to listed companies until 2011 when the board of the Financial Reporting Council (FRC) of Nigeria drafted a unified code of corporate governance which harmonised the various rules on corporate governance in Nigeria. The unified code is applicable to both the public and private sectors (government establishments and private organisations), including SMEs. According to Obazee, the CEO of the FRC of Nigeria (2013), the unified code of corporate governance was effective from 1 January 2014 (Punch, 10 May 2014).

The main concern of corporate governance is to provide protection to investors and to ensure corporate efficiency, transparency and accountability, in addition to mitigating arising conflicts (Aluchna, 2009). To pursue these objectives, many corporate governance mechanisms are designed to monitor the activities of the managers and to mitigate the conflict of interests between owners and managers (Lecomte & Ooi, 2013).

Prior studies on corporate governance have examined the structure and effectiveness of different corporate governance mechanisms and firm's performance, such as ownership structure, ownership concentration, board size, structure and composition, CEO duality and audit committee. The finding of most of the studies indicates that board composition and ownership structure are major determinants of firm's performance (Keasey et al., 1997; Gockel & Akoena,

2002; Abor & Biekpe, 2007; Lappalainen & Niskanen, 2012; Afande, 2015). More specifically, Abor and Biekpe (2007) found a significantly positive impact of board size, board composition, managerial skills level, CEO duality, insider ownership, family ownership and foreign ownership on SMEs' profitability. Similarly, Afrifa and Tauringana (2015); and Ahmed et al. (2013) report a significant relationship between corporate governance mechanisms (board size, CEOs' age and tenure and directors' remuneration) with firm performance. Therefore, it is concluded that corporate governance considerably influences SMEs' performance by infusing good governance practices.

2.4.1 Family Ownership

Family ownership is an important corporate governance mechanism and is defined as a majority ownership (usually more than 50%) held by a family or a family group (Saleh et al., 2009). There are mixed opinions about family ownership as a corporate governance mechanism. For example, Gollakota and Gupta (2006) examined the history, ownership structure and corporate governance in India and document that an important feature of family ownership and governance is that owners can gain and maintain control over a firm even when their actual capital is low. However, ownership of substantial equity is assumed to be essential to exercise control that is not always true in practice (Short, 1994).

In their study, Wilson, Wright and Scholes (2013) investigated whether family owned firms perform better and are more likely to survive than non-family owned firms using a sample of

700,000 UK private family and non-family firms during the period 2007 – 2010. The finding of the study indicates that family owned firms perform better and are significantly less likely to fail than non-family owned firms. Further, on the relationship between family ownership and firm's performance, James (1999) found that family ownership of a firm creates love and commitment to the business which reduce agency cost and enhance performance. In a contrary view, Thomsen and Pedersen (2000) argue that in a family owned firm, the entrepreneurs and managers are more likely to engage in entrenchment management at the expense of the firm which results in low performance. With respect to the reported findings above, further investigation on the relationship between family ownership and firm's performance in this study is carried out, particularly in relation to profitability of SMEs.

2.4.2 Board Size

The board of directors is one of the major internal corporate governance mechanisms responsible for making policies and decisions relating to corporate activities and operations (Kumar & Singh, 2013). These include decisions on the optimal level of firm capital structure, optimal level of working capital components, debts and other managerial decisions. Besides, the board can assist in the acquisition of relational resources through contact or influence (Tsai, Hung, Kuo & Kuo, 2006). A board is delegated with the responsibility of monitoring the performance and activities of the top management to ensure that management acts in the best interests of the shareholders (Jensen & Meckling, 1979). Hence, the number of directors on the board (board size) is an important factor that influences the performance of the firm (Ehikioya, 2009). Kumar and Singh

(2013) opine that a well-constituted board with optimum number of directors can effectively monitor the management and drive value for the shareholders.

Different scholars have different views as to whether or not a large board is more effective in decision-making and monitoring. For example, according to Kumar and Singh (2013), complexity of decision-making and effectiveness is largely affected by the size of the board. Ahmed et al. (2013) reveal a significantly positive relationship between board size and firm performance measured by return on assets of non-financial firms listed on the KSE.This result is in line with assumptions of the resource-dependence theory that a board with strong links to external environment can improve firm's access to various resources which positively affect the firm's performance (Ahmed et al., 2013). Abor and Biekpe (2007) argue that large boards are better for corporate governance because it might have a wide range of expertise to help make better decisions. Similarly, Shukeri, Shin and Shaari (2012); and Akpan and Amran (2014) found a significantly positive relationship between board size and firm performance measured by return on equity. This implies that large boards tend to be more effective in generating returns and are too powerful for a CEO to dominate.

Jensen (1993) posits that large boards are less effective and difficult to coordinate. Jensen (1993) further argues that small boards reduce redundancy of a director (free riding) and increase individual member's accountability which make it difficult for the CEO to dominate. Amran (2011); and Amran and Ahmad (2009) support the finding of Jensen (1993) that a small board enhances firm's value. Furthermore, Gill and Mathur (2011); and Narwal and Jindal (2015)

report a negative and insignificant effect of large boards on the corporate profitability of Canadian manufacturing and service firms and textile firms of India, respectively. Most of the studies above utilised data from firms listed on the stock exchange and the sample firms are captured under the corporate governance code of their respective countries. In contrast, Ehikioya (2009); and Tsagem et al. (2015) document a positive relationship between board size and firm's performance in Nigeria. Based on the inconsistency on the findings in the literature, further examination is carried out in this study using unlisted SMEs in a developing economy.

2.4.3 Women on board

Corporate board members may differ in many characteristics, such as social and political background, race, educational qualification, experience, insider status and gender diversity (Ferreira, 2011). According to Adams and Ferreira (2009), one of the potential factors that affects board's group dynamics and independence is the diversity of the board of directors. Women play an important role in enhancing board effectiveness and firm performance (Amran et al., 2014). Hence, the presence of at least one woman director on the board of directors is likely to influence the ability and effectiveness of the board. Abbott, Parker and Presley (2012) examined the presence of women directors on the board of directors of USA firms, utilising sample financial statements of 278 firms from the USA General Accounting Office, 2002 report. The finding of the study indicates that there is significant association between the presence of at least one woman director on the board with the board's ability and independence in monitoring financial reporting. Virtanen (2012) also investigated gender differences in the corporate boards of directors of Finnish listed companies. The finding of the study indicates that women directors

are versatile and play a more active role in the board and enjoy more power than their male counterparts.

Jane, Bing, Anne, and Shengxiong (2014) found an inverse relationship between percentage of women directors on the board and variability of firm's performance. This implies that more gender diversity on the board of directors' impacts firm's risks by lowering variability of stock market returns. Lückerath-Rovers (2013) also argue that those firms with women directors perform better than those without women on their board of directors. Similarly, Abdullah, Ismail and Nachum (2013) found a significantly positive relationship between presence of women directors and firm's performance measured by return on assets in Malaysia. Furthermore, Buniamin, Johari, Abdul Rahman; and Abdul Rauf (2012) report a significantly positive relationship between high numbers of women directors and discretionary accruals of Malaysian corporate governance index companies.

In contrast, Akpan and Amran (2014) reveal a significantly negative relationship between presence of women on board and firm performance of 90 sample Nigerian firms listed on the Nigerian Stock Exchange. The study concludes that presence of women on board of directors is window dressing and does not contribute to firm performance. Carter, D'Souza, Simkins and Simpson (2010) examined gender and ethnic diversity of the financial performance of a sample of major USA companies. The result of the study shows no significant association between gender diversity and firm's performance. Similarly, Shukeri, Shin and Shaari (2012); and Ramli and Esa (2012) found no significant relationship between gender diversity and firm performance. The finding suggests that increase or decrease in the proportion of women on the board of

directors would not affect the firm's performance. Based on these mixed and inconclusive findings by previous scholars, this study aims to further investigate the impact of women directors on firm's performance, particularly in SMEs.

Table 2.3
Summary of Literature on Corporate Governance

Author(s) and year	**Title**	**Sample**	**Findings**
Abor and Biekpe (2007)	Corporate governance, ownership structure and performance of SMEs in Ghana: Implication for financing opportunities	Ghana /1998-2003 /120 SMEs	Significant positive relationship between corporate governance mechanisms with return on assets
Adegbite et al. (2013)	Multiple influence on corporate governance practice in Nigeria: Agents, strategies and implication	Nigeria /42 respondents as focus group/corporate governance specialists	Understanding and practice of corporate governance in Nigeria are in state of uncertainty and pulled in different directions
Lappalainen and Nikanen (2012)	Financial Performance of SMEs: Impact of ownership structure and board composition	Finland /2000 – 2005 /600 SMEs	Ownership structure affects growth and profitability of small firms Board structure has little impact on performance of small firms.
Amran (2011)	Corporate governance mechanisms and company performance: Evidence from Malaysian companies	Malaysia /2003-2007 /424 sample firms	Family-controlled firms have smaller board size and practice leadership duality Non-family firms' directors' qualification improves firm performance.
Shukeri et al. (2012)	Does board of directors' characteristics affect firm performance?: Evidence from Malaysian listed firms	Malaysia /2011/ 300 listed companies.	Board size and ethnic diversity show positive relationship with return on equity and board independence has negative relationship
Abdullah et al. (2013).	Women on board of Malaysian firms: Impact on market and accounting performance.	Malaysia /2008 / 841 publicly listed firms.	Positive impact of women on board on return on assets and negative impact on market performance.
Kumar and Singh (2013)	Effect of board size and promoter ownership on firm's value: Some empirical findings from India.	India /2008 – 2009 /176 listed firms.	Negative relationship between board size and firm performance.
Amran et al. (2014)	Women directors involvement in Malaysia	Malaysia /2010 /831 listed firms	44% firms have women on their boards whereas 56% firms do not have women on their boards
Akpan and Amran (2014)	Board characteristics and company performance: Evidence from Nigeria	Nigeria /2010 – 2012 /90 listed firms	Board size and board education show significantly positive relationship with turnover Women on board reveal significantly negative

			relationship.
Afande (2015)	Adoption of corporate governance practices and financial performance of SMEs in Kenya	Kenya /30 registered manufacturing SMEs	Significantly positive relationship between corporate governance practices and SMEs' profitability.
Afrifa and Tauringana (2015)	Corporate governance and performance of UK listed SMEs	UK /2004 – 2013 /8,234 UK SMEs	Significant relationship between board size, CEO age, tenure and directors' remuneration with SMEs' profitability.

2.5 Concept of Profitability

Profitability refers to rate of returns earned as a result of business operations and is the ultimate output of any business organisation (Aminu & Zainudin, 2012). Profit is the difference between a firm's total revenue and total expenses over a given period, usually one accounting period. The major task of management is to efficiently utilise the firm's assets under their control for increase in earnings and consequently the shareholders' value. According to Owolabi and Obida (2012), profitability measures management efficiency in the use of enterprise resources in adding value to the business. A firm's investment in assets can be long-term or short-term. Long-term investment refers to fixed assets which remain in the business for more than one accounting period, such as plant and machinery and motor vehicles. Short-term investment, on the other hand, refers to investment in short-term assets (current assets) that circulate within one accounting period, such as stock or inventory, receivables and cash and marketable securities.

In various studies, an association has been established between working capital management and firm's profitability, i.e., efficient working capital management results in firm's growth (Deloof,

2003; Afeef, 2011; Bagchi, Chakrabarti, & Basu Roy, 2012). For example, Charitou et al. (2010) document a positive relationship between firm's profitability and working capital management. However, Bagchi et al. (2012) report a strong negative relation between firm's profitability and its working capital management components. Similarly, Lazaridis and Tryfonidis (2006) reveal strong negative association between firm's profitability and its operating cycle. Furthermore, Mathuva (2010) opines that excessive investment in firm's current assets affects profitability, whereas insufficient short-term assets result in risk of illiquidity. In the study, Mathuva (2010) used profitability as the dependent variable or outcome variable and defined the profitability of the sample firms listed on the Nairobi stock market for the period of 1993 – 2008, measured by net operating profit (NOP).

Profitability has been measured by different scholars using different measurements. For example, Shin and Soenen (1998); Deloof (2003); and Abuzayed (2012) use gross operating profit (GOP), NOP, return on investment (ROI) and return on assets (ROA) as measure of firm's profitability. Furthermore, Bhunia and Das (2012); and Al-mwalla (2012) adopted return on capital employed (ROCE) and ROA as the standard for measuring firm's profitability in their respective studies. Similarly, in this study, profitability is the dependent variable (DV) which means profitability of the Nigerian SMEs. Working capital management and its components serve as the criterion variables in the study, which are expected to act as the outcome variablse i.e., the profitability of the sample Nigerian SMEs for the period of seven years from 2007 - 2013.

2.6 Small and Medium-Sized Entities (SMEs)

SMEs are the second dominant form of business and are deemed to have a strong impact on the economic growth and development of many countries in the world (Boonpattarakan, 2012). In other words, SMEs are believed to be the second largest provider of employment opportunities around the world as well the key to production technology and new product development for industrialisation. Boonpattarakan (2012) further reveals that SMEs are thought to be the engine of growth and development essential for having an efficient competitive market. Similarly, SMEs generate employment and reduce poverty, provide value-added output, enhance exports and decrease imports and are a source of skills development (Sunday, 2011). Over the past two decades, African countries have observed progressive development of SMEs (Tundui & Tundui, 2012). In Nigeria, SMEs are considered the focal point of the economy and are the heterogeneous group of business, usually operating in different sectors of the economy (Aina, 2007; Olutunla & Obamuyi, 2008).

The increasing emphasis on self-reliance as an approach to development and acknowledgement of the success recorded in some economies in the world has stimulated the Nigerian government to give more emphasis to SMEs' development. Also the significance of SMEs in poverty eradication is a factor that has stimulated the government to give more emphasis to this sector (Sanusi, 2012). Hence, various efforts since the 1970s for promoting sustainable SMEs' development in Nigeria have been put in place (Oyedijo et al., 2012).

Such efforts include policy initiatives and establishment of different programmes that include, but not limited to, the following:

1. The Industrial Development Centres (IDCs)
2. The Nigerian Industrial Development Bank (NIDB)
3. The Nigerian Bank for Commerce and Industries (NBCI)
4. The National Directorate of Employment (NDE)
5. Nigerian Enterprises Promotion Decree
6. Peoples' Bank of Nigeria and community banks
7. Family Economic Advancement Programme (FEAP)
8. National Poverty Eradication Programme (NAPEP)
9. The Small and Medium Scale Enterprises Development Agency of Nigeria (SMEDAN) and other related supporting services and financial and advisory services (Adeleke et al., 2003; Ogundipe, Idowu & Ogundipe, 2012; Oni et al., 2012; Ademola et al., 2013).

Most of these programmes and institutions are sought to provide funds and advisory and managerial services for sustainable SMEs' development in Nigeria. Financial constraints and managerial problems have been identified as the major inhibiting factors against SMEs' development in Nigeria (Oni et al., 2012; Sanusi, 2012). However, many of these programmes and institutions were poorly managed and so were forced into liquidation or merged with others (Ademola et al., 2013).

In 2012, the SMEDAN, in collaboration with the National Bureau of Statistics (NBS) survey, shows that there is a total of 29,918 SMEs in Nigeria. The survey also indicates that the total number of persons employed by both the micro and SME sectors in the year 2010 stood at 32,414,884 people. According to Toby (2007), the adoption of a medium-term monetary policy by the past administrations was characterised by higher minimum liquidity ratio and increased cash reserve requirement with consequential credit crunch which resulted in high mortality rates of Nigerian SMEs. However, the aim was to reduce the level of SMEs' borrowing and to relieve them from interest and other bank charges that were not favourable to them.

In addition, an indirect intervention in the form of Small and Medium Industries Equity Investment Scheme (SMIEIS) was initiated as a non-governmental organisation, rather than as an initiative of the Bankers' Committee. The scheme required all licensed banks to set aside 10% of their earnings before tax (EBT) for equity investment to finance the Nigerian SMEs (Sunday, 2011). Oni et al. (2012); and Oyedijo et al. (2012) argue that the failure of past industrial policies to generate efficient self-sustaining growth is due to lack of increased emphasis on a self-reliant approach to development and the recognition that dynamic and growing SMEs can contribute substantially to a wide range of developmental objectives.

Recognising the importance of the sector, SMEDAN was established under the SMEDAN Act of 2003 to promote the development of the SME sector. The aims of the agency are to establish a structured and efficient SME sector that can enhance sustainable economic development of Nigeria. This is because the SME sector is an important element to any nation in the world in

terms of economic growth, industrial development and employment generation (Soon & Zainol, 2011; Ben, Hamad & Karoui, 2011; McLarty, Pichanic & Srpova, 2012).

In terms of contribution to GDP, empirical studies have shown that the SME sector contributes about 60% of the USA GDP (Ovia, 2001). Similarly, SMEDAN/NBS (2012) survey reports that SMEs contribute over 55% of GDP and over 65% of total employment in high income countries, such as Australia, Canada, France, Germany, Japan, South Korea, Kuwait, Saudi Arabia, the UK and the USA, as documented by the World Bank in 2011; while both SMEs and informal businesses' contribution to GDP and total employment account to over 60% and 70% in the low income countries, such as Afghanistan, Cambodia, Ethiopia, Ghana, Mali, Nepal, Niger and Zimbabwe (World Bank, 2011).

Furthermore, in the middle income countries, the sector contributes about 70% of GDP and 95% of total employment in countries, such as Algeria, Brazil, Bulgaria, China, Egypt, Jordan, Libya, Turkey, Thailand, South Africa, Nigeria and Pakistan, as reported by the World Bank (2011). The survey further stresses that the SME sector plays a significant role in transforming agricultural-led economy to industrial economy. According to Okpara (2011), the value of the SME sector to any developing economy includes: employment generation, provision of goods and services at low cost, poverty reduction and reducing income inequalities. Others are development of both skilled and semi-skilled workers for future industrial development and serving as an avenue for grooming potential entrepreneurs and development of managerial skills.

Table 2.4

Contributions of SMEs Sector to the Nigerian Economy for the Period 2001, 2007 and 2012

Industrial Characteristics	2001(%)	2007(%)	2012(%)
Contribution to total industrial establishment	NA	97	96
Contribution to employment	58	70	60
Contribution to gross domestic product (GDP)	62.1	50	46.5

Sources: NBS Unemployment Survey 2012, SMEDAN/NBS Survey 2012, Oyedijo *et al*. (2012)

2.6.1 Characteristics of SMEs

After examining the conceptual and theoretical development of working capital management and its components and their association with corporate profitability and liquidity, this section discusses features that distinguish SMEs from larger corporations in order to clearly capture the influence of these features on the relationship of working capital management and SMEs' profitability. The key issue here is efficiency in the management of working capital and SMEs' profitability for growth and sustainability in Nigeria.

As stated earlier, most of the previous literature on working capital and firm performance have basically focused on large firms listed on the developed financial markets (Shin & Soenen, 1998; Deloof, 2003; Gill et al., 2010); however, the effect is more serious and significant to small firms. Indeed, the major characteristics that distinguish SMEs from large companies, is the greater proportion of their investment in current assets (García-Teruel & Martínez-Solano, 2007; Bhunia & Das, 2012). In addition, SMEs are characterised with greater information ambiguity, which worsens the asymmetric information problem (Baños-Caballero et al., 2010; 2012). García-Teruel and Martínez-Solano (2007; 2008); and Banos-Caballero et al. (2010) add that the merger of ownership and control which result in greater flexibility in operations in SMEs makes

agency problems associated with securing debt more difficult. Furthermore, most SMEs suffer financial difficulties and financial limitations (Whited, 1992; Fazzari & Petersen, 1993). This results in inadequate resources, limited market power and reliance on bootstrapping financing (i.e., use of trade credit) because of its flexibility, effectiveness and as a cheaper source of financing (Njeru, Namusonge & Kihoro, 2012).

According to Klonowski (2012, pp. 336), *"SME firms can generate capital either internally or externally. Internally, SMEs can rely on their resources if the firm has been operating for some time and is profitable; it can support its expansion using its own resources. If the firm is not profitable, it can manage its working capital in such a way that it is able to pay for its liabilities and its investment in time".*

Similarly, SMEs are associated with poor managerial skills, giving less attention to staff training and development, all of which can be a threat to firm's growth, consequently leading to business failure (Ates, Garengo & Cocca, 2013). According to Paul and Boden (2011), SMEs generally are associated with poor management of resources. One of the important areas includes poor trade credit management practices which represent an inherent risk to SMEs. Hence, many SMEs fail due to poor resources management, particularly trade credit management.

2.6.2 Constraints to SMEs' Development in Nigeria

Aina (2007); and Okpara (2011) report the internal administrative constraints, including accounting and finance and management as the top constraints to SMEs' survival and growth in Nigeria. Specifically, Aina (2007) found that one of the major constraints to SMEs in Nigeria is financing which affects their growth and survival and internal management of their resources for profitability and financing. In other words, inefficient working capital management constitutes a significant proportion of the factors that contribute to SMEs' failure in Nigeria. Several studies have identified poor access to finance as the most constraint to survival and growth of SMEs in Nigeria (Guardian, 2001). Thus, this shows the necessity for a study of this nature that can fill a vacuum which for many years has stagnated the developmental aspirations of the SMEs in Nigeria.

2.7 Working Capital Management, Corporate Governance and SMEs' Profitability Relationship

The concern of this study is to examine the impact of working capital management and corporate governance on SMEs' profitability in Nigeria. Actually, there are several studies that have examined the issue from the perspective of large corporations listed on the stock market mostly from developed economies. For example, Mathuva (2010) examined the relationship between firm's profitability and the working capital components using annual data of 30 listed firms on the Nairobi stock market. The results of the study indicate a negative association between accounts receivable period, stockholding period and firm's profitability, where accounts payable period is positively associated with firm's profitability. The study concludes that shortening the

accounts receivable period and stockholding period may result in higher profitability. Similarly, prolonging the accounts payable period may lead to higher profitability.

Charitou et al. (2010) investigated the working capital management and firm's profitability relationship using a dataset of all Indonesian firms over the period of 1998 – 2010. The finding of the study indicates positive relationship of firm's profitability and the working capital components. In contrast, inverse relationship between firm's profitability and firm's riskiness is evident. Abuzayed (2012) found that firm's profitability has positive relationship with cash conversion cycle. Positive relationship is also found between firm's profitability and days of inventory, days of accounts receivable and cash conversion cycle. As the length of the cash conversion cycle increases, firm's profitability decreases; also a negative relationship exists between firm's profitability and the debt of the firm. This indicates that low growth in profitability is associated with an increase in the length of the firm's cash conversion cycle, days of accounts receivable and days of inventory. Similarly, Muhammad et al. (2010) report that a negative relationship is also found between days of inventory, days of accounts receivable and profitability. However, the correlation is also positive between profitability and accounts payable.

This study investigates the impact of working capital management and corporate governance on the firm's profitability with particular reference to SMEs in Nigeria as follows:

i. To analyse the impact of working capital management components on SMEs' profitability.

ii. To include cash and efficiency management of working capital in the working capital management and SMEs' profitability model.

iii. To analyse the impact of corporate governance (family ownership, board size and women on the board) on SMEs' profitability.

iv. Using a relatively long period of seven years from 2007 - 2013 to investigate the phenomena.

To the best of my knowledge, there are limited studies on the impact of corporate cash holdings, cash conversion efficiency and corporate governance (as independent variables) on the profitability of SMEs. Similarly, there are no studies on the phenomenon using panel data from the financial statements of SMEs in Nigeria. The SME sector has been facing a lot of problems over the years which have resulted in underperformance of the sector and non-sustainability of most SMEs in Nigeria. Thus, the outcome of this study potentially will help both surviving SMEs and the emerging ones to enhance their performance.

Both working capital management and corporate governance are important to small firms in the SME sector. This is because majority of the SMEs' assets are in working capital and are vulnerable (i.e., sensitive) to fluctuation (Padachi, 2006). Similarly, good corporate governance practices ensure corporate efficiency, accountability and sustainability of a business (Aluchna, 2009; Abor & Adjasi, 2007). Thus, a review of the efforts made by previous scholars on firm performance (measured by profitability), management of working capital components and some

corporate governance mechanisms from different countries is made to serve as solid ground for the framework of this study.

Smith and Begemann (1997) evaluated the association between firm's profitability (measured by ROI) and working capital of industrial firms listed on the Johannesburg Stock Exchange. The study emphasises on the benefits of the trade-off theory which balances between firm's liquidity and profitability for efficiency in the management of working capital. In the study, the authors use cash conversion concept as a measure of working capital efficiency. The result of the study reveals that the ratio of current liabilities to funds flow account for most of the unevenness in the firms' profitability and it also exhibits a powerful association between working capital management and ROI of the sample firms.

In their study, Shin and Soenen (1998) investigated the efficiency of working capital management and profitability of a sample of American firms for the period of 1975 - 1994. Shin and Soenen (1998), are among the pioneer scholars in the field of working capital management, who have pointed out the importance of efficient working capital management and the use of net trade cycle as a measure of working capital management. The study compares two American leading retail giants with the same capital structure and debt financing (Kmart and Wal-Mart). The former had a cash conversion cycle of 61 days, and the latter had a cash conversion cycle of 40 days. Due to the differences of 21 days in the cash conversion cycle, Kmart needed an extra USD 198.3 million for financing its working capital and faced more financial constraints. This is in line with the traditional view of the relationship between cash conversion cycle and corporate

profitability that a longer cash conversion cycle with other variables being constant, affects firm's profitability.

The study measures the efficiency of working capital management using net trade cycle and concludes that net trade cycle is equivalent to cash conversion cycle. The finding of the study reveals a highly significant and negative relationship between the net trade cycle and firm's profitability. According to the study, managers can enhance their shareholders' value by shortening the length of the firm's cash conversion cycle. Cash conversion cycle is an additive measure of the number of days a firm commits its funds to inventory and accounts receivable less the number of days payments are deferred to trade creditors. Hence, a shorter cash conversion cycle is associated with higher profitability, which in turn, increases the shareholders' returns and the firm's value as well.

Deloof (2003) examined how working capital management affects firm's profitability for a large sample of Belgian companies during the period of 1992 - 1996. The researcher observed that many Belgian companies have large investments in current assets (i.e., working capital). So, the study concludes that working capital management might have a statistical effect on the profitability of most Belgian firms. The findings of the study reveal a significantly negative association between the inventory days, days of accounts receivable and days of accounts payable with gross operating income of the sampled firms. Based on the findings above, the study suggests that shareholders value could be enhanced by shortening the number of days of accounts receivable and inventory days, whereas, the negative relationship between the days of

accounts payable and firm's profitability is in line with the view that few profitable firms take longer period to pay their debts.

Filbeck and Krueger (2005), in their study, analysed the data of 970 firms of 26 industries during the period of 1996 - 1999. The study reports that, firms are able to reduce their financing cost or increase the funds available for developmental projects by reducing the amount of funds invested in the working capital. Further, Azam and Muhammad (2011), in their study, report that industries differ significantly in terms of working capital measures. In other words, the study shows that working capital measures differ largely from one industry to another with the passage of time. The study therefore documents that a negative relationship exists between profitability and liquidity of the sampled UK firms, while a positive relationship is exhibited between firm's profitability and debts. Based on the above reported findings, the study suggests that managers can increase firm's profitability by reducing the inventory holding period and receivables collection period.

Lazaridis and Tryfonidis (2006) investigated the working capital management and corporate performance of a sample of 131 firms listed on the Athens Stock Exchange (ASE) between the year 2001 - 2004. The results of the study show that'cash conversion cycle and the firms' leverage are negatively related to their profitability, while fixed financial assets are positively correlated with profitability. Similarly, with the use of accounts receivable and inventory as proxy for cash conversion cycle, the study found negative and positive relationship, respectively

with accounts payable. The researchers conclude that firm's profitability can be enhanced through efficient management of cash conversion cycle and its components.

In 2006, Padachi examined the working capital management of a sample of 58 small manufacturing companies during the period of 1998 - 2003. The study used return on total assets as a measure of the firm's profitability, while the explanatory variables were cash conversion cycle, accounts receivable ratio, inventory turnover ratio and accounts payable ratio. The finding of the study shows that management of the different components of working capital has a positive impact on the profitability of the sampled Mauritanian manufacturing firms.

García-Teruel and Martínez-Solano (2007) are among the pioneer scholars who investigated the effects of working capital management on the profitability of SMEs. The study utilised 8,872 samples of Spanish SMEs for a period of seven years from 1996 - 2002. The correlation test exhibits a very significant relationship between the SMEs' profitability and number of days of accounts receivable, inventory days and the days of accounts payable. Similarly, the correlation test depicts a statistically significant and negative association between cash conversion cycle and SMEs' profitability. The study, therefore concludes that SMEs' profitability can be improved by reducing the length of their cash conversion cycle. Similarly, Zariyawati, Taufiq, Annuar and Sazali (2010), in their study, reveal a significant association between corporate profitability and the cash conversion cycle of a sample of Malaysian firms during the period of 1996 - 2006.

In 2008, García-Teruel and Martínez-Solano analysed the factors that determine the SMEs' cash holdings using a sample of 860 Spanish SMEs for the period of 1996 to 2001. The findings of the study indicate that SMEs have a target cash level to which they attempt to converge and the target cash level is higher for firms with high growth opportunities. Also, the study reveals that the target cash holding falls when the firm uses more bank debt or any substitutes of cash to finance its operations.

Nazir and Afza (2009) analysed the relationship between working capital management policies (aggressive and conservative) and firm's profitability, using data set of 204 non-financial firms listed on the KSE during the period of 1998 – 2005. The study further evaluated the financial policies of the firms using ROA and Tobin's Q as dependent variables. The findings of the study indicate that aggressive working capital investment and financing policies are negatively related to firm's profitability. The study further ascertains that during the period of the study, most of the sample firms report negative returns by following an aggressive policy. They suggest that managers can increase their firms' value by following the conservative approach to working capital investment and financing policy. However, scholars have realised that most investors are prepared to buy the stocks and shares of firms that adopt aggressive investment and financing policies to manage their working capital, because excessive level of current assets might have negative effects on the company's profitability (i.e., tied-up resources). Therefore, adopting aggressive investment policy means holding low level of current assets as a percentage of the total assets or financing decisions are made by holding high level of current liability as a percentage of the total liabilities.

In 2010, Mathuva evaluated the impact of working capital management components on profitability of 30 sample firms listed on the Nairobi Stock Exchange (NSE) during the period of 1993 – 2008. The findings of the study reveal a strong significant and negative relationship between receivable collection period and firm's profitability but inventory conversion period and average payment period exhibit a highly significant and positive relationship with firm's profitability. This indicates that management can create value for the shareholders by shortening the receivable collection period by way of accelerating collections as quickly as possible. Similarly, shareholders' value can be improved by increasing the firm's inventory to an optimum level because high inventory level results in increase in the sales turnover which can boost firm's profitability and prevent stock-out, loss of business, reduce supply cost and price fluctuation. Management can also prolong accounts payable period as much as possible to obtain free financing.

Falope and Ajilore (2009) also examined the effects of working capital management on the performance of non-financial firms listed in Nigeria during the period of 1996 - 2005. The study used ROA as the measure of performance, while the independent variables were days of accounts receivable, inventory days, days of accounts payable and the cash conversion cycle. In addition, few control variables were used, including firm size, sales growth, and leverage and GDP growth. The outcome of the study indicates that ROA is negatively related to firms' cash conversion cycle, inventory turnover in days, days of accounts receivable and days of accounts payable. However, the finding of the study shows no significant differences on the impact of working capital management of large firms and small firms. Therefore, the scholars posit that managers can boost their firms' profitability level and create more value for their shareholders,

by shortening the length of the cash conversion cycle, the days of accounts receivable and inventory turnover in days.

The drawbacks of the study area are: first, it focuses on a small sample of 50 listed firms on the NSE in the period of 1996 – 2005. Second, the result shows no significant variations between working capital management of large firms and small firms. Thirdly, the study is a comparative study and uses a small sample of 50 non-financial listed firms; as such, the study cannot be generalised to all firms in Nigeria.

Gill et al. (2010) analysed the relationship between working capital management and corporate profitability of a sample of USA manufacturing firms listed on the New York Stock Exchange during the period of 2005 - 2007. The findings of the study report that cash conversion cycle and corporate profitability are positively related; while receivable collection period and firm's profitability are negatively related. As for the inventory holding period, no significant relationship is found with corporate profitability. Similarly, no statistical association between accounts payable and firm's profitability exists. On the basis of these findings, the researchers conclude that firm's profitability can be improved by reducing the accounts receivable period and by managing the cash conversion cycle in a more efficient way. The outcome of the study clearly shows inconsistency with the findings of previous studies. The authors therefore recommend for future researchers to extend further research on the working capital management components, including cash and marketable securities.

Banos-Caballero et al. (2010) examined the working capital management in SMEs with an analysis of the determinants of cash conversion cycle in Spanish SMEs. The study used panel data of a sample Spanish SMEs during a period of five years from 2001 - 2005. The findings of the study reveal that Spanish SMEs have a target cash conversion cycle length to which they attempt to achieve and that they try to adjust quickly to the target. The result also indicates that old firms and firms with higher cash inflow have a longer cash conversion cycle.

Nobanee et al. (2011) investigated cash conversion cycle and the profitability of a sample of Japanese firms of different sectors and sizes. The study used dynamic panel data to analyse 2,123 non-financial companies quoted on the Tokyo Stock Exchange for a period of five years from 1990 - 2004. Finding of the study indicates that there is a strong negative relationship between the sampled firms' profitability and the length of the cash conversion cycle with exception of firms in the consumers and services industries.

Afeef (2011) analysed working capital management and its components of the Pakistani SMEs. The study used a sample of 40 listed Pakistani SMEs for a period of six years from 2003 - 2008 totalling of 240 firm year observations. The finding of the study indicates that working capital management has a perceptible impact on the profitability of the sampled SMEs. In other words, efficient management of working capital has a substantial impact on the sampled SMEs' profitability.

Similarly, Samson et al. (2012) examined the impact of working capital management on SMEs' profitability in Nigeria, for a period of one year. Using annual data from 30 SMEs, the study

reveals a positive association between the SMEs' working capital and their profitability measured by net profit margin and a negative relationship with gross profit margin. This signifies the need for efficient working capital management in the SME sector in Nigeria. The implication of the study is that the researchers used a small sample of 30 SMEs for a single year of 2009. Therefore, the outcome of the study needs further investigation using longer period and larger sample of the Nigerian SMEs to ensure robustness of the data for establishing a meaningful conclusion.

Charitou et al. (2010) investigated the relationship between working capital management and firm's profitability. The study used dataset of all Indonesian listed firms over the period of 1998 – 2010. The result of the study shows a positive association between the firms' profitability and the cash conversion cycle, while leverage is negatively associated with the firms' profitability. This shows a contrary outcome when compared to previous studies where a negative relationship is reported.

Baños-Caballero et al. (2012) investigated how firm's profitability is affected by efficient working capital management. In their study, the scholars utilised cash conversion cycle as a measure of working capital management, being the most commonly used in the previous studies and two measures of SMEs' profitability, gross operating income and net operating income. Unlike the earlier studies, this study examined the non-linear relationship between working capital management and the firms' profitability using a sample of 1,008 Spanish SMEs with 5,862 firm year observations during the period of 2002 - 2007. The result of the study also

shows that the relationship between working capital management and firm's profitability is non-linear (concave) which signifies that SMEs have an optimal working capital level that maximises their profitability. Therefore, any move above or below the optimal level may result in decrease in the profitability. As such, the SMEs have working capital level at which any increase or decrease from that level can have a negative impact on the firm's profitability.

Kaur and Singh (2013) examined the efficient management of working capital of 200 companies on the Bombay Stock Exchange (BSE) during the period of 2000 – 2010. The study analysed the working capital performance of 164 manufacturing companies classified into 19 industries based on working capital score. The working capital score of each company was calculated using three parameters: normalised value of cash conversion efficiency, days of working capital and day of operating cycle. The study further tested the relationship between the working capital score of the selected companies and their profitability measured by income to current assets and income to average total assets. The result of the study reveals that efficient management of working capital significantly affects profitability.

Tsagem et al. (2015) investigated the impact of working capital management, family ownership and board size on the profitability measured by gross operating profit of SMEs. The study employed balanced panel data analysis on a sample of 47 Nigerian SMEs over a period of five years from 2008 – 2012. The result of the study indicates a statistically significant relationship between accounts receivable period, accounts payable period, cash conversion efficiency and

board size with SMEs' profitability. Similarly, cash conversion cycle, inventory holding period and cash ratio report a positive association with SMEs' profitability.

Autukaite and Molay (2013) studied the effects of corporate cash holdings and working capital on the firm's value. The study utilised panel data from a selected sample of listed firms from France. The findings of the study show that shareholders undervalue cash holdings and net working capital. Hence, the scholars argue management should not underestimate the importance of working capital management and corporate cash holdings on the firm's value.

Next, an overview of previous studies on the relationship between corporate governance and firm's profitability is provided below.

Abor and Biekpe (2007) examined the effects of corporate governance practices on the performance of Ghanaian SMEs during the period 1998 - 2003. The study employed panel data regression model to analyse data obtained from the annual reports and interview from 120 sample SMEs. The findings of the study show a significant impact of board size, board composition, management skills, CEO duality and ownership structure on the SMEs' profitability. The scholars conclude that corporate governance has a significant influence on the profitability of Ghanaians SMEs. Thus, good corporate governance practices can assist SMEs to inculcate excellent management practices in the sector.

Mollah, Al Farooque and Karim (2012) examined the effects of corporate governance and ownership structure on the financial performance of listed companies in Botswana. The study utilised 19 sample firms listed on the Botswana Stock Exchange over the period 2000 – 2007. The data for the study was analysed using Ordinary Least Squares (OLS) regression model. The findings of the study show separate effects of corporate governance and ownership structure on the different measures of firm performance, proxied by ROA, ROE and Tobin's Q.

Furthermore, in 2013, Gill and Biger empirically examined the impact of corporate governance on working capital management efficiency of USA manufacturing companies. The study employed co-relational research design on a sample of 180 USA manufacturing firms listed on the NYSE for the period 2009 – 2011. The results of the study show a strong relationship between different corporate governance mechanisms and efficient working capital management. They conclude that good corporate governance improves firm's efficient working capital management.

Amran (2011) examined the effect of corporate governance on firm performance based on the Revised Malaysian Code of Corporate Governance (2007) for family-controlled and non-family controlled firms. The study used a data set of a sample of 424 firms listed on Bursa Malaysia during the period 2003 – 2007. The finding of the study indicates that small board size enhances firm's value and family controlled firms do have a small board size. In contrast, directors' qualification enhances firm performance of non-family controlled firms.

Akpan and Amran (2014) investigated the relationship between board characteristics and firm performance of Nigerian companies. The study utilised data from 90 listed firms on the NSE over a period of three years from 2010 – 2012. The finding of the study shows that board size and educational level of the directors are positively and significantly related to firm performance. In contrast, a significantly negative relationship is found between women directors and the firm's turnover. The study concludes that presence of women on boards is a window dressing as their percentage is insignificant to make any significantly positive impact on firm performance. Similarly, Amran et al. (2014) investigated the level of women's participation on the board of directors of Malaysian companies. The study utilised data from the financial statements of 831 companies listed on the Main Market of Bursa Malaysia during the year 2010. The findings of the study indicate that out of the 831 sample firms, 361 firms representing 44% have women on their boards. Furthermore, majority of the women directors are Chinese and are family related to the other directors.

Afrifa and Tauringana (2015) examined the effect of corporate governance on the performance of UK listed firms. The study utilised unbalanced panel data of a sample of 8,234 UK SMEs for a period of 10 years from 2003 – 2013. The finding of the study shows that board size, CEO age and tenure and directors' remuneration are significantly related to SMEs' performance. Overall, the study shows that corporate governance affects SMEs' performance. Similarly, Afande (2015) examined the extent of adoption of corporate governance practices and financial performance of SMEs in Kenya. The study employed both quantitative and qualitative method of data collection on 30 registered manufacturing SMEs. The result of the study shows a positive relationship between corporate governance practices and SMEs' profitability. The study

concludes that corporate governance practices enhance firms' entrepreneurship and competitiveness.

2.8 Summary of the Literature

The above review of the related studies presents some similarities and differences in the area of methodology, measurements and findings. For example, scholars like Smith et al. (1997); Shin and Soenen (1998); and Charitou et al. (2010) measure working capital management using net trade cycle; while Deloof (2003); Padachi (2006);, García-Teruel and Martínez-Solano (2007); Mathuva (2010); Gill et al. (2010); Baños-Caballero et al. (2010; 2012); Afeef (2011); and Nobanee et al. (2011) use operating cycle to measure efficiency of working capital management. Other scholars use days of working capital and accounting ratios.

In most of the articles reviewed, profitability is the dependent variable measured in different ways, such as the use of gross operating income, net operating income, ROI, ROA, return on equity and ROCE. However, most of the literature focuses on listed companies and only very few have directed their studies to SMEs. In addition, most of the studies are conducted in the USA, UK and many European and Asian countries; only very few studies have been conducted in Africa. Similarly, with regards to the findings of the studies, the results vary slightly as some studies have found a strong negative relationship, while some have found a highly positive relationship. Some have found a positive relationship between firms' working capital management components and firm's profitability. This can be seen in Table 2.2. Similarly, a

review of literature in relation to corporate governance and firm's profitability indicates mixed results. This is particularly true for the relationship between the three governance mechanisms used in this study: family ownership, board size and women on the board with firm's profitability. This can be found under the summary of the literature in Table 2.3. Furthermore, most of the previous studies have focused on large listed companies and are carried out in the developed countries, such as the UK and the USA, thus justifying the need for a study on the relationship between corporate governance and SMEs' profitability to increase shareholders' value in SMEs. Moreover, it has been argued that good corporate governance practices can assist SMEs to improve their efforts to accumulate resources to increase their performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The main objective of this study is to examine the impact of the working capital management components and corporate governance on SMEs' profitability. This chapter describes the methodology used in this study for achieving this objective. In the first part of the chapter, a research framework is developed based on the problem statement and the significantly related literature reviewed produced to date on working capital management, corporate governance and firm's profitability. This gives room for testing the validity and reliability of the study. Thus, the framework serves as the structure upon which this research is based. The section comprises the conceptual framework, theoretical framework and the underpinning theories. The second part of the chapter explains the methods and techniques of data collection and analysis. Specifically, the section covers the research design, operational definitions, measurement of variables, population of the study, sample size and sample design, the procedures for data collection and the techniques of data analysis.

3.2 Conceptual Framework

Several scholars have investigated the relationship between working capital management and firm's profitability. For example, Shin and Soenen (1998); and Deloof (2003) used net trade cycle and cash conversion cycle as the most extensive measure of working capital efficiency.

The studies found a significantly negative relationship between net trade cycle and firm's profitability. Lazaridis and Tryfonidis (2006) also found a negative relationship between cash conversion cycle and profitability; and a positive relationship between days of accounts payable and profitability. Further, Padachi (2006) found that working capital and its components have a positive impact on the firm's profitability. However, Gill et al. (2010); and Charitou et al. (2010), contrary to the common findings, found a positive relationship between cash conversion cycle and firm's profitability; and a negative relationship between days of accounts receivable and profitability. The finding also reveals that no statistically significant relationship exists between accounts payable and firm's profitability. Likewise, Mathuva (2010) found a highly significant and positive relationship between inventory conversion period, accounts payable period and firm's profitability, while, receivables collection period is negatively related to firm's profitability. Based on the foregoing literature, this study develops several hypotheses on the association between working capital management and SMEs' profitability.

3.3 Theoretical Framework and Hypothesis Development

The theoretical framework for this study is based on previous literature on working capital management and corporate governance and firm's profitability relationship, such as Shin and Soenen (1998); Deloof (2003); García-Teruel and Martínez-Solano (2007; Banos-Caballero et al. (2010); and Kaur and Singh (2013). This study, based on Deloof (2003); and Baños-Caballero et al. (2010; 2012), includes cash conversion cycle as a measure of efficient working capital management. In addition, the study also introduces new variables of efficient working capital management, which are corporate cash holdings and three elements of corporate governance, i.e.,

family ownership, board size and women on the board. The study employs GOP and ROA as proxies for SMEs' profitability measures, because the two ratios are indicators of how profitable a business is relative to its total assets. Moreover, profit maximisation assumptions are described as the cornerstone of many economic theories (Rantamaki-Lahtinen, Vesala, Ylatalo, Kurttunen & Tuure, 2007). GOP is measured in this study as total sales minus cost of goods sold to total assets, while ROA ratio is measured as net profit before interest and tax to total assets.

Previous literature in the area of working capital management and corporate governance have traditionally focused on large companies listed on the stock markets because of availability and ready-made data for easy analysis and conclusion. This study focuses on the above phenomena in relation to SMEs, with particular reference to SMEs in Nigeria. Management of working capital is a wide area and also very vital in financial management, due to its effects on firm's profitability and liquidity (García-Teruel & Martínez-Solano, 2007). The independent variables of this study are the major components of working capital management and three corporate governance variables, while profitability is taken to be the dependent variable. The relationship can be diagrammatically represented in the proposed framework below:

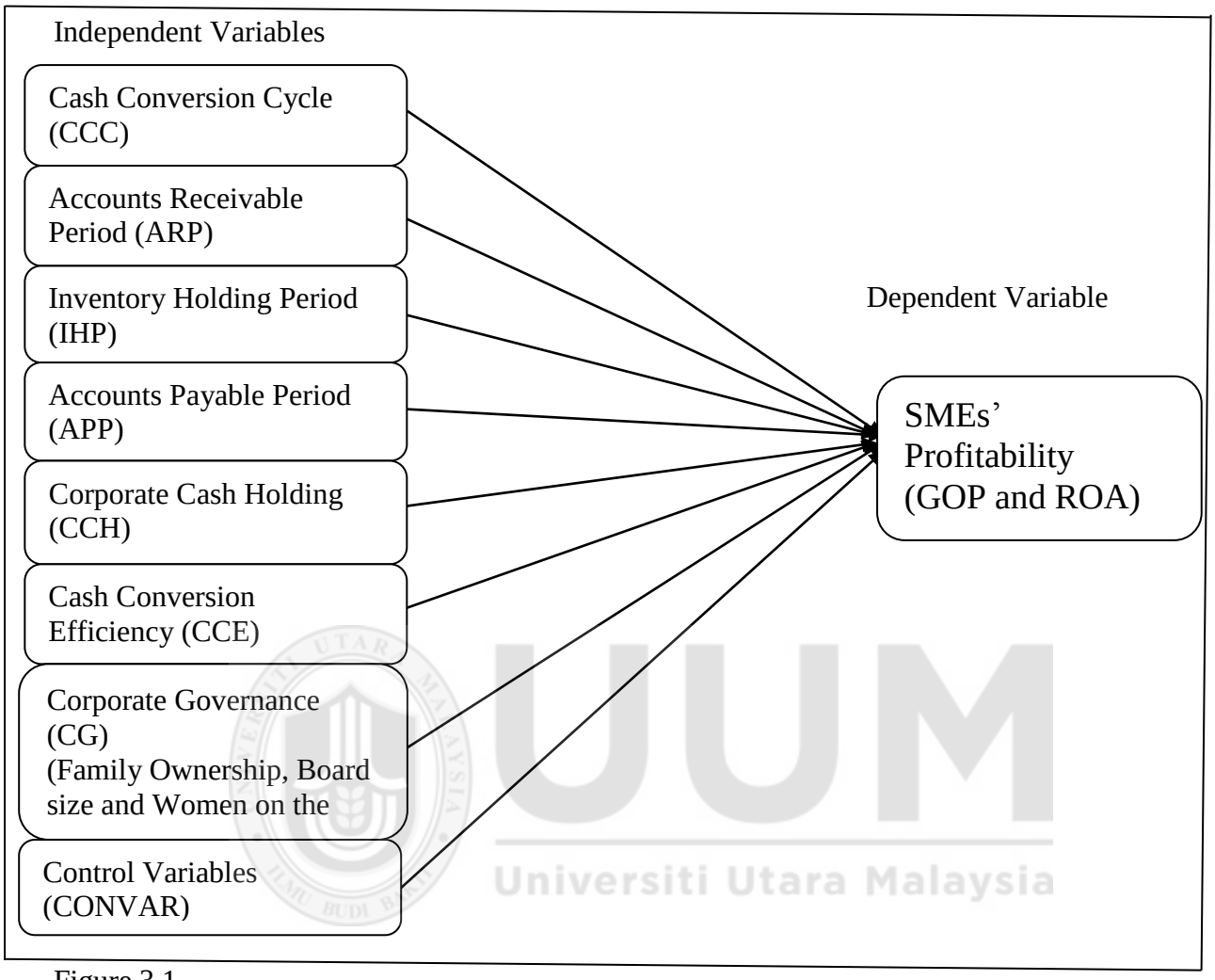

Figure 3.1
Research Framework

Based on the underpinning theories which are resource-based theory, profitability-liquidity trade-off theory and the pecking order theory discussed in Chapter two, the relationship between working capital management, corporate governance and SMEs' profitability is established. The resource-based theory assumes that firm's owners and managers can create competitive advantage by accumulating operational resources for meeting the firm's objectives (McIvor, 2009). The theory maintains that firm's behaviour and practices are directed by the level of its resources available. Thus, the main advantage of efficient working capital management and

good corporate governance is to ensure optimal utilisation of the firm's available resources for improving firm performance and maximising shareholders' value.

Profitability-liquidity trade-off theory, on the other hand, presents a model on how a firm arranges its finances to optimise profitability, and at the same time, maintain liquidity. The pecking order theory discusses that firms finance investment projects first with retained earnings, then with debts and lastly with equity (Myers & Majluf, 1984). According to Ogunpide et al. (2012), current operational cash flows are sufficient to finance new investment projects, for firms to repay debt and accumulate cash. Where retained earnings are insufficient to finance current investments, firms use the accumulated cash holdings and if needed, issue debts.

The relationship is further established with the related studies in the framework as reviewed in the previous literature, such as studies conducted by Shin and Soenen (1998); Deloof (2003); Filbeck and Krueger (2005); Lazaridis and Tryfonidis (2006); García-Teruel and Martínez-Solano (2007); and Bhunia and Das (2012). These studies posit that there exists a relationship between working capital management and firm's profitability (Nobanee et al., 2010; Charitou et al., 2010; Al-mwalla, 2012). It is normally assumed and hypothesised that firm's profitability increases with the increase in efficient working capital management. Therefore, based on the working capital management, corporate governance and SMEs' profitability relationship, several hypotheses are developed. All hypotheses are stated in alternative form.

3.3.1 Cash Conversion Cycle and SMEs' Profitability

Most of the previous studies have measured efficient working capital management based on the traditional cash conversion concept which emphasises on the principles of accelerating receivables collection as quickly as possible and slowing down disbursement as much as possible (Haitham Nobanee et al., 2011). According to Richards and Laughlin (1980) CCC is a standard measure for assessing how well a firm is managing its working capital. They conclude that shortening the length of cash conversion cycle increases firm's profitability and liquidity. Hence, there is a relationship between firm's cash conversion cycle length and its profitability, as when firm's cash conversion cycle reduces, its profitability increases and vice versa (Shin & Soenen, 1998; Lazaridis & Tryfonidis, 2006; Nobanee & Al Hajjar, 2009). Cash conversion cycle is described as the time lag between firm's expenditure on the purchase of inventory and the collection of cash from sales of finished goods (Deloof, 2003). Nobanee et al. (2009; 2011) further add that cash conversion cycle is a means of measuring firm's liquidity level, especially small firms that operate with limited financial resources due to their inability to obtain financing from the capital market. Hence, shortening the length of the cash conversion cycle ensures balance between firm's liquidity and profitability which result in additional source of financing for SMEs. Therefore, based on the aforementioned relationship, the study hypothesises that:

H1: *There is a significantly negative relationship between cash conversion cycle and SMEs' profitability in Nigeria*.

3.3.2. Accounts Receivable Period and SMEs' Profitability

Corporate profitability is determined partly by the way a company manages its accounts receivable. According to Biswal et al. (2012), an efficient management of firm's accounts receivable is not only important but necessary for its survival due to its effect on the firm's profitability and liquidity. According to Garcia-Teruel and Martinez-Solano (2010), trade credit has an effect on the firm's level of investment in assets and consequently, may have an impact on the firm's profitability and value. The study further argues that trade credit (accounts receivable) increases sales turnover which results in increase in the firm's profitability. According to Deloof (2003), a very good trade credit policy may induce customers to place more orders, thereby resulting in higher sales and consequently, increased profitability. Deloof (2003) further elaborates that trade credit stimulates sales because it allows the customer to examine the product before paying. In contrast, too much investment in accounts receivable can be costly because it is a sign of acceptance of late paying customers and this affects the firm's profitability and value negatively. Therefore, there is a relationship between firm's profitability and days of accounts receivable as revealed in the previous studies by Lazaridis and Tryfonidis (2006); and Muhammad et al. (2010). Therefore, based on the aforementioned relationship, the study hypothesises that:

H2: *There is a significantly negative relationship between accounts receivable period and SMEs' profitability in Nigeria*.

3.3.3 Inventory Holding Period and SMEs' Profitability

Inventory management is one factor that affects firm's performance. According to Grablowsky (1984), efficient management of inventories can enhance firm's profitability and profit margin. Similarly, Koumanakos (2008) points out that efficient inventory management leads to an improvement in firm performance. Large inventory may result in higher sales turnover and minimises the risk of stock-out (Deloof, 2003). Therefore, owners/managers should strive to maintain an optimal inventory level which balances between risk and returns (García-Teruel & Martínez-Solano, 2007). In other words, an optimum level of inventory ensures a balance between the two major goals of working capital management: profitability and liquidity, through policies that trade-off on benefits and costs of maintaining a given inventory level.

Wang (2002) observes that if a firm minimises its investment in working capital, this would positively affect the firm's profitability but too much reduction, particularly investment in inventory, may cause a reduction in the firm's level of sales which may equally affect the firm's profitability level. Although some scholars are of the view that excessive investment in working capital does not affect firm's profitability level particularly, maintaining high inventory level reduces the risk of interruption in the production and loss of customers due to scarcity (García-Teruel & Martínez-Solano, 2007). This signifies that there is an association between inventory level and firm's profitability. Hence, based on the theory of working capital, the study hypothesises that:

H3: *There is a significantly negative relationship between inventory holding period and SMEs' profitability in Nigeria*.

3.3.4 Accounts Payable Period and SMEs' Profitability

Accounts payable is a major component of a firm's working capital. Trade credit allows customers to appraise the product quality before paying (Deloof, 2003). Trade credit is one of the common, inexpensive and flexible sources of short-term funds utilised mostly by small businesses (Deloof, 2003; Poutziouris et al., 2005). However, accepting cash discount for early payment might be more beneficial to the firm than late payment of invoices (Petersen & Rajan, 1997). According to Martínez-Sola et al. (2014), trade credit plays a significant role in a firm's financial management policies and strategies. For the buyer, it is a source of financing through accounts payable. In their study, García-Teruel and Martínez-Solano (2007) found no significant relationship between days of accounts payable and firm's performance measured by ROA. Muhammad et al. (2010) found a negative correlation between days of accounts payable and firm's profitability. However, most of the previous studies report a positive relationship between days of accounts payable and firm's profitability. Based on the above reported findings, this study hypothesises that:

H4: *There is a significantly positive relationship between days of accounts payable period and SMEs' profitability in Nigeria*.

3.3.5 Corporate Cash Holdings and SMEs' Profitability

Assets of cash and cash equivalent are the most liquid items of working capital. They are made up of liquid cash, demand deposits and investment in negotiable instruments. Cash is an important component of working capital management and can have a considerable impact on the

SMEs' profitability and risk. Profitability-liquidity trade-off and pecking order theories explain the importance and pattern of corporate cash holdings. According to profitability-liquidity trade off theory, firms set up an optimal level of cash by weighing the cost and benefits of holding cash (Niresh, 2012; Gill & Shah, 2012). Excess cash level ensures liquidity but results in keeping idle cash which in turn, results in low returns and less risk. Similarly, low cash level results in low liquidity which in turn, results in high risk of financial distress and high returns (Niresh, 2012). An optimum level of both profitability and liquidity of the firm can be determined by comparing the lower returns on liquid assets and the gain on the external financing needs of the firm. The pecking order theory, on the other hand, suggests that firms should finance their investment first with retained earnings, then with debts and finally with equity to minimise asymmetric information cost (Myers & Majluf, 1984). The theory postulates that firms do not have a target cash level; rather, cash is used as a safeguard between retained earnings and investment needs of the firm (Gill & Shah, 2012).

According to Walter (1937), marketable securities are equivalent to cash; hence, the two (cash and marketable securities) are considered under one heading. Furthermore, Garcia-Teruel and Martinez-Solano (2008); and Ozkan and Ozkan (2004) used the two variables (cash and marketable securities) in their studies under one heading as dependent variable. Hence, Gill et al. (2010) recommend inclusion of cash and marketable securities as a new variable in working capital management. On this basis, the study hypothesizes that:

H5: *There is a significantly negative relationship between corporate cash holdings and SMEs' profitability in Nigeria*.

3.3.6 Cash Conversion Efficiency and SMEs' Profitability

One of the fundamental issues in corporate financial management is efficiency in the management of working capital. According to Filbeck and Krueger (2005), the success of any business relies on the ability to effectively manage its working capital components. Therefore, the task of the financial manager is to ensure that operating costs are minimised and funds are sufficiently made available for business growth by reducing the amount of resources tied up in working capital. Efficient working capital management involves effective administration of the firm's accounts receivable, inventory, cash and marketable securities and accounts payable (Kaur & Singh, 2013a). Furthermore, Lamberson (1995) opines that the major concern of a financial manager is to balance between firm's short-term resources (not at optimal level) and short-term obligations to an optimal level. Hence, efficient working capital management can have a significant effect on the firm's profitability and risk (Shin & Soenen, 1998; Deloof, 2003; Ramachandran & Jankiraman, 2009; Kaur & Singh, 2013). Cash conversion efficiency is a measure of efficient working capital management. On this basis, the study hypothesises that:

H6: *There is a significantly positive relationship between cash conversion efficiency and SMEs' profitability in Nigeria*.

3.3.7 Corporate Governance and SMEs' Profitability

Corporate governance is the overall management of corporate activities. It is a system by which firms are directed and controlled (OECD, 1999). Corporate governance is intended to safeguard the interest of the shareholders from the management. Strong corporate governance establishes

and maintains good corporate culture which guides the management to make decisions that ensure efficient management of firm's resources, which in turn, can maximise the shareholders' wealth. Its aim is to build credibility and ensure transparency and accountability in the governance of business organisations for improving corporate performance. The pecking order theory, profitability-liquidity trade-off theory and resource-based theory are utilised in this study to explain the relevance of working capital management and corporate governance to firm's profitability. According to the pecking order theory, firms prefer to finance their investment first with available cash generated through retained earnings or internal equity, then with debts and lastly with external equity (Gill & Biger, 2013). Effective corporate governance investment policies maximise financial benefits and minimise cost of raising external financing to increase shareholders' wealth.

The resource-based theory can be employed to explain corporate governance and firm's performance relationship, particularly from the ownership structure and board of directors' perspectives. According to Buniamin et al. (2012); and Wilson et al. (2013), the resource-based theory assumes that firms accumulate valuable resources to create competitive advantage that benefit them through the owners or board members that often present their experiences, expertise and reputation. This implies that each member of the board brings to the firm unique resources in terms of expertise, skills, information and potential contact to the external environment. Hence, there is a relationship between corporate governance and firm's performance. Due to limited corporate governance information disclosed in the financial statements of SMEs in Nigeria, this study employs only three corporate governance mechanisms: family ownership, board size and women on the board.

3.3.7.1 Family Ownership

In corporate governance, one of the major mechanisms that influence firm's performance is the ownership structure. According to Jensen and Meckling (1979), ownership structure is defined in terms of capital contributions. In a family-owned business, the majority of the ownership or control lies within the family (Tsai, Hung, Kuo & Kuo, 2006). Nobanee and Ellili (2015) state that previous studies which analysed financial performance of family-owned and controlled businesses draw upon various theories to explain the association, ranging from agency theory to resource-based theory. Firm performance is concerned with efficiency in the utilisation of resources as well as accomplishment of organisational goals. Families are thought to influence firm's performance through goals, relationship and resources (Dyer, 2006). However, the agency theory problems, such as conflict of interest, self-interest and goals and information asymmetry, are less severe in family-owned firms when compared to non-family owned firms. According to James (1999), the benefits of founding family-owned firms are that family traits, such as altruism, trust and paternalism create love and commitment to the business. The study further elucidates that 'founding family-owned businesses provide a special corporate governance system that curtails agency cost and improves firm's performance'. This is because majority of the family-owned and controlled businesses involve their family members in the management of the businesses. With respect to the resource-based theory, Dyer (2006) opines that family influence can result in different agency benefits and resources, while other influences might result in costs and liabilities to the firm. Aguiló and Aguiló (2012) examined the benefits and costs associated with family-owned businesses in Mexico. Trade-off between these benefits and costs will improve the firm's performance in terms of profitability and

liquidity as well. Wilson et al. (2013) argue that family-owned and controlled firms are significantly less likely to fail because in most cases, the founder of the family-owned firm is the chairman and his children, brothers and sisters are CEOs and other top managers of the firms and are owners of the resources.

In contrast, Jensen and Meckling (1979); Thomsen and Pedersen (2000); and Lausten (2002) argue that, 'in a family-owned firm, formal monitoring mechanisms are not necessary due to family ties and this can result in the entrepreneur and managers engaging in managerial entrenchment at the expense of the firm which results in low performance'. Similarly, Wilson et al. (2013) opine that although altruism encompasses consideration among family members, generosity and commitment to family and the business may tend to have a negative effect on the firm's performance. For example, appointing family members on the grounds of family ties, regardless of ability and skills, may subject the firm to low performance. Based on the above relationship between family ownership and firm performance, this study hypothesises that:

H7: *There is a significantly negative relationship between family ownership and SMEs' profitability in Nigeria*.

3.3.7.2 Board Size

A corporate board is a mechanism saddled with responsibility of formulating policies and strategies for improving firm's profitability, which in turn, can maximise the shareholders' wealth. According to Saibaba and Ansari (2012, pp. 109), "*corporate board size reflects a*

trade-off between firm-specific benefits of monitoring and costs of such monitoring". The board policies and strategies are driven by the organisational goals and the available resources. The pecking order theory and resource-based theory suggest that firms arrange their financing in order of preference and create competitive advantage by accumulating operational resources for improving performance. Previous studies on the relationship between board size and firm's performance have indicated that board size has some influence on the firm's performance. However, findings among the scholars are mixed and inconclusive. Some scholars indicate that a small board is more effective in monitoring, controlling and decision-making in a company. For example, Jensen (1993) argues that a small board is more effective in monitoring management and in decision-making. He further opines that small board reduces free riding problem and increases directors' accountability. Ujunwa (2012) also documents a negative relationship between board size and firm's performance of Nigerian quoted companies. Similarly, Kumar and Singh (2013) found that board size is negatively related to performance of Indian firms.

However, some scholars are of the opinion that large boards are more capable of addressing corporate internal and external problems due to social network and political coalition. For example, Abor and Biekpe (2007) found that a large board is better and more effective due to diversity and wide range of expertise among directors. They further add that large board tends to be more powerful for CEOs to dominate. Shukeri et al. (2012) examined the effects of board characteristics on the performance of Malaysian listed companies and conclude that presence of more members on the board improves firm's performance through proper management of resources and control. Similarly, Amran (2011) asserts that large boards are superior to small

boards because of their association with more capabilities and resources and wider external contracting relationship. Large board size tends to have more external linkage and ability to extract critical resources, such as funding and expertise, which could lead to high performance (Shukeri et al., 2012). Further, Mollah, Alfarooque and Karim (2012) argue that a positive relationship exists between board size and firm's performance. Based on this relationship, this study hypothesises that:

H8: *There is a significantly positive relationship between board size and SMEs' profitability in Nigeria*.

3.3.7.3 Women on Board

Presence of a woman director on the board of directors may have a significant influence on the ability of the board in monitoring and controlling both the internal and external affairs of the firm and to increase firm performance. With increase in the participation of women employees, gender diversity has become an important issue in corporate governance. Presence of women on the boards is one of the dimensions of board diversity. According to Şener and Karaye (2014), board diversity refers to the composition of the board members in terms of age, gender, ethnicity, nationality, education and experience. According to Barney (1991), the resource-based theory assumes a positive relationship between diversity and corporate performance. Carter et al. (2010) argue that firms with two or more women directors on their boards have a better performance. In this respect, gender diversity, as a dimension of board diversity, improves and fosters good corporate governance practices.

Studies on the relationship between presence of a woman on the board and firm's performance have produced mixed results in both developed and developing countries (Azmi & Barrett, 2013). Some scholars have found a positive relationship between presence of women on the board and firm performance; while some others have reported a negative relationship. For example, Adams and Ferreira (2009); and Wilson, Wright and Scholes (2013) found a negative relationship between gender diversity and firm performance. The finding of Carter et al. (2010) indicates no significant relationship between gender diversity and corporate performance of major USA firms.

However, Lückerath-Rovers (2013); and Wilson et al. (2013) show that firms with women on the board perform better than firms without women on their boards of directors. This signifies a positive relationship between the presence of women on the boards and firm performance. Similarly, Abdullah, Ismail and Nachum (2013) document a significantly positive relationship between the presence of women directors and performance of Malaysian firms. Based on this relationship, this study hypothesises that:

H9: *There is a significantly positive relationship between women directors on the board and SMEs' profitability in Nigeria.*

3.4 Model Specification

The regression analysis models are specified below to examine how working capital management and corporate governance impact on the profitability of the SMEs in Nigeria. This

study developed two different adjusted models based on the two measures of firm's profitability: gross operating profit (GOP) and return on assets (ROA). The models are presented as follows:

MODEL 1: $GOP_{it} = \beta o + \beta_1 CCC_{it} + \beta 2\ IHP_{it} + \beta_3 ARP\ it + \beta_4 APP_{it} + \beta_5 CCH_{it} + \beta_6 CCE_{it} + \beta_7 FMLY_{it} + \beta_8 BSIZE_{it} + \beta_9 GENDER_{it} + \beta_{10} FSIZE_{it} + \beta_{11} LEVERAGE_{it} + \beta_{12} SGROW_{it} + \beta_{13} FAGE_{it} + \beta_{14} GDPGROW_{it} + €it$

MODEL 2: $ROA_{it} = \beta o + \beta_1 CCC_{it} + \beta_2 IHP_{it} + \beta_3 ARP_{it} + \beta_4 APP_{it} + \beta_5 CCH_{it} + \beta_6 CCE_{it} + \beta_7 FMLY_{it} + \beta_8 BSIZE_{it} + \beta_9 GENDER_{it} + \beta_{10} FSIZE_{it} + \beta_{11} LEVERAGE_{it} + \beta_{12} SGROW_{it} + \beta_{13} FAGE_{it} + \beta_{14} GDPGROW_{it} + €it$

All equations are estimated using regression analysis model to examine the impact of working capital management and corporate governance on SMEs' profitability. This is in line with the studies by Deloof (2003); and Lazaridis and Tryfonidis (2006). The main difference relates to introduction of additional variables, i.e., corporate cash holdings and cash conversion efficiency and three corporate governance mechanisms with a few control variables. For example, GDP growth is introduced in the study to regulate the influence of macroeconomic conditions which affected business operations during the period of the study, while firm size is applied to control for the influence of company's size on profitability because the population of this study is SMEs.

3.5 Operational Definition and Measurement of Variables

This study undertakes to examine the influence of working capital management and corporate governance on the performance of SMEs in Nigeria. The motivating factor for the study is the inconclusive evidences by the previous studies and the relevance of working capital management and corporate governance on firm's profitability, growth and sustainability, particularly the

SMEs. All the variables in the study used to evaluate the hypotheses are defined and measured as follows:

3.5.1 Profitability

Profitability is the dependent variable in this study and defined as the profitability of the sample Nigerian SMEs. Profitability employed in this study is based on two proxies: GOP and ROA. Several studies have used GOP to measure firm's profitability, such as Shin and Soenen (1998); Deloof (2003); and Baños-Caballero et al. (2012). GOP is used because it better reflects the operating activities of the SMEs (Baños-Caballero et al., 2012). In this study, GOP is adapted and measured as sales minus cost of goods sold, divided by total assets [(SALES – COGS) / TA]. Financial assets are excluded from the formula due to non-availability of the data on these types of assets in the financial statements of the sample Nigerian SMEs. Equally, ROA has been used by some scholars as a measure of firm's profitability; these include García-Teruel and Martínez-Solano (2007); Ching et al. (2011); and Al-Mwalla (2012). ROA is adopted in this study as a poxy for profitability because it indicates the efficiency of the management and shows how owners/managers utilise the firm's assets to generate earnings. ROA is measured as earnings before interest and tax to total assets.

3.5.2 Working Capital Management (WCM)

Working capital is the total value of all current assets and current liabilities of a business at a given period. Working capital can be gross or net. Gross working capital is the total value of all

current assets: accounts receivable, inventories, cash and marketable securities; while total current assets minus total current liabilities give net working capital. Net working capital reflects the business' ability to meet its short-term financial commitments using short-term resources (Savita, 2011). According to Yusuf and Idowu (2012), investment in working capital can be in two dimensions. First, where firms invest in short-term assets needed for normal day-to-day operations. This involves investment in accounts receivable, inventories, cash and marketable securities. Second, is a broader dimension, which includes investment in both current assets and non-current assets. This refers to financing of short-term capital needs of the firm for its operations. Thus, working capital management involves management of short-term resources and short-term obligations of the business (Filbeck & Krueger, 2005). It is made up of four important determinants or components that are the independent variables in this study.

3.5.2.1 Cash Conversion Cycle (CCC)

One of the major components of working capital management is the cash conversion cycle. Gitman (1974) describes cash conversion cycle as a powerful measure of working capital performance. Hence, cash conversion cycle length determines how efficiently a firm is managing its working capital and it serves as an additive in working capital management. Stewart (1995) defines cash conversion cycle as the average period of time needed to collect receivables, the average period of time needed to sell inventories and the average period of time needed by the firm to pay its trade creditors. Similarly, Deloof (2003) describes cash conversion cycle as the average length of time from the payment for the purchase of raw materials till the collection of debts associated with the sale of the products. Thus, cash conversion cycle measure

is traced to a change in the cash through its effect upon accounts receivable, inventory and accounts payable and finally back to cash. Cash conversion cycle is measured as accounts receivable period plus inventory holding period minus accounts payable period.

3.5.2.2 Inventory Holding Period (IHP)

The next variable or component of a firm's working capital is the inventory referred to as inventory holding period or days of inventory, i.e., the average period that a business takes to turn inventories or stock into cash or debt within a year of inventory turnover per annum (Azam & Muhammad, 2011). According to Deloof (2003), maintaining adequate level of inventory may guarantee higher sales turnover and minimise the risk of stock-out. This consequently impacts on the firm's profitability. Inventory holding period is measured as inventory / cost of goods sold x 365 days.

3.5.2.3 Accounts Receivables Period (ARP)

The third variable of working capital management is accounts receivable period. It is described as the number of days a company takes to collect receivables per annum, as firm's profitability is partly affected by the level of accounts receivable (Howorth et al., 2009). Days of accounts receivable or average collection period is measured as accounts receivable divided by net sales multiplied by 365 days.

3.5.2.4 Accounts Payable Period (APP)

The fourth variable is days of accounts payable. The variable measures the number of days taken by a business to pay its creditors or suppliers. It indicates the level of liquidity of a business and how a business utilises trade creditors to finance its operations using outsiders' resources. The higher the ratio, the better it is in terms of financing but it is worthy in terms of solvency (Deloof, 2003). Days of accounts payable or average payment period is measured as accounts payable divided by total purchases multiplied by 365 days.

3.5.2.5 Corporate Cash Holdings (CCH)

The fifth and additional variable introduced in this study is the corporate cash holdings of the firm. This variable is measured by the log of average cash at a given period as utilised in the study by Gill and Biger (2013). Effective cash management is vital to companies, government agencies and even non-profit making organisations. Thus, corporate cash management is concerned with motives for holding cash, speeding up collection of receivables and slowing down cash payment. Holding significant level of cash gives a firm a cushion to handle economic downturn and the ability to make investments in other firms when price is attractive. In fact, the survival of a firm can depend on the availability of cash to meet its financial obligations when due. A firm makes short investment on marketable securities with its temporary idle cash. This is because marketable securities generate interest income to the firm unlike liquid cash and in the event of cash shortage, marketable securities can be converted into cash to meet pressing needs. Hence, cash level significantly influences the profitability and liquidity of SMEs.

3.5.3 Cash Conversion Efficiency (CCE)

The sixth and additional variable also introduced in this study is the efficiency of working capital management measured by cash conversion efficiency. This variable measures the impact of efficient working capital management on firm's profitability as evident in the previous literature, such as Shin and Soenen (1998); Ramachandran and Jankiraman (2009); Okpara (2011); and Kaur and Singh (2013). Efficient working capital management involves effective and adequate utilisation of the working capital items, including inventory, accounts receivable, cash and marketable securities and accounts payable. Empirical studies have shown that efficiency in working capital management reduces operational cost and improves operational efficiency and profitability (Ghosh & Maji, 2003); while according to Ross (2009), sited in Barine (2012), the existence of a firm depends on its management ability to effectively manage the firm's working capital. Barine (2012) adds that working capital management efficiency reduces risk of illiquidity and increases overall profitability. In this study, the cash conversion efficiency is related to SMEs' profitability for enhancing the performance of the SME sector in Nigeria.

In this study, cash conversion efficiency is used as a measure of efficient working capital management. Cash conversion efficiency is measured as the ratio of net cash flow from operating activities to sales. The cash conversion efficiency measures the speed at which the firm is able to convert its revenue from sales to cash flow (Ganesan, 2007; Gill & Biger, 2013; Kaur & Singh, 2013). The higher the speed of the conversion, the higher the ratio.

3.5.4 Corporate Governance (CG)

For over a decade, corporate governance has been a growing area of management research focusing mainly on large, public listed companies with little attention to SMEs in the developed economies. According to Keasey (1997), corporate governance is the process and structure used to direct and manage the business affairs of the company towards enhancing business prosperity and corporate accountability with the ultimate objective of realising long-term shareholders' value, while taking into account the interest of other stakeholders. In this study, the corporate governance mechanisms adapted are board size, women on the boards and family ownership. These mechanisms of corporate governance are defined and measured as follows:

3.5.4.1 Family Ownership (FMLY)

A family-owned firm is one in which two or more family members are involved and the majority of ownership or control lies with the family members. According to Tsai et al. (2006), a family-owned firm is controlled by an individual which will be inherited and controlled by the children of the proprietor upon his or her retirement or death. Family ownership variable is measured based on proportion of ownership of the firm, usually above 50% by family or family group. However, due to unavailability of the data on ownership in this study, firms are considered as family-owned when they have two or more shareholders having the same surname and at least one family shareholder is also a director (Abor & Biekpe, 2007; Wilson, et al., 2013). The ownership is determined from the corporate information in the annual report of the firm.

3.5.4.2 Board Size (BSIZE)

Board size is defined as the number of directors serving on the board during the period of the study (Gill & Mathur, 2011).

3.5.4.3 Women on Board (GENDER)

Women representation on boards is one of the attributes of board diversity. It is defined as the number of women serving on the board during the period of the study. The variable is measured as a proportion of women directors to the total number of board members (Abbott et al., 2012; Virtanen, 2012; Lückerath-Rovers, 2013).

3.5.5 Control Variables (CONVAR)

Besides the dependent and the independent variables shown in the research model, few control variables are incorporated into the study that are likely to influence the relationship between working capital management and corporate governance with SMEs' profitability. In the process of literature review, different scholars have used some of these control variables, apart from the main variables because they have some effects on the SMEs' profitability. For example, Baños-Caballero et al. (2010; 2012), in the study of working capital management and SMEs' profitability, used cash flow, leverage, sales growth, firm size, age of the firm, investment in tangible fixed assets, ROA and industry as control variables.

Control variables are therefore included in this study to control for their influence on the relationship between SMEs' profitability with working capital management and corporate governance. For example, size of a firm can influence the relationship of working capital management and firm's profitability because firm size can be a determinant of a firm's profitability. Similarly, favourable economic condition or depression measured by GDP growth can have an effect on the independent variables on SMEs' profitability. Economic condition can be a determinant of a firm's level of profitability. Hence, control is applied on variables, such as firm size, sales growth, leverage, age of the firm and GDP in this study as discussed below. This study adopts the following few control variables as utilised in Deloof (2003); García-Teruel and Martínez-Solano (2007), Banos-Caballero et al. (2010; 2012); and Afeef (2011).

3.5.5.1 Firm Size (FSIZE)

Firm size is measured as the natural logarithm of total assets. According to Njeru et al. (2012), firm size is one of the important determinants of SMEs' growth and profitability. This is because small firms find it more difficult to resolve informational asymmetries with creditors and other providers of capital compared to large firms which relegate the former to the use of internally generated funds for growth and to increase profitability (Myers & Majluf, 1984; Rajan & Zingales, 1995). Hence, SMEs should focus on optimising their size in order to maximise their potential to increase their firm's value and enhance profitability.

Findings of most previous studies have indicated that firm size is positively related to firm's performance. For example Raheman and Nasr (2007); and Raheman and Afza (2010) report a positive relationship between firm size and firm's profitability of Pakistani firms. Similarly, Mathuva (2010) found a positive association between firm size and firms' net operating profitability as large firms are able to exploit their economies of scale. This indicates that large firms report higher profits than small firms in Nairobi, Kenya.

3.5.5.2 Sales Growth (SGROW)

A firm's sales growth could also influence its working capital management by affecting its trade credit granted and received and also its level of investment in inventories (Baños-Caballero et al., 2010). An empirical study by Kieschnick, Laplante and Moussawi (2006) has documented that future sales growth has a positive influence on firm's working capital and concludes that a firm can build up investment in inventories when expecting a boost on the future sales. However, high growth opportunities might result in use of more trade credit as a source of financing the growth and granting more credit to customers to increase sales in the period of low demand. Hence, sales growth can have an impact on the working capital management and firm's profitability relationship.

Previous scholars have established a positive relationship between firm's sales growth and profitability. For example, Raheman et al. (2010) document a positive relationship between sales growth and firm's profitability of Pakistani firms. Similarly, Ademola (2014) found a positive

relationship between sales growth of Nigerian food and beverages manufacturing firms and their level of profitability. This indicates that as sales increase, the level of firm's profitability increases as well. Hence, firms should strive to increase their sales level to achieve high profitability.

3.5.5.3 Leverage (LEVERAGE)

Leverage is the extent to which a firm is financed by debt. A firm can choose to finance its investment operations through debt financing but this has some implications as pointed out by Magpayo (2011). First, when using debt financing, shareholders control the firm with limited investment. Secondly, creditors usually examine the equity financing to provide a margin of safety. If the proportion of the shareholders' financing is small, it means the risk of the business is mainly borne by the creditors and if the firm earns more from investment financed by the debts, then it pays high interest premium. Hence, the firm's fund requirement should be generated through operations internally. On this basis, control is applied on the variable, leverage. Leverage is represented by "LEVERAGE" and measured by the ratio of total debts to total assets**.** Previous studies on the relationship between leverage and firm's profitability report a negative relationship. As a firm's financial debt increases, this leads to decrease in the firm's operating profit. For example, in 2007, Raheman and Nasr (2007) found a significantly negative relationship between debt ratio and firm's profitability of Pakistani firms. Similarly, Raheman et al. (2011) report a negative association between debt and firm's profitability. However, Ademola (2014) found no significant relationship between leverage and firm's profitability in Nigeria.

3.5.5.4 Firm Age (FAGE)

Firm age is measured by number of years a firm has been in business since incorporation or the length of time or period a firm might have known and established relationship with its trade debtors and trade creditors (Petersen & Rajan, 1997). According to Banos-Caballero et al. (2010), the number of years a firm has been in business operation has significant relationship with its source of financing and trade credit. Results of many studies indicate a positive relationship between firm's age and performance. For example Mathuva (2010) found a positive relationship between firm's age and its performance. Similarly, Raheman et al. (2010) document a positive relationship between age and firm's performance. These results indicate that older firms are more profitable than the newly incorporated firms.

3.5.5.5 GDP Growth (GDPGROW)

Microeconomic condition also influences firm's working capital management. According to García-Teruel and Martínez-Solano (2007), favourable economic conditions tend to reflect on firm's profitability. Similarly, Ihua (2009) argues that poor economic conditions are considered as a very significant factor influencing SMEs' failure in Nigeria. GDP growth is measured by the annual GDP growth in this study**.** According to Abuzayed (2011), GDP growth affects firm's profitability negatively which indicates that during economic downturn, profitability is low. Similarly, Ademola (2014) found a negative relationship between GDP and profitability of Nigerian firms.

Table 3.1
Study Variables and their Measurement

Variables	Measurement	Variable Type
Gross Operating Profit (GOP)	[Total sales - Cost of goods sold]/Total assets	
Return on Assets (ROA)	[Earnings before interest and tax]/Total assets	Dependent
Cash Conversion Cycle	ARP + IHP - APP	
Accounts Receivable Period (ARP)	[Accounts receivable / Net sales] x 365 days	
Inventory Holding Period (IHP)	[Inventories / Cost of goods sold] x 365 days	
Accounts Payable Period (APP)	[Accounts payable / Purchases] x 365 days	
Corporate Cash Holdings (CCH)	Log [(Beginning cash + Ending cash) / 2]	Independent
Cash Conversion Efficiency (CCE)	[Net cash flow from operating activities*]/ Sales	
Family Ownership (FMLY)	Equal to '1' if two or more directors are family members and '0' if otherwise.	
Board Size (BSIZE)	Number of directors serving on the board	
Women on the Board (GENDER)	Proportion of women directors on the board	
Firm Size (FSIZE)	Natural logarithm of total assets	
Leverage (LEVERAGE)	Total debt / Total assets	
Sales Growth (SGROW)	$[(Sales_{t1} – Sales_{t0})] / Sales_{t0}$	Control variables
Firm Age (FAGE)	Number of years since incorporation	
GDP Growth (GDPGROW)	Annual GDP growth	

Note: *Net cash flow from operating activities is cash receipt from customers *minus* cash paid to suppliers and employees and tax paid.

3.6 Research Design

The methodology in this study involves the use of statistical tools of analysis and is longitudinal, based on the use of secondary data to relate working capital management and corporate governance to the profitability of SMEs in Nigeria. The study aims to test the relationship between the working capital management components and corporate governance mechanisms with the SMEs' profitability as hypothesised in the framework. The study covers all Nigerian SMEs within the period of seven years, 2007 – 2013. Nigeria is made up of six geopolitical

areas or zones: North-West, North-East, North-Central, South-West, South-East and South-South, and the SMEs are found across all the six geopolitical zones.

However, for the purpose of this research, certain entities are excluded, such as firms in the financial and services sectors. Financial firms and firms in the services sector, such as banks and financial institutions and service industries, are excluded in this study because they are outside the scope of this study due to the unique nature of their working capital. In these types of businesses, the working capital is made up of cash and receivables only. The unit of analysis of the study is the SMEs in the non-financial and non-services firms, such as manufacturing, merchandising and related businesses. Based on SMEDAN/NBS (2012) survey, there are 22,918 registered SMEs in Nigeria. Therefore, the unit of analysis in this study is organisations, which are the Nigerian SMEs.

3.7 Data Collection

The data for this study is secondary data obtained from the financial statements of the SMEs prepared in accordance with Statement of Accounting Standard (SAS) issued by the Nigerian Accounting Standards Board (NASB). The data is sourced from any of the following organisations or combination of the organisations. These organisations include the Corporate Affairs Commission, the Federal Inland Revenue Services, the Small and Medium- Scale Enterprises Development Agency of Nigeria and Accounting and Auditing firms. The reason for selecting these organisations is because of their link and commitment to the growth of SMEs in

Nigeria coupled with the responsibility of keeping up-to- date records, including yearly financial returns of all the registered SMEs. Sections 334, 357 and 370 of the Companies and Allied Matters Act 1990 (CAMA 90) have made it mandatory for all registered companies in Nigeria to prepare and file with the CAC, a copy of their audited annual financial statement every year. The data is based on the computed financial results of all the SMEs (non-financial and non-services firms) and the sample population is determined out of the registered SMEs within the period of the study. The information required in the financial statement of the sampled SMEs include: the company's profile, the company's income statement (profit and loss accounts), the statement of assets and liabilities (balance sheet), the cash flow statement and the notes to the accounts.

The period of the study is seven years beginning from 2007 - 2013. The main reason for selecting this period is based on the assumption that since the SMEs' regulatory body (SMEDAN) was established in 2003 in Nigeria, therefore, four years after its take-off is sufficient and reasonable for the SMEs to have complied with the guidelines of the body and that of the CAC. Hence, the data for the study is assumed to be available for the relevant period. Also, the number of data observations depends on available annual financial statements of the sampled SMEs used in the study multiplied by the number of years of the study which is seven years.

3.8 Population of the Study

The unit of analysis for this study is the SME. The population of the study covers all SMEs in Nigeria within the period of the study. The SMEs are selected as the unit of analysis for this study for the following reasons:

i. SMEs are the backbone of any economic development in the world (Okpara, 2011).

ii. SMEs are the dominant form of business in any economy with significant effect on world economic development (Boonpattarakan, 2012).

iii. SMEs are the driving force for sustainable economic development, employment generation and poverty reduction in many developing economies in the world (Sunday, 2011).

iv. In Nigeria, empirical evidence indicates underperformance of the SME sector in terms of employment generation, poverty reduction and contribution to GDP (SMEDAN/NBS, 2012).

Furthermore, the selection of the population of the study is done according to the definitions of the SMEs by SMEDAN and the IFRS, 2009. Specifically, the sample firms shall be in operation at least for the past five years to ensure availability of the data. This is in line with Klonowski's (2012) assertion that very few SMEs manage to survive more than five years. The total number of SMEs as per SMEDAN/NBS' (2012) survey in Nigeria is 22,918 made up of 21,264 small and 1,654 medium-size entities. This is shown in Table 3.2.

Table 3.2
SMEs Statistics in Nigeria by Zone and Workforce

Zones/Work Force	Number of Employees		
	10 – 49	50 - 199	Total
North-West	4,682	328	5,010
North-Central	2,960	262	3,222
North-East	1,480	138	1,618
South-East	2,350	170	2,520
South-South	2,864	208	3,072
South-West	6,928	546	7,474
Total	**21,264**	**1,654**	**22,918**

Source: SMEDAN/NBS Survey, 2012

3.9 Sampling Size

Out of the population of 22,918 SMEs in Nigeria as shown in Table 3.2, the initial sample of 378 SMEs is arrived at based on Krejcie and Morgan's (1970) sample size determination criteria. Krejcie and Morgan's (1970) sample size determination criteria is selected because it has taken into account the level of confidence and precisions, ensuring that sampling errors are minimised (Sekaran & Bougie, 2011).

Specifically, the selected samples shall meet the following criteria as contained in the two definitions adopted first under the Nigerian National policy on SMEs (SMEDAN/NBS, 2012); and second by IFRS for SMEs. Firstly, the SMEs must be a registered firm with the CAC within the period of study and should not be a public limited company which publishes general purpose financial statement for the general public (i.e., private enterprise by its reporting obligations). Secondly, the SMEs must satisfy the SME's definition based on the Nigerian national policy on SMEs as stated below.

Table 3.3
SMEs Definitions by Assets Value and Workforce

SME Categories	Total Assets Value (excluding Land and Building in ₦)		Total Workforce (Number of employees)	
	Above	Not more than	Above	Not more than
Small-Size Enterprise	5,000,000	50,000,000	10	49
Medium-Sized Enterprise	50,000,000	500,000,000	50	199

Source: SMEDAN/NBS Survey, 2012

3.10 Sampling Technique

In this study, area sampling technique is used, where the target population is first divided into geographical areas. It is a specific type of cluster sampling technique (Sekaran & Bougie, 2011). Then, a convenience sampling is drawn from each of the areas consistent with Wilson, (1997). Area sampling method is employed in this study because of the following reasons: first, the population is large (22,918 SMEs) and grouped into states and geopolitical zones by SMEDAN 2012 survey. Secondly, area sampling enables selection of samples across the whole population within the geographical zones, hence minimising sampling errors (Coopers & Schindler, 2009). This ensures generalisation of all the elements of the population (Raj, 1974). Thirdly, the disadvantage of taking time to collect the data from each area under the area sampling technique is overcome by the use of secondary data in this study and the advantage of cost effectiveness is highly achieved (Sekaran & Bougie, 2011). Using area or cluster sampling technique in this study involves three steps. First step is to determine the geopolitical zones and the states under

each (zone) in Nigeria. There are six geopolitical zones in Nigeria and they are shown in Table 3.4 below:

Table 3.4
Nigerian Geopolitical Zones and States

Geopolitical Zones/Areas	States
North-West	Katsina, Kano, Kaduna, Sokoto, Kebbi, Jigawa and Zamfara
North-East	Borno, Yobe, Bauchi, Adamawa, Gombe and Taraba
North-Central	Plateau, Benue, Nasarawa, Kogi, Kwara, Niger and FCT Abuja
South-West	Oyo, Ondo, Osun, Ogun, Ekiti and Lagos
South-East	Enugu, Abia, Ebonyi, Imo and Anambra
South-South	Cross River, Akwa Ibom, Rivers, Bayelsa, Delta and Edo

Source: SMEDAN/NBS Survey, 2012

The next step is to determine the percentage of the sample SMEs to be drawn from the total population of the study. This is done by dividing the sample size of the population by the total population of the study and then multiplying by 100 (i.e., 378 / 22,918 X 100 = 1.65%). The third and final step is to determine the number of sample SMEs to be drawn from each of the six geopolitical zones based on the percentage of the sample SMEs (i.e., 1.65%). For example, North-West has a total of 5,010 SMEs. This number is multiplied by 1.65% to arrive at the number of sampled SMEs from the north-west zone (i.e., 5,010 x 1.65% = 83). This is applied to each of the zones in order to arrive at the number of sample SMEs from each of the six zones which make up the total of 378 initial sample SMEs for the study as shown in Table 3.5 below. Hence, this study uses disproportionate area sampling to ensure sufficient sample from each geopolitical zone and it is considered appropriate because it ensures equality in representation from each of the zones; besides, the method has been used in prior studies. The final sample of

311 SMEs was arrived by utilising convenience sampling technique. Firms with full and up-to-date data within the period of study were selected from each of the six geopolitical zones. These are shown in Table 3.5 below:

Table 3.5
Sample SMEs per Geopolitical Zone

Zone	Population of SMEs per zone	% Sample of SMEs per zone	No. of Sample SMEs per zone	Final Sample of SMEs per zone
North-West	5,010	1.65% x 5,010	83	70
North-East	1,620	1.65% x 1,620	27	55
North-Central	3,222	1.65% x 3,222	53	51
South-West	7,474	1.65% x 7,474	123	55
South-East	2,520	1.65% x 2,520	41	42
South-South	3,072	1.65% x 3,072	51	38
Total	**22,918**	**1.65% x 22,918**	**378**	**311**

3.11 Data Collection Procedure

Data for this study is secondary data from the financial statements of the 311 sample SMEs across the six geopolitical zones in Nigeria. The financial statements were obtained from SMEDAN and CAC, the government agencies saddled with the responsibility for regulating the formation and management of companies in Nigeria and the NSE for the listed SMEs as mentioned earlier. The NSE is included as source of data because there are some listed companies that by the SMEDAN definition are SMEs in nature. The actual data collection commenced after proposal defence. An official introduction letter was collected from Othman Yeop Abdullah Graduate School of Business (OYAGSB), which enabled the researcher to request for the data officially from the selected organisations.

In addition, a formal application for supply of the data was made to the affected organisations to get either computed pooled data or the raw data from the Balance Sheet and Income Statements of the sampled SMEs. Any firm with more than two years missing data was excluded in the analysis.

3.12 Techniques of Data Analysis

The methodology for this study is the use of panel data from non-financial and non-services Nigerian SMEs based on observations on multiple phenomena over multiple time periods. That means the sample SMEs were observed over a period of seven years from 2007 - 2013. Hence, only firms with complete data for the period of 2007 - 2013 were included for the analysis. Panel data methodology is adopted because it assumes individual firms are heterogeneous and it gives "*more informative data, more variability, more degree of freedom and more efficiency with less collinearity among variables*" (Baltagi, 2008, pp. 5).

Data for this study was analysed using descriptive statistics to give details about the sample of the study and regression analysis to establish the relationship between the dependent variable and the independent variables based on the hypotheses developed.

3.13 Summary of the Chapter

This chapter discusses the conceptualisation of the research framework and the research methodology. Hypotheses development is based on the relationship between the working capital management components (accounts receivable period, inventory holding period, corporate cash holdings and accounts payable period) and corporate governance (family ownership, board size and women on the board) with SMEs' profitability. All the hypotheses are developed based on the resource-based theory, profitability-liquidity trade-off theory and the pecking order theory. Besides the above mentioned theories, the hypotheses are also developed based on previous empirical evidences on the association between firm's profitability and working capital management. In order to test the hypotheses, the second part of the chapter discusses the methodology used in conducting this study. It describes the population of the study, the sample size and the method of determining the sampled SMEs. The chapter ends with explanation on the methods and techniques of data collection, measurement of variables and data analysis.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results of the empirical findings on the impact of working capital management and corporate governance on the profitability of the SMEs in Nigeria. The focus of this study is to provide answers to the following research questions: Do accounts receivable period, inventory holding period, accounts payable period, cash conversion cycle, corporate cash holdings and cash conversion efficiency have any impact on the SMEs' profitability in Nigeria and do corporate governance (family ownership, board size and women on the board) influence SMEs' profitability in Nigeria?

The organisation of this chapter is broadly divided into six sections. Section 4.1 provides the introduction; Section 4.2 discusses the data; Section 4.3 explains the regression models employed; Section 4.4 presents the findings and discussions on the two measures of SMEs' profitability (GOP & ROA); Section 4.5 presents the sensitivity analysis; and finally, Section 4.6 provides the summary of the chapter.

4.2 Nature of the Data

The data for this study is a longitudinal or panel data which have both time-series and cross-sectional dimensions denoted by *it*. Time-series data set is a collection of observations on several variables over a period of time, denoted by *t*, while cross-sectional data refers to data collected on several units, such as firms, industries, countries, states, regions or households, denoted by *i* (O'Connell, 2007; Bhaduri, 2013). Consistent with O'Connell (2007), this study combines data from Nigerian SMEs over a period of seven years (2007 – 2013) which make the data to be a micro-panel data. Similarly, the data is a balanced panel data (static) because all firms have equal observations over the time period. According to Baltagi (2008, pp. 1), panel data refers to, "*the pooling of observations on a cross-section of households, countries, firms over several time periods*". The definition is consistent with the structure of the panel data for this study in which a sample of Nigerian SMEs are observed over seven years from 2007 – 2013.

Panel data has some advantages over time-series and cross-sectional data as documented by many scholars, such as Hsiao (2003); O'Connell (2007); and Baltagi (2008). Firstly, panel data set explicitly provides sufficient observations with more sample variability and reduces the collinearity among the explanatory variables. It thus improves the efficiency of the estimations, increases degree of freedom and provides more accurate inference of model parameters (Baltagi, 2008; Bhaduri, 2013). Secondly, panel data model captures the heterogeneity and complexity inherent in each individual unit as compared to time-series and cross-sectional models. This is because one of the assumptions of panel data model is that cross-sectional units are heterogeneous in nature, hence ignoring these heterogeneity effects in empirical research will

lead to inaccurate estimates. In this study, the model shows that SMEs' profitability is a function of working capital management variables and corporate governance with several control variables. These variables vary with time and firms. However, there are a many other variables that may be time-invariant or firm-invariant that may affect SMEs' profitability, which are not included in the model. This is due to non-availability of the data or difficulties to measure the variables. According to Baltagi (2008), omission of these variables may lead to bias in the resulting estimations. Baltagi (2008, pp. 5) further argues that, "*panel data are able to control for these time and firm invariant variables but time-series and cross-sectional study cannot*".

Thirdly, the behaviour of economic agents is inherently dynamic which can best be captured by panel data model. Time-series model limits itself to information over a period of time of an entity while cross-sectional model captures behaviour pattern at a particular point in time, and hence, cannot explain the behavioural dynamisms of the entity over time. Hsiao (2003) suggests that using micro-data in panel regression model gives more accurate predictions than the predictions of aggregate data commonly used in time-series. This is crucial especially if the micro-units are heterogeneous; as such, policy estimations drawn from time-series aggregate data may be invalid. Therefore, panel data containing time-series observations for a number of individual units is more ideal for investigating the homogeneity versus heterogeneity of the issue.

4.2.1 Data Screening

Before conducting any research analysis, it is important to screen the data and check for any missing value. This is because the quality and meaningful estimations of the analysis depend on the quality of the data itself. In this study, proper screening for missing values was made accordingly.

As stated in Section 4.2, the data for this study is panel data where the behaviour of the sample Nigeria SMEs is observed across time (2007 – 2013). A panel data can be balanced (static) or unbalanced (dynamic) panel data (Bhaduri, 2013). In a balanced panel data, the entire cross-sectional units have equal observations over the time period. In other words, all the cross-sectional units have equal time-series dimensions. Unbalanced panel data on the other hand, refer to a situation where the cross-sectional units under study have unequal time periods or varying number of observations (Park, 2009; Bhaduri, 2013). In unbalanced panel data, some cross-section units may have a complete data over a specific period; while others may have unequal time period which may be due to missing observations (Park, 2009). Missing data is possible, particularly in the Nigerian SMEs sector due to some reasons, such as failure of some firms as a result of bankruptcy, late submission of financial reports by some firms to the relevant authority or incomplete data in the financial reports.

In view of the effects of missing data and the need to ensure a balanced panel data for this study, the researcher took some precautionary measures right from the point of data collection. These

include specifying the source, the structure of the data required from the financial statements, the period covered, the types of entities (i.e., small and medium) and the sample size. In case there is any missing data, a double check was carried out as to whether the data is available or not. This helps significantly in decreasing the level of missing values to make the data a balanced panel data. The available data was then entered into the excel file and the required variables were generated, i.e., the two measures of profitability: GOP and ROA; the six working capital management variables: cash conversion cycle, accounts receivable period, inventory holding period, accounts payable period, corporate cash holdings and cash conversion efficiency; and the three corporate governance mechanisms: family ownership, board size and women on the board. Similarly, the five control variables were generated from the data: firm size, sales growth, leverage, firm age and GDP growth. The data for the GDPGROW was sourced from the National Bureau of Statistics (NBS, 2013).

To further ensure a balanced panel data, the generated data from the Excel file was entered into the STATA software and descriptive statistics was run to check whether there is still missing data. The descriptive statistics exposed some missing values from some of the variables. The missing data was later rectified and corrected from the main data and the total data was 2,177 firm-year observations.

In addition, normality check on the dependent variable, SMEs' profitability, measured by the two proxies, GOP and ROA, indicate skewness of 2.32 and 2.60 with kurtosis of 9.76 and 10.34, respectively. The results indicate the extent to which the distributions of the two measures are

skewed and the extent of the peakedness of the distributions, which imply violating the normality assumption. However, the effect can be negligible as the skewness is less than 3 and based on the rule of thumb, the impact of normality diminishes when the sample size is large. According to Hair, Anderson, Tatham and Black (2010); and Julie (2011), normality can have serious effect on a small sample size with less than 50 cases but the impact effectively decreases when the sample size is larger with over 200 cases. In this study, the sample size is made up of 311 SMEs over a seven-year period which gives a total of 2,177 firm-year observations. Besides, all the regression models are estimated with robust standard error to control for the effects of heteroskedasticity and autocorrelation for normality of residuals and to ensure correct estimations.

4.2.2 Sample Description and Statistics

The early sample for this study as determined in Chapter 3 is 378 SMEs drawn from the six geopolitical zones of Nigeria. The data for this study was obtained for the sample firms from the CAC of Nigeria and the sample data started from 2007 to 2013. Consistent with Deloof (2003); Gill et al. (2010); and Mathuva (2010), firms in the services sector, financial institutions and insurance were excluded from the sample because the nature and definition of working capital of these types of entities is quite different from what is investigated in this study. To be in line with Mathuva (2010); and Abbott et al. (2012), a number of filters was applied to check for outliers in order to ensure accuracy, consistency and reliability of the data for accurate estimations and conclusions. Based on the availability of the data, out of the 378 (initial sample SMEs) in the proposed sample size, the final sample SMEs were 311 SMEs representing 82.28% of the initial

sample. The 311 final sample SMEs are those with available and full financial reports for the seven years from 2007 to 2013.

The major characteristics of the sample SMEs are presented in Table 4.1. This includes the type of firm ownership which is categorised into two: family and non-family-owned firms, firm age, number of directors on board, proportion of women directors, the entity size and distribution of the sample firms by geopolitical zones. Table 4.1 shows that out of the 2,177 sampled firms, 1,680 (77.2%) are family-owned firms; and 497 (22.8%) firms are non-family-owned firms. This indicates that majority of the Nigerian SMEs are family-owned businesses. The age of sample SMEs within the period of 2007 - 2013 varies from seven to 50 years. The majority, representing 61.28% of the sampled SMEs are between 7 – 10 years. Almost 30% of the sample firms are between 11 – 20 years in operations; and less than 10% are more than 20 years old.

Table 4.1

Characteristics of the Sample (n=311; 2,177 Observations)

Characteristics	No. of Firms	Percentage
1. Ownership Type		
Family-Owned Firms	1,680	77.2
Non-Family-Owned Firms	497	22.8
Total Observations	2,177	100
2. Firm Age		
7 - 10 years	1,334	61.28
11 - 20 years	647	29.72
21 – 30 years	161	7.40
31 – 40 years	34	1.56
41 – 50 years	1	0.04
Total observations	2,177	100
3. No. of Directors on Board		
Two	280	12.90
Three	840	38.60
Four	602	27.70
Five	322	14.80
Six	91	4.20
Seven	21	1.00
Eight	7	0.30
Eleven	14	0.60
Total Observations	2,177	100.00
4. Women Directors		
Firms with Women Directors	630	28.90
Firms without Women Directors	1,547	71.10
Total Observations	2,177	100.00
5. Entity Size		
Small-Sized Firms	2,046	94.00
Medium-Sized Firms	131	6.00
Total observations	2,177	100.00
6. Distribution of Sample SMEs by Zone		
North –West	490	22.50
North-Central	357	16.40
North-East	385	17.70
South-West	385	17.70
South-East	294	13.50
South-South	266	12.20
Total Observations	2,177	100.00

For board size, 280 (12.9%) of the sample SMEs have a minimum of two directors on their boards; whereas 840 (38.6%) firms have a maximum of three directors on their board. Six hundred and two firms (27.7%) and 322 firms (14.8%) have 4 - 5 directors on their boards, respectively. This is consistent with Abor and Biekpe (2007) indicating that majority (93%) of the Nigerian SMEs have 2 - 5 directors on their boards signifying a small board. Moreover, compliance to Code of Corporate Governance rules is not applicable to SMEs in Nigeria which has set a minimum of eight board members to all listed companies.

Globally, women's representation on corporate boards has attracted the attention of many scholars on corporate governance. Table 4.1 shows that out of 2,177 samples of the Nigeria SMEs, only 630 (28.9%) firms have women directors on their boards. This percentage is close to a study by Abbott et al. (2012) which documents 33% women directors in their sample firms. The remaining 1,547 (71.1%) firms have no women directors on their boards. Further analysis of the sample characteristics shows that 2,046 (94%) firms across the total observations are small size firms with total assets value between ₦5,000,000 to ₦49,000,000. Further, 131 (6%) firms are medium size across the total observations with total assets value above ₦50,000,000 to ₦500,000,000.

The distribution of the sample SMEs across the six geopolitical zones of Nigeria shows that 490 firms representing 22.5% are from the North-West (NW) zone. This is followed by North-East (NE) and South-West (SW) with 385 firms each representing 17.7% for each zone. North-Central (NC) zone follows with 357 firms and South-East (SE) with 294 firms representing 16.4

and 13.5%, respectively. Lastly, South-South (SS) zone has 266 firms in the sample representing 12.2% of the total SMEs for this study.

4.2.3 Descriptive Statistics

Table 4.2 tabulates the descriptive statistics for all the variables of the study presenting the mean, standard deviation, minimum and maximum values. Calculations are based on balance sheet/book value and income statement value for working capital management variables and three control variables: firm size, sales growth and leverage. The three corporate governance mechanisms; family ownership, board size and women on board and the two control variables; firm age and GDP growth are obtained from the corporate information. Similarly, the two measures of profitability are calculated based on the income statement value. The two measures of the SMEs profitability are GOP ROA.

The average and standard deviation of GOP is 59.9% and 45.3%, respectively. This indicates the average GOP of the sample SMEs over the period of the study. The second measure of profitability is ROA which has an average of 14.70% with standard deviation of 10.80%.

Table 4.2 further presents the descriptive analysis of the independent variables of the sample SMEs. On average, the sample Nigerian SMEs granted 47.24 days to their customers to pay their bills with standard deviation of 35.05 days; while they paid their creditors in 68.77 days on average. The inventory holding period of the sample SMEs indicates an average of 44.05 days to

be sold. The standard deviation of the APP and IHP is 45.06 and 25.80 days, respectively. Overall, the average CCC range is 128.95 days. These results indicate that Nigerian SMEs are speeding up collection of their receivables and slowing down payment to trade creditors, which minimise the firms' cash gap.

Table 4.2
Descriptive Statistics (n=311: t = 7)

Variables	Mean	Std. Deviation	Minimum	Maximum
GOP	0.599	0.453	0.030	3.170
ROA	0.147	0.108	0.010	0.950
CCC(days)	128.95	69.72	1.000	251.00
ARP(days)	47.24	35.05	1.000	121.00
IHP (days)	44.05	25.80	1.000	88.00
APP(days)	68.77	45.06	1.000	151.00
CCH (ln)	13.478	1.273	0.000	18.935
CCE	0.081	0.088	-0.065	0.930
FMLY	0.770	0.420	0.000	1.000
BSIZE (Number)	3.675	1.251	2.000	11.00
GENDER	2.700	2.837	0.000	0.750
FSIZE (ln)	15.461	1.215	12.916	23.253
SGROW	0.392	1.485	-1.000	35.010
LEVERAGE	0.110	0.197	-0.100	6.160
FAGE	10.508	6.734	7.000	41.00
GDPGROW	6.899	0.697	5.650	7.690

Legend: GOP is Gross Operating Profit; ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Accounts Receivable Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

The average corporate cash holdings of the sample SMEs is 13.48% showing the percentage of cash holdings for meeting the firms' motives of holding cash (transactions, precautionary and speculative). Another important variable is the cash conversion efficiency which measures the speed at which a firm converts its sales to cash. The processes involve order processing,

manufacturing, delivery and billing. The result indicates an average of 8% cash conversion efficiency for the sample SMEs which shows a very low efficiency at which Nigerian SMEs are converting their sales to revenue.

The descriptive statistics of the three measures of corporate governance (family ownership, board size and woman directors) shows an average of 77% of the sample firms are family ownerships with a standard deviation of 42%. This is consistent with the results in Table 4.1 which indicate that family-owned businesses are dominant form of business in Nigeria. For the board size, the firms have an average of four directors on their boards and a minimum and maximum of two and 11 directors, respectively. The ratio of women directors on the boards of the sample firms indicates that on average, there are three women directors on the boards. This is in line with the result obtained in Table 4.1 which shows that only 630 (28.9%) of the 2,177 observations have women director(s) on their boards, thus, indicating the insensitiveness of most Nigerian SMEs to gender diversity. Abbott et al. (2012); and Azmi and Barrett (2013) posit that this may be due to lack of understanding of the influence of women directors on firm performance.

Furthermore, Table 4.2 presents the descriptive statistics of the five control variables: firm size, sales growth, leverage, and firm age and GDP growth. The result indicates that firm size has a mean value of 15.46 across the sample firms over the 2,177 firm-year observations. Further, the result provides an average sales growth rate for the sample firms of 39.2% over the period of 2007 - 2013. With respect to leverage, the total debts to total assets ratio of the sample firms

shows an average ratio of 11% and standard deviation of 19.7%, which indicates the ratio of external financing source from the total financing of the sample firms. The low debts ratio for the sampled Nigerian SMEs is an indication of the inability of most SMEs to obtain external funding and their reliance on trade credit (accounts payable) and owners' equity as the major sources of financing. This is very much consistent with findings by Sunday (2011); and Ademola et al. (2013). Table 4.2 further shows the average age of the sample firms as 11 years with seven and 41 years as minimum and maximum ages, respectively. Finally, the summary statistics for the Nigerian GDP growth indicates a mean GDP growth rate of 6.89 for the period of the study.

4.2.4 Scatter Plot

In order to explore the relationship between the independent variables measured by working capital management and corporate governance with GOP and ROA, scatter plots were generated. According to Muhammad et al. (2010, pp. 159), '*If a relationship between variables exists, then the point in the scatter plot will show a tendency to cluster around a straight line*'. However, a relationship is weak when the points are scattered all over the place in a blob-type arrangement (Julie, 2011). In this study, the scatter plots are limited to the six working capital management variables and board size. Family ownership and gender are excluded due to the binary nature of the variables. The scatter plots generated depict the relationship between the two proxies of SMEs' profitability with the six measures of working capital management (CCC, ARP, IHP, APP, CCH and CCE) and board size.

The scatter plots in Figure. 4.2 in the Appendix A reveal different forms of relationship between the independent variables of the study with GOP. The relationship shown in the scatter plots between CCC and ARP with GOP is found to be a strong relationship because the points of the relationship form a vague cigar shape with a definite clumping of scores around an imaginary straight line (Julie, 2011). Also the relationship depicted in the scatter plots between GOP with CCH and CCE is linear in nature.

Furthermore, in the Appendix A, the seven scatter plots in Figure 4.3 reveal relationship between ROA with the six measures of working capital management (CCC, ARP, IHP, APP CCH and CCE) and board size. It shows that some of the plots have strong relationship, for example, the relationship between ROA with CCC and ARP. Further, the relationship depicted in some of the scatter plots is linear in nature, for example, the relationship between the SMEs' profitability measured by ROA with CCH and CCE.

4.2.5 Correlation Analysis between WCM, CG and SMEs' Profitability

In addition to the scatter plots discussed in Section 4.2.4, correlation analysis was performed to investigate the relationship between the independent variables with the GOP and ROA. Correlation analysis was performed to show the strength and direction of the relationship among the variables of the study (Julie, 2011). Correlation analyses are of different forms, that include Pearson Product-Moment correlation coefficient (r), Spearman Rank Order correlation (rho), Zero Order correlation and Partial correlation (Julie, 2011). For the purpose of this study, Pearson correlation is used which involves exploring the relationship between two variables

while controlling for other variables. The strength of the relationship between the variables is divided into three: small, medium and large correlation, irrespective of the direction of the relationship (negative or positive). Relationship is considered as small when the correlation between the variables is between 0.10 – 0.29; a medium correlation is between 0.30 – 0.49; and large correlation is between 0.50 – 1.00 (Julie, 2011).

The correlation matrices of all the variables included in the analysis are presented in Table 4.3 using GOP and ROA. The result is based on a sample of 311 Nigerian SMEs over the period of seven years from 2007 – 2013, with 2,177 firm-year observations. The correlation result reports the relationship among all the variables of the study, including the dependent variable, the independent variables and the control variables.

The results in column 1 reveal a significantly positive relationship between GOP and ROA. The positive association between GOP and ROA implies that an increase in the SMEs' GOP will result in a corresponding increase in the firms' ROA. Further, a significantly negative relationship is reported between GOP and accounts receivable period, accounts payable period, corporate cash holdings and cash conversion efficiency. The negative coefficient of accounts receivable period (-0.158) is significant at 1% level and is consistent with the view that the less the time taken to collect cash from customers, the more the cash that is available to replenish the inventory which results in high sales. On the other hand, an increase in the accounts receivable period will have a negative impact on the firm's profitability (Gill et al., 2010).

Table 4.3

Correlation Coefficient Matrix (n=311; t=7)

S/N	VARIABLE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	GOP	1															
2	ROA	0.195**	1														
3	CCC	-0.036*	-0.052**	1													
4	ARP	-0.158**	0.017	0.440**	1												
5	IHP	-0.006	0.053**	0.383**	0.246**	1											
6	APP	-0.043*	0.093**	-0.731**	0.141**	0.172**	1										
7	CCH	-0.050**	0.163**	0.000	0.002	-0.002	0.001	1									
8	CCE	-0.074**	0.313**	-0.017	0.186**	0.203**	0.215**	0.208**	1								
9	FMLY	-0.046*	0.003	0.038*	0.028	-0.034	-0.044*	-0.018	-0.008	1							
10	BSIZE	0.093**	0.002	0.102**	0.001	0.154**	-0.041*	0.008	-0.009	0.098**	1						
11	GENDER	-0.015	0.037*	-0.010	-0.023	-0.003	-0.002	-0.059**	0.005	0.062**	-0.016	1					
12	FSIZE	-0.112**	0.068**	0.123**	0.137**	0.225**	0.043*	0.529**	0.234**	-0.080**	0.241**	-0.057*	1				
13	SGROW	0.058**	0.084**	-0.015	-0.034	-0.029	-0.014	0.097**	-0.028	0.011	-0.020	-0.019	0.000	1			
14	LEVERAGE	0.122**	0.191**	-0.367**	0.022	0.056**	0.500**	-0.015	0.082**	-0.026	0.030	-0.014	0.000	0.000	1		
15	FAGE	0.098**	-0.052**	0.077**	0.051**	0.024	-0.043*	0.183**	-0.125**	-0.108**	0.075**	-0.068*	0.000	0.000	0.000	1	
16	GDPGROW	-0.046*	-0.002	0.011	0.012	-0.036*	-0.022	0.081**	-0.039*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1

** Significant at 1% level and * Significant at 5% level (1-tailed).

Legend**:** GOP is Gross Operating Profit; ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

The negative coefficient exhibited by accounts payable period (-0.043) is significant at 5% level and is consistent with view that less profitable firms take a longer period to pay their bills. The effect of the relationship is that the firms' accounts payable policy will be affected by the profitability, not vice versa (Deloof, 2003). Speeding up payments to trade creditors might increase firm's profitability if substantial discounts could be received for prompt payment. However, the correlation between GOP and inventory holding period shows an insignificantly negative association. Overall, the cash conversion cycle reports a significantly negative

coefficient (-0.036) with GOP, which is consistent with working capital management theory that a shorter cash conversion cycle is associated with increase in the firm's profitability.

The negative association between corporate cash holdings and GOP implies that holding excess cash negatively affects Nigerian SMEs' GOP. The association between cash conversion efficiency with GOP is also found to be negative and highly significant at 1% level. Similarly, a significantly negative relationship is found between family ownership and GOP, which indicates that ownership of firm by family negatively affects the firm's profitability (Thomsen & Pedersen, 2000). In contrast, the correlation coefficient of board size reveals a highly significant and positive association with GOP. The positive relationship between board size and GOP is consistent with the view that a large board is better and more effective due to diversity and wide range of expertise among the directors (Abor & Adjasi, 2007; Mollah et al. 2012).

Table 4.3 reports the correlation coefficients of the control variables of this study with GOP. A significantly positive relationship is found between GOP and sales growth, leverage and firm's age. This indicates that SMEs' profitability increases with the increase in the firm's sales growth, leverage and firm's age. In contrast, a significantly negative association is found between firm size and GDP growth with GOP.

In addition, Table 4.3 presents the correlation analysis between the study variables with ROA. The result indicates a highly significant and positive association between ROA and inventory holding period and accounts payable period and a highly significant and negative relationship

with cash conversion cycle. The negative association between ROA and CCC concurs with the findings by Arunkumar and Radharamanan (2012) that the time lag between the expenditure for the purchase of raw materials and collection of sales of finished goods is long and decreasing this time lag will increase firm's profitability. This means a firm can increase its profitability by decreasing the cash conversion cycle. Conversely, the positive correlation between ROA and inventory holding period and accounts payable period is consistent with the view that less profitable firms take a longer period to pay their bills (Deloof, 2003).

An alternative explanation is that the negative association between CCC and ROA is consistent with the opinion that shorter CCC is related to the increase in firm's profitability. Moreover, the positive association between ROA and IHP is consistent with the result obtained by Mathuva (2010) that higher inventory level is related to increase in the firm's profitability. Similarly, the positive relationship between ROA with APP is in line with the opinion that firms with problem of profitability delay their payment to suppliers. Alternatively, trade credits are major source of financing to SMEs which might increase firm's financing and profitability as well.

The result further indicates a positive correlation between ROA and CCH and cash conversion efficiency at 1% significance level, respectively. The positive relationship between the ROA and CCC is consistent with the view that holding sufficient cash will increase firm's earnings. This is in line with finding that holding large amount of cash reduces firm's cost of financing investment projects from an external source which results in increase in the firm's profitability (Isshaq, Bokpin & Onumah, 2009; Shinada, 2012). The positive correlation between CCE and

ROA indicates positive effects of efficient working capital management measured by cash conversion efficiency which results in increase in the firm's profitability (ROA).

Similarly, the correlation between the ROA with the five control variables of the study indicates a highly significant and positive association with firm size, sales growth and leverage and a significantly negative relationship with firm's age. This implies that large firms are more profitable than small firms by exploiting their economies of scale and firms experiencing sales growth are likely to experience higher profitability. Alternatively, this suggests that profitable firms experiencing high sales growth use more leverage to finance their short-term investment. However, the negative relationship between profitability and firm's age is a demonstration of the negative influence of firm's age on its ROA. The finding is not consistent with the view that older firms may experience high profitability due to length of relationship with its suppliers and customers as well as suppliers of capital due to its creditworthiness. The result indicates that an increase in the age of firm may not result in increase in its level of profitability.

Based on Julie's (2011) the relationship among the independent variables of the study shows that five different variables: cash conversion cycle, accounts payable period, leverage, corporate cash holdings and firm size, exhibit a large correlation among them. A strong significant and negative relationship of -0.731 between cash conversion cycle and accounts payable period indicates that firms with higher cash conversion cycle take a longer period to pay their debts. A highly significant and positive correlation of 0.500 is reported between accounts payable period and total debts to total assets ratio (leverage). This indicates that most SMEs usually take a longer

period to pay their bills. Delay in paying creditors is associated with the use of debt ratio. Similarly, a significant and positive correlation of 0.529 is reported between corporate cash holdings with firm's size measured by natural logarithm of total assets. This is consistent with the view that large firms hold large amount of cash to finance operations and investment projects and to take advantage of transactional, precautionary and speculative motives of holding cash.

Furthermore, the relationship among six different variables indicates a medium correlation of between 0.30 – 0.49. The variables are accounts receivable period and cash conversion cycle with a significantly positive correlation of 0.440. Similarly, a significantly positive correlation of 0.383 and significantly negative relationship (-0.367) is reported between inventory holding period with cash conversion cycle and leverage with cash conversion cycle, respectively. Finally, the associations among the remaining variables indicate a low correlation of between 0.10 – 0.29 as reported in Table 4.3. For example, a low correlation of 0.246, 0.141, 0.186 and 0.137 is found between accounts receivable period with inventory holding period, accounts payable period, cash conversion efficiency and firm size, respectively. Similarly, inventory holding period shows a low correlation with accounts payable period, cash conversion efficiency, board size and firm size. Furthermore, a low correlation is reported between accounts payable period and cash conversion efficiency and between cash conversion efficiency and firm age with corporate cash holdings. Also, a significant correlation of 0.241 is exhibited between board size and firm size.

The correlation coefficients among the independent variables of the study are found to be below 0.80 which signifies absence of high collinearity that affects the reliability of the regression estimates. A higher correlation exceeding 0.80 or 0.90 among independent variables increases standard errors and decreases reliability of estimations (Julie, 2011). Furthermore, a multicollinearity test was conducted among the study variables to ensure accurate and reliable estimations and results. Thus, it can be concluded based on the correlation results in Table 4.3, that there is an absence of high collinearity among the independent variables in this study.

4.2.6 Multicollinearity Diagnostics

Multicollinearity (collinearity) is an undesirable situation, whereby two or more independent variables in the regression model are highly correlated (Sekaran & Bougie, 2011). High multicollinearity increases standard error of the β's which decreases reliability of estimations and causes misleading result. According to Field (2005); and Julie (2011, pp. 151, 190), "*multicollinearity becomes a problem when the correlation among the independent variables exceeds 0.80 or 0.90*". Besides using the coefficient value, multicollinearity test was also conducted using variable inflation factor (VIF) as can be seen in Table 4.3. The result indicates that the mean VIF is 1.18, below the threshold of 10, which indicates absence of multicollinearity (Field, 2009). Similarly the result shows the tolerance values above 0.10 and VIF values less than 10 for all the variables. It can be concluded that multicollinearity among independent variables does not present any problem to the regression results, especially that one of the advantages of using panel data is to reduce the effects multicollinearity.

Table 4.4
Multicollinearity Test

Variables	VIF	Tolerance Value
Cash Conversion Cycle (CCC)	1.20	0.833
Account Receivable Period (ARP)	1.06	0.945
Inventory Holding Period (IHP)	1.02	0.979
Accounts Payable Period (APP)	1.03	0.975
Corporate Cash Holdings (CCH)	1.45	0.691
Cash Conversion Efficiency (CCE)	1.26	0.791
Family Ownership (FMLY)	1.05	0.948
Board Size BSIZE)	1.12	0.893
Women on the Board (GENDER)	1.03	0.970
Firm Size (FSIZE)	1.93	0.517
Sales Growth (SGROW)	1.04	0.957
Leverage (LEVERAGE)	1.14	0.879
Firm Age (FAGE)	1.11	0.897
GDP Growth (GDPGROW)	1.02	0.980

4.2.7 Test for Heteroskedasticity and Autocorrelation

Apart from multicollinearity assumption among independent variables, there are other assumptions which require attention for ensuring reliability of the estimations. First, there is assumption of heteroskedasticity problem in the fixed effects model that the variances are not constant. Second, there is assumption of serial correlation (autocorrelation) which needs to be verified. In both the OLS regression and fixed effect models, the standard errors were estimated groupwise using both Modified Wald test for heteroskedasticity and Wooldridge test for autocorrelation in Tables 4.5 and 4.7 in pages 174 and 188, respectively. Both the Modified Wald test and Wooldridge test check conducted on the panel indicates presence of heteroskedasticity and serial correlation (autocorrelation). The results show that the test results of the heteroskedasticity (1.7e+05 & 32388.67) and the autocorrelation (42.04 & 13.09) are all

significant at 1% level as stated in both Tables 4.5 and 4.7, respectively. To counter the effects, robustness test was used; the OLS regression model in Tables 4.5 and 4.7 was run with Robust Standard Errors. This is to control or rectify for the effects of both heteroskedasticity and the serial correlation problems for normality of residuals and for ensuring correct estimations.

4.3 Regression Models

The software used in measuring the data for this study is STATA econometric software. According to Sekaran and Bougie (2011, pp. 365), "*STATA is a general purpose statistical software package which supports various statistical and econometric methods, graphics, and enhanced features for data manipulation, programming and matrix manipulation*". Rodríguez (2014) further adds that STATA is a powerful Statistical Package with smart data-management facilities, wide collection of up-to-date statistical techniques and an outstanding system for producing publications and quality graphs.

There are different stages for selecting an appropriate regression model in panel data analysis using STATA software. This study focuses on three static panel data estimation models: the Pooled Ordinary Least Squares (OLS), Fixed Effects (FE) and Random Effects (RE) models. Each of these models has its underlying assumptions which must be satisfied to obtain unbiased and reliable estimates (Bhaduri, 2013).

4.3.1 Pooled OLS Regression Model

In a pooled OLS model, a single regression is estimated for all firms over all time periods. The model ignores the panel nature of the data and treats the ε as identically and independently distributed. Pooled regression is based on the assumption that all the explanatory variables are able to capture all the relevant characteristics of the individual firms; therefore, the unobserved specific effects will be dropped and a pooled OLS model is used to fit the model (Bhaduri, 2013). In this assumption, both the intercepts and slope of the coefficients are constant across all the units and time. However, this assumption might be restricted and the model may result in heterogeneity bias. In other words, ignoring these effects of individual specific characteristics when they are significant may result in biased standard errors and inefficient estimates. Pooled model may result in heterogeneity bias because effect of predictor and outcome variables may be different across units over the time period. Furthermore, panel data assumes that individuals, firms or countries are different from one another (heterogeneous). Hence, the heterogeneity of the individual entities has to be taken into consideration to avoid incorrect estimates.

4.3.2 Fixed Effects (FE) Model

The fixed effects model captures the individual specific effects in the panel data set. Fixed effects model is used to analyse the impact of variables that vary over time (Stock & Watson, 2003). According to Torres-Reyna (2011), the model explores the relationship between predictor and outcome variables within an entity. Fixed effects model is based on certain assumptions (Baltagi, 2008; Torres-Reyna, 2011) which include:

- Each of the entities has its own specific characteristics that may or may not influence the predictor variables. For example, managerial quality of a company may influence its stock price.
- Something within the entity may bias the predictor or outcome variables and therefore, need to be controlled.
- The unobserved entity's specific effects called heterogeneity (which is time-invariant characteristics) may be correlated to the predictor variables.

Based on these assumptions of the FE model, Torres-Reyna (2011) demonstrate that in FE model, each entity is different; therefore the entity's error term and the constants should not be correlated with one another. Each entity is having its intercept while restricting the slope to be homogeneous. If the error terms are correlated, then fixed effects model is not suitable since the conclusion may not be correct. Probably, the random effects model may be appropriate to model the relationship.

4.3.3 Random Effects (RE) Model

In the random effects model, the variations across firms are assumed randomly and uncorrelated with the independent variables in the model. RE model assumes a single common intercept from which the intercepts for each of the entities varies in a random manner (Tauringana & Afrifa, 2013). Furthermore, in the FE model, there are too many parameters which result in the loss of degree of freedom due to large cross-sectional units (Baltagi, 2008). This loss of degree of freedom can be avoided if the cross-sectional units can be assumed at random (Bhaduri, 2013).

Thus, the RE model is appropriate if the panel data comprises (n) firms drawn randomly from large population such that the firm-specific constant terms are randomly distributed across the entities. Conversely, fixed effects model is more appropriate when focusing on a specific set of *n* units that is not randomly selected from a large population.

According to Torres-Reyna (2007), random effects model has an advantage to include time-invariant variables, such as gender in the model, unlike in FE model, where time-invariant variables are absorbed by the intercepts. Torres-Reyna (2011) further argues that in a panel data set where differences across entities are believed to have some influence over the outcome variable, random effects model is more appropriate.

4.3.4 Selection of the Appropriate Model

The first step in panel data analysis is to test between random effects (GLS) model and/or Pooled OLS model as to which is more appropriate. This involves testing whether the data set has specific effect or heterogeneity (ג) using Breusch and Pagan LM Test. Under the relationship between WCM and CG with GOP, the result of the test between Pooled OLS and Random Effects model shows that the probability ($p<0.05$) value is significant at 1% level. Therefore, the null hypothesis is rejected in favour of the alternative hypothesis. This indicates that random effects model is more appropriate than the OLS model. The results of both the pooled OLS and random effects models can be found in Appendix B.

The second step is to test between the random effects model and the fixed effects model to find which of the models is more appropriate for this study using Hausman Specification Test. Similarly, under the two relationships between WCM and CG with the GOP and ROA, the results of the Hausman test are stated in Tables 4.5 and 4.7 with probability values of 74.73 and 50.5, respectively. The results indicate that the probability ($p<0.05$) values are all significant at 1% level. Therefore, based on the null hypothesis, there is no correlation between error term ג and the constants *it* (RE); whereas based on alternative hypothesis, there is correlation between the error term ג and the constants *it* (FE) (Greene, 2003). Thus, the results indicate that the null hypothesis is rejected in favour of the alternative hypothesis that fixed effects model is more appropriate than the random effects model. However, the model for this study includes three corporate governance mechanism variables which are time-invariant in nature. Fixed effects model assumes entity-specific intercepts and captures the effects of those variables that are particular to each entity (Deloof, 2003). One of the limitations of fixed effects model is that all time-invariant variables are omitted and absorbed into the intercept because they are constant for each entity over time (Deloof, 2003; Baltagi, 2008; Torres-Reyna, 2011; Arunkumar & Radharamanan, 2012). Consistent with the limitations of fixed effects model, all the three corporate governance variables: FMLY, BSIZE and GENDER, were omitted from the regression results.

Furthermore, the final samples for this study are randomly selected from the six geopolitical zones of Nigeria and consistent with Baltagi (2008); and Hsiao (2003, pp. 43) that, "*random effects model is an appropriate specification if we are drawing N sample from a large population*". Similarly, Greene (2003); and Torres-Reyna (2007) argue that random effects

model is appropriate if it is believed that the differences across the firms in terms of the omitted variables can have some influence on the dependent variable. These views are consistent with the models for this study because the sample is drawn from a large population of 22,918 SMEs on a random basis and the corporate governance mechanisms are believed to have some influence on the dependent variable.

Nevertheless, based on the above opinions by different scholars and the results of the Hausman Specification Test and to be consistent with most of the previous studies by Deloof (2003); Padachi (2006); Mathuva (2010); Raheman et al. (2010), Bellouma (2011); Abuzayed (2011); and Arunkumar and Radharamanan (2012), the results in this study were estimated with OLS and FE regression models. Consistent with Deloof (2003); Mathuva (2010); Raheman et al. (2010); and Arunkumar and Radharamanan (2012), the two regression models were estimated using fixed effects regression which assumes firm-specific intercept and the pooled OLS model. In the fixed effects model, the three corporate governance mechanisms: FMLY, BSIZE and GENDER variables that are time-invariant were omitted. To counter the effects, the regression was estimated using the pooled OLS regression model which includes all the variables in the fixed effects model and the three corporate governance variables.

4.4 Findings and Discussions

This section presents the results of the findings based on the methodology stated in Section 4.3. The section is divided into two subsections. Section 4.4.1 presents the findings on the

relationship between the independent variables with the GOP; and Section 4.4.2 presents the findings on the relationship between the independent variables with the ROA. This study is set to investigate the impact of working capital management and corporate governance on SMEs' profitability proxied by GOP and ROA.

4.4.1 Relationship between WCM and CG with GOP

Table 4.5 reports the pooled OLS regression estimates using GOP as a proxy for SMEs' profitability. Pooled OLS regression estimates report all the independent variables with robust standard errors controlling for heteroskedasticity and serial correlation. The coefficient of the intercepts (constant) of the model is 1.4627 with t-value of 4.31, exhibiting a highly significant relationship among all the variables. The F-value in the model is 10.05 and is significant at 1% level which denotes the model is fit and all the coefficients in the model are different than zero. The value of R-square is 10.25% which indicates the amount of variance of the SMEs' profitability is explained by the working capital management components and corporate governance mechanisms within firms.

Although the R-square reported in Table 4.5 is low, nevertheless, it is comparable to similar studies conducted by different scholars. For example, Padachi (2006) reports R-square of 13%. Sharma and Kumar (2011), in different models, report R-squares of 2.4% and 1.2%. Similarly, Ogundipe et al. (2012), in their study, report R-squares of 11.3%, 12.5% and 00.5%. Furthermore, Gill and Biger (2013), in their study, report R-squares of 17.2%, 6.7%, 25.4% and

9.2%. Also Tauringana and Afrifa (2013) report low R-squares in their study of 10.71%, 11.34%, 16.09% and 10.71%. In addition, the intra class correlation (rho) reports a value of 40.47% which implies that the variances are due to differences across the panels.

The results of the pooled OLS estimations for the individual variables indicate that the coefficient of cash conversion cycle is positive and highly significant which implies that an increase in the cash conversion period is associated with an increase in the SMEs' profitability. The finding signifies that profitable SMEs are less efficient in their working capital management. Also, it is in line with the result obtained by Gill et al. (2010); and Abuzayed (2012), supporting the view that more profitable firms are realising longer cash conversion cycle. These findings are contrary to the WCM theory and findings of most previous scholars which assume an increase in firm's profitability is associated with low cash conversion cycle (Shin & Soenen, 1998; Deloof, 2003; Lazaridis & Tryfonidis, 2006).

This finding fails to support Hypothesis 1 which predicts a negative relationship between cash conversion cycle and firm's profitability. The possible reasons for this result about Nigerian SMEs may be due to one or combinations of the following. First, SMEs in Nigeria are associated with lack of managerial proficiency and good governance practices (SMEDAN/NBS, 2012; Sunday, 2011; Ademola et al., 2013). Lack of managerial proficiency and poor governance practices can affect firm's working capital management resulting in excessive investment on working capital in the form of high stock level and poor credit collection policy. This, in turn, results in high cash conversion cycle. Secondly, over 77% of the sampled SMEs in this study are family businesses. Wilson et al. (2013) argue that most appointments in family

businesses are based on generosity and family ties, regardless of ability and skills. Due to the low ability and skills, it may affect the firm's working capital management which may result in high cash conversion cycle.

Table 4.5
OLS Regression Results with GOP (n=311; t=7)

Variables	Hypothesis	Expected Sign	OLS with Robustness			
			Coefficient	Std. Error	t-value	p-value
Constant			1.4628	0.3392	4.310	0.000***
CCC	1	-	0.0006	0.0002	2.730	0.007***
ARP	2	-	-0.0004	0.0002	-1.840	0.067*
IHP	3	-	-0.0001	0.0004	-0.230	0.816
APP	4	+	-0.0002	0.0002	-0.830	0.410
CCH	5	-	0.0041	0.0158	0.260	0.797
CCE	6	+	0.0688	0.1444	0.480	0.634
FMLY	7	-	-0.0523	0.0283	1.840	0.065*
BSIZE	8	+	0.1276	0.0415	3.070	0.002***
GENDER	9	+	0.0075	0.0034	2.260	0.024**
FSIZE			-0.0799	0.0255	-3.130	0.002***
SGROW			0.0010	0.0002	4.760	0.000***
LEVERAGE			0.0066	0.0019	3.530	0.000***
FAGE			0.0077	0.0033	2.360	0.019**
GDPGROW			-0.0207	0.0083	-2.490	0.013**
R-squared						0.1025
F-statistics						10.05
Prob. (F-stat.)						0.000
Rho						0.4047
Observations						2,177
Hausman test						74.73 (0.000)
Multicollinearity						1.18
Heteroskedasticity						1.7e+05 (0.000)
Serial Correlation						42.043 (0.000)
Skewness						2.32

*** Significant at 1% (one tailed test) ** significant at 5% * significant at 10%.
Legend**:** GOP is Gross Operating Profit; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Conversely, the coefficient of accounts receivable period is negative (-0.0004) at 10% significance level. This implies that an increase in the accounts receivable period by one day is associated with a decrease in the firm's profitability. This means managers can create value for shareholders by decreasing the days of accounts receivable (García-Teruel & Martínez-Solano, 2007). However, the coefficient of inventory holding and accounts payable period exhibits an insignificantly negative association with SMEs' profitability. The insignificantly negative relationship between IHP and GOP is similar to the findings in studies conducted by Afeef (2011); and García-Teruel and Martínez-Solano (2007), which reveal that an increase in the firm's profitability is associated with the decrease in the inventory holding period.

The coefficient of corporate cash holdings obtained in the OLS regression estimate is found to be positive and insignificant which suggests that an increase in the firm's profitability (measured by GOP) is associated with an increase in the firm's level of corporate cash holdings. The finding is consistent with the finding by Anagnostopoulou (2012) who reports a positive relationship between high cash level and firm's operating performance. Further, the coefficient of cash conversion efficiency is positive and insignificant. This indicates that any increase in the cash conversion efficiency by 1% will result in an increase in firm's profitability by 6.87%, signifying the importance of firm's cash flow from operating activities to SMEs' profitability.

Table 4.5 further reveals the OLS regression estimations of the three corporate governance variables: FMLY, BSIZE and GENDER. The coefficient of family ownership is negative and significant at 10% level. This implies a negative relationship between family ownership and

GOP, which means family-owned SMEs are associated with a decrease in firm's profitability. The negative association between GOP and FMLY is contrary to findings by most previous scholars: Abor and Biekpe (2007); Aguiló and Aguiló (2012); and Wilson et al. (2013). However, the finding supports the study's Hypothesis 7 which predicts negative relationship between family ownership and firm's profitability. The possible explanation on the finding about Nigerian SMEs is that family-owned and controlled businesses are dominant in the Nigerian SMEs. Family businesses, particularly in Nigeria, are mostly built around the owners, their families and relatives. Thus, appointment of board of directors and recruitment are based on family ties or generosity, irrespective of ability and skills (Ademola et al., 2013). In this respect, most family businesses fail to disclose full information about their business for fear of exposing the private benefits derived by the controlling family. These factors contribute greatly to poor management practices and low performance which consequently result in bankruptcy and failure of many family businesses in Nigeria.

However, a strong positive relationship is found between board size and GOP which implies that Nigerian SMEs with large boards report higher GOP than those with small boards. The finding is consistent with Hypothesis 8 and is in line with the findings of many scholars that a large board is associated with an increase in the firm's profitability (Abor & Biekpe, 2007; Saibaba & Ansari, 2012; Mollah et al., 2012). Similarly, a significantly positive association is reported between GENDER and GOP which signifies that SMEs with women on their boards are associated with increase in profitability. The finding supports the study's Hypothesis 9 which predicts a positive relationship between GENDER and SMEs' profitability.

Furthermore, the regression estimates for the control variables show that firm size exhibits a highly significant and negative relationship with GOP. Similarly, the coefficient of GDP growth reveals a significantly negative relationship with firm's profitability. Conversely, the coefficient of sales growth, leverage and firm age shows a highly significant and positive relationship with firm's GOP. According to García-Teruel and Martínez-Solano (2007), sales growth could be a determinant of firm's business opportunities and is an important factor which allows firms to earn high profitability. Firm's age is associated with increase in the firm's profitability which implies advantages realised as a result of the long duration in business and establishing good business relationships with suppliers and customers.

4.4.2 Univariate Analysis of Gross Operating Profit

Table 4.6 reports the univariate analysis of the relationship between the independent and the dependent variables for a sample of 2,177 firm-year observations. In this study, nine different models were developed each from the two main models in Section 3.4 of the study. The first nine models were regressed with the GOP using the OLS regression model. This is in line with studies by Deloof (2003); and Baños-Caballero et al. (2010; 2012).

Relationship between Cash Conversion Cycle and GOP

The panel data regression results presented in Model I of Table 4.6 show that cash conversion cycle is positively associated with GOP at 1% significance level. The findings are similar to the

results obtained in Table 4.5, which imply that higher cash conversion cycles are associated with higher profitability (Gill et al., 2010). The positive relationship between cash conversion cycle and GOP is similar to the findings in studies conducted by Padachi (2006); Gill et al. (2010); Abuzayed (2012); Sharma and Kumar (2011); and Ademola (2014), which imply that more profitable firms are pursuing longer cash conversion cycle. The alternative explanation to this is that the positive relationship between cash conversion cycle and GOP might probably be due to high level of accounts receivable period as a result of generous credit policy, which may result in longer cash conversion cycle (Sharma & Kumar, 2011). Thus, longer cash conversion cycle can result in increase in the firm's profitability (Zariyawati et al., 2009).

However, these findings are contrary to what is obtained in theory that shorter cash conversion cycle is associated with increase in the firm's profitability. Furthermore, the findings are contrary to Hypothesis 1 which assumes a negative relationship between CCC and SMEs' profitability. The findings are also contrary to findings in the studies conducted by many scholars, such as Deloof (2003); Lazaridis and Tryfonidis (2006); Raheman and Nasr (2007); Mathuva (2010); Nobanee et al. (2011); Ogundipe et al. (2012); and Tauringana and Afrifa (2013). According to Shin and Soenen (1998); and Deloof (2003), managers can increase firm's profitability by shortening the cash conversion cycle.

Relationship between Accounts Receivable Period and GOP

It is postulated in Hypothesis 2 that there is a negative relationship between accounts receivable period and SMEs' profitability. The results in Model II Table 4.6 confirm the assertion by reporting a negative coefficient of the accounts receivable period. However, the finding is insignificant. The finding is also supported by the regression estimates in Table 4.5 which imply that ARP is negatively related to SMEs' profitability measured by GOP at 10% significance level. The significantly negative association found between ARP and GOP is consistent with aggressive working capital management strategy.

The findings of this study prove the working capital management theory which associates firm's profitability with shorter accounts receivable period. Further, the finding is similar to that of Deloof (2003); García-Teruel and Martínez-Solano (2007); Mathuva (2010), Afeef (2011); Gill et al. (2010); Bellouma (2011); and Ademola (2014), signifying that an increase or decrease in the accounts receivable period will affect firm's profitability. The finding is also consistent with the view that profitable firms take short time to receive payment from their debtors (Mathuva, 2010). In summary, firm's profitability increases by speeding up receivables collection or shortening the days of accounts receivable.

Table 4.6

Regression Models I – IX with GOP

Variables	MODEL								
	I	II	III	IV	V	VI	VII	VIII	IX
Constant	8.85	8.88	8.75	8.91	8.73	8.41	8.75	8.96	8.55
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
CCC	4.01								
	(0.000)***								
ARP		-0.86							
		0.391							
IHP			0.19						
			0.852						
APP				-1.39					
				0.165					
CCH					-0.63				
					0.536				
CCE						-0.09			
						0.931			
FMLY							-1.1		
							0.271		
BSIZE								6.21	
								(0.000)***	
GENDER									2.37
									(0.018)***
FSIZE	-7.76	-7.22	-7.21	-7.19	-5.93	-6.45	-7.27	-8.53	-7.09
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
SGROW	6.44	6.37	6.4	6.43	6.41	6.4	6.43	6.62	6.41
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
LEVERAGE	8.50	7.82	7.91	8.01	7.89	7.92	7.83	7.59	7.91
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
FAGE	5.44	5.49	5.50	5.45	5.52	5.48	5.39	5.5	5.69
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
GDPGROW	-1.57	-1.48	-1.47	-1.46	-1.42	-1.48	-1.47	-1.44	-1.49
	0.117	0.139	0.141	0.145	0.154	0.14	0.143	0.149	0.136
R-Squared	0.0821	0.0756	0.0753	0.0761	0.0754	0.0753	0.0758	0.0916	0.0776
Adj. R-Sqr.	0.0795	0.0730	0.0727	0.0735	0.0729	0.0727	0.0732	0.0891	0.0751
F-Statistics	32.33	29.57	20.44	29.78	29.57	29.43	29.65	36.47	30.44
Prob. Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The p-values are in parentheses with *, ** and *** denoting significance at 10%, 5% and 1% levels, respectively.

Legend**:** GOP is Gross Operating Profit; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Relationship between Inventory Holding Period and GOP

Table 4.6 reveals the summary statistics of the relationship between inventory holding period and the GOP in the regression Model III. In this Model III, the coefficient of inventory holding

period is found to be positive and insignificant, which is contrary to most of the previous studies which imply that Nigerian SMEs are pursuing conservative working capital strategy. The explanation of the finding is that maintaining higher inventory level reduces the possibility of interruption in the production process and possible loss of business due to stock-out and to protect the firms against price fluctuation (Mathuva, 2010).

Relationship between Accounts Payable Period and GOP

Accounts payable is one of the important components of working capital management. It is hypothesised in this study under Hypothesis 4 that there is a positive relationship between accounts payable period and SMEs' profitability. However, the coefficient of the accounts payable period is found to be negative and insignificant. The finding is similar to the result obtained in Table 4.5. This clearly shows that the finding fails to support the study's hypothesis which implies that Nigerian SMEs tend to delay payment to their creditors in order to improve profitability.

Evidences provided by Deloof (2003); and Sharma and Kumar (2011) justify that less profitable firms tend to delay payment to their creditors. An alternative explanation to these findings is that when profitability decreases, less cash is generated by the firms from operations and firms are able to survive by delaying payments to trade creditors to finance their operations to earn more profits (Padachi, 2006). Similarly, it has been argued that a negative relationship between APP and firm's profitability makes economic sense because the longer the payment period, the more the funds reserved for other profitable operations (Sharma & Kumar, 2011).

Relationship between Corporate Cash Holdings and GOP

Corporate cash holding is one of the determinants of SMEs' profitability in this study. It is hypothesised in this study under Hypothesis 5 that there is a negative relationship between corporate cash holdings and SMEs' profitability. In Model V of Table 4.6, corporate cash holdings were regressed against the GOP. The finding exhibits a negative relationship between corporate cash holdings and GOP, consistent with Harford, Mansi and Maxwell (2008), who document that holding excess cash is associated with low profitability. Overall, it shows that the findings are in support of the study's hypothesis which proves that an increase in the level of firm's corporate cash holdings results in a decrease in the firm's profitability. However, the overall relationship between corporate cash holdings and GOP is found to be insignificant.

The negative association between corporate cash holdings and GOP revealed in this study is not consistent with the findings of studies conducted by Arunkumar and Radharamanan (2012); Muhammad et al. (2012); and Abushammala and Sulaiman (2014). Autukaite and Molay (2013) suggest that by managing cash effectively, a firm can reduce its dependence on outside financing and use the realised cash for further profitable investment. However, Pan (2006) posits that excess cash holding significantly affects firm's operating performance.

Relationship between Cash Conversion Efficiency and GOP

In this study, cash conversion efficiency is a measure of efficient management of working capital. It is hypothesised in this study that there is a positive relationship between cash

conversion efficiency and SMEs' profitability measured by GOP. In Model VI of Table 4.6, cash conversion efficiency was regressed with GOP. The coefficient of the CCE reveals an insignificantly negative coefficient of -0.0102. Overall, the findings fail to support the hypothesis which implies that an increase in the level of efficiency in working capital management measured by CCE, does not lead to increase in GOP as well.

Similarly, the finding is contrary to findings in the studies conducted by Anand and Gupta (2002); Gill and Biger (2013); and Kaur and Singh (2013). However, previous studies by Ghosh, (2004; 2008); and Sen and Oruç (2009) document that efficient working capital management affects firm's profitability. Further, Kaur and Singh (2013) argue that efficient working capital management is a crucial factor for ensuring firm survival, liquidity, solvency and profitability.

Relationship between Family Ownership and GOP

Family ownership is one of the corporate governance mechanisms and a determinant of SMEs' profitability used in this study. Family ownership was regressed against the SMEs' GOP in this study. Hypothesis 7 hypothesises that there is a negative association between family-owned business and SMEs' profitability. The coefficient of family ownership in Model VII is negative (-0.0247) and insignificant. The result implies that family controlled firms are less profitable than non-family-owned firms. Similarly, the OLS regression estimation in Table 4.5 reveals a significantly negative association between family ownership and GOP. Overall, the findings of the study support the study's hypothesis which indicates that GOP is affected by family

controlled firms. This implies that family ownership does have a negative impact on firm's profitability measured by GOP. However, findings are in contrast to the results of previous studies, such as Anderson and Reeb (2003); Maury (2006), Abor and Biekpe (2007); Dyer (2006); Aguiló and Aguiló (2012); and Wilson et al. (2013).

Relationship between Board Size and GOP

The coefficient of the board size in Model IIX is positive (0.0478) and significant at 1% level, which implies that increase in the board members will bring about an increase in the GOP. Similarly, the results of the OLS regression Model in Table 4.5 support the finding and reveal a significantly positive relationship between board size of the Nigerian SMEs and profitability. In this study, it is postulated that there is a positive relationship between board size and SMEs' profitability. This is proposed based on the argument that a large board is better and more effective in monitoring and decision-making due to diversity and wide range of expertise among directors. Thus, the findings of this study in Model IIX and the OLS regression estimates in Table 4.5 support the hypothesis of the study by exhibiting a significantly positive relationship between board size and SMEs' profitability. Furthermore, the findings of this study are consistent with findings of previous studies conducted by Abor and Adjasi (2007); Ehikioya (2009), Saibaba and Ansari (2012); and Mollah et al. (2012). This implies that large corporate boards are associated with higher profitability, indicating an increase in the number of the board of directors may have a positive effect on the SMEs' profitability.

Relationship between Women on Board and GOP

Model IX also reports a significantly positive relationship between gender measured by proportion of women on the board and GOP. The coefficient of GENDER is positive (0.0078) and significant which implies that SMEs with women on their boards of directors perform better than those without women on their boards. Similarly, the results on the OLS regression model in Table 4.5 support the finding and reveal a positive association between women on the boards of the Nigerian SMEs and GOP. Hypothesis 9 of this study predicts a positive relationship between women on the boards and SMEs' profitability. The hypothesis is based on the argument that presence of women on the corporate boards may affect the firm's profitability. Thus, the findings are consistent with the Hypothesis 9 by exhibiting a significantly positive association between gender and SMEs' profitability.

Furthermore, the findings are in line with results obtained by previous studies conducted by Abdullah et al. (2013); Lückerath-Rovers (2013); and Wilson et al. (2013). This indicates that presence of female directors on boards of directors is associated with increase in the firm's profitability. Abdullah et al. (2013) refer to the appointment of female directors as a distinctive managerial style that helps to avoid all risky investment. Women are more trustworthy than their male counterparts and are a source of knowledge, skills and connection to external resources for the firm (Dang & Vo, 2012). However, in Nigeria, there are few women representatives (directors) on the corporate board of directors, particularly in the SMEs. This could be attributed to lack of standard policy in Nigeria on women representation in decision- making. Further, it

suggests that firms with women board members are reporting higher GOP than firms without women on their board of directors.

Relationship between Control Variables and GOP

The result in Table 4.6 also shows that the coefficients of the five control variables across the models: FSIZE, SGROW, LEVERAGE, FAGE and GDPGROW are all significant except GDPGROW. Firm size is found to be negatively related to GOP in the model which is contrary to findings of most of the previous studies. The negative relationship between firm size and SMEs' profitability is consistent with the finding by Yeboah and Yeboah (2014) and is contrary to findings by Raheman and Afza (2010); and Mathuva (2010). However, the finding could be explained based on the fact that most of the Nigerian SMEs are growing firms. According to Yeboah and Yeboah (2014), a negative relationship between firm size and firm's profitability can be due to diseconomies of scale that may result in management inefficiency arising from expansion of business operations. This view is supported by Amran (2011) that firm size affects firm's performance because as a company grows larger in size, effective control and monitoring tend to be difficult and result in low performance. In their study, Baños-Caballero et al. (2012) ascribed three reasons for negative relationship between firm size and SMEs' profitability. First, growing firms need funds to invest in fixed assets and to expand their operations in order to sustain competitive advantage. This, in turn, requires increase in firms' investment in current assets to support the increase in the scale of operations, particularly in the short-run, which as a result, may have a negative effect on the firms' profitability. Second, managers tend to expand firm size in order to achieve their financial and non-financial benefits (managerial benefits)

which may result in high cost of operations and lower operating profits. Third, greater diversification might result in increase in the cost of operations which may have a negative effect on the firm's profitability, particularly in the early stages. In contrast, sales growth reveals a highly significant and positive association with GOP. The use of leverage is also found to be positively associated with GOP and highly significant which implies that profitable SMEs use debts to save taxes by deducting interest cost (Bellouma, 2011). Similarly, firm age is positively related to GOP which implies that older firms are more profitable than newer firms. Thus, firm size, sales growth and firm age are important indicators of firm's performance (Sharma & Kumar, 2011).

4.4.3 Relationship between WCM and CG with ROA

Table 4.7 presents the regression estimates of the impact of working capital management and corporate governance on ROA using OLS regression estimation. The OLS regression results in Table 4.7 report the estimates of all the variables with robust standard errors adjusted for heteroskedasticity and autocorrelation, which include the six popular measures of working capital management and the three corporate governance mechanisms.

Table 4.7
OLS Regression Results with ROA (n=311; t=7)

			OLS with Heteroskedasticity & Serial Correlation			
Variables	Hypothesis	Expected Sign	Coefficient	Std. error	t-value	p-value
Constant			2.1931	0.3489	6.280	0.000***
CCC	1	-	-0.0000	0.0002	-0.090	0.932
ARP	2	-	-0.0009	0.0003	-2.560	0.011**
IHP	3	-	0.0012	0.0005	2.340	0.020**
APP	4	+	0.0001	0.0003	0.190	0.853
CCH	5	-	0.0744	0.0294	2.530	0.012**
CCE	6	+	1.1854	0.2497	4.750	0.000***
FMLY	7	-	0.0089	0.0481	0.180	0.854
BSIZE	8	+	1.8787	0.7859	2.390	0.017**
GENDER	9	+	0.0041	0.0057	0.710	0.475
FSIZE			-0.0495	0.0287	-1.730	0.085*
SGROW			0.0013	0.0002	6.860	0.000***
LEVERAGE			0.0028	0.0014	1.950	0.052*
FAGE			0.0048	0.0027	1.790	0.075*
GDPGROW			-0.0153	0.0129	-1.180	0.240
R-squared						0.1088
F-statistics						08.84
Prob. (F-stat.)						0.000
Rho						0.2624
Hausman test						50.5 (0.000)
Multicollinearity						
Mean VIF						1.18
Heteroskedasticity						32388.67 (0.000)
Serial Correlation						13.096 (0.000)
Skewness						2.60

*** Significant at 1% (1-tailed test) ** significant at 5% * significant at 10%.

Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Pooled OLS model explains the variations in the profitability among firms. Table 4.7 reports a significant F-value of the OLS model which indicates the model is fit and all the coefficients in

the model are different than zero. The value of R-square is 10.88% which indicates the amount of variance of the SMEs' ROA (profitability) explained by WCM and CG variables.

The result shows that the coefficient of cash conversion cycle is negative but insignificant which implies that a reduction in the cash conversion period is associated with an increase in the firm's ROA. The negative relationship between cash conversion cycle and profitability is consistent with findings by Deloof (2003); Lazaridis and Tryfonidis (2006); Raheman and Nasr (2007); Nobanee et al. (2011); and Ogundipe et al. (2012). However, the insignificant relationship with firm's profitability is contrary to the findings of most of the previous scholars which implies that profitable SMEs are less efficient in their working capital management.

Similarly, the coefficient of accounts receivable period is found to be negative and significant at 5% level. This implies that an increase in the accounts receivable period by one day is associated with a decrease in the profitability by 0.09%. This finding is consistent with findings of most previous studies, such as Shin and Soenen (1998); Deloof (2003); García-Teruel and Martínez-Solano (2007); Raheman and Nasr (2007); Ogundipe et al. (2012); and Tauringana and Afrifa (2013). The finding also supports the aggressive strategy of managing working capital (Tauringana & Afrifa, 2013). However, the coefficient of inventory holding period shows a significantly positive association with ROA which indicates an increase in the inventory holding period by one day is related to the increase in the ROA by 0.012% at 5% significance level. This finding is consistent with conservative working capital strategy which implies that maintaining high inventory level is associated with increase in the firm's profitability. According to Mathuva

(2010, pp. 8); and Baños-Caballero et al. (2012, pp. 519), "*maintaining high inventory level reduces the cost of possible interruption in the production process and reduces loss of business due to scarcity of products*".

However, the relationship found between accounts payable period and ROA is positive but insignificant. The positive association between accounts payable period and profitability is consistent with the results of previous studies by Mathuva (2010); Azam and Muhammad (2011); and Arunkumar and Radharamanan (2012). This finding is contrary to Deloof (2003); García-Teruel and Martínez-Solano (2007); Raheman and Nasr (2007); and Tauringana and Afrifa (2013) that accounts payable period is negatively associated with firm's profitability. Nonetheless, the finding proves the theory of efficient working capital management that firms should prolong their accounts payable period to take advantage of cash available for their working capital needs. Economically, the longer a firm delays its payments to creditors, the higher the level of working capital it reserves for use in order to increase profitability (Lazaridis & Tryfonidis, 2006; Mathuva, 2010). In other words, less profitable firms utilise trade credit as a major source of financing.

Furthermore, the coefficient of corporate cash holdings and cash conversion efficiency are found to be positive and significant at 5% level. Consistent with Gill and Biger (2013); and Arunkumar and Radharamanan (2012); corporate cash holdings in this study are measured by natural logarithm of average cash which implies that an increase in firm's cash holdings by 1% is associated with an increase in firm's profitability by 7.44%. The positive relationship between

cash conversion efficiency and firm's profitability implies an increase in the cash conversion efficiency and this is also associated with an increase in firm's profitability. This finding is consistent with previous studies (Ganesan, 2007; Sen & Oruç, 2009; Kaur & Singh, 2013) that firm's profitability can be improved with the increase in working capital management efficiency measured by cash conversion efficiency.

Table 4.7 also reports the regression results for the three corporate governance variables:family ownership, board size and women on the board. All the variables are positively related to firm's profitability measured by ROA. The relationship between BSIZE and ROA is positive and significant at 5% level which indicates that large board is better. This implies that SMEs with large boards in Nigeria are better by reporting higher ROA. However, the coefficient of family ownership and gender reveals statistically insignificant results.

In addition to the main variables of the study, Table 4.7 reports the regression results of the five control variables used in this study. The coefficient of firm size shows a significantly negative relationship with firm's profitability which implies that larger firms are associated with a decrease in firm's profitability. This finding is contrary to most of the previous studies (Raheman & Nasr, 2007; Mathuva, 2010). Similarly, the coefficient of GDP growth shows a negative but insignificant relationship with firm's profitability. In contrast, the coefficient of sales growth, leverage and firm age reports highly significant and positive relationship with firm's profitability. According to García-Teruel and Martínez-Solano (2007), sales growth could be an indicator of a firm's business opportunities and is an important factor which allows firms

to earn high profitability. Similarly, firm's profitability increases with an increase in age of the firm. This may be due to good relations established with the firm's suppliers and customers.

4.4.4 Univariate Analysis with Return on Assets

In addition to the findings in Table 4.7, this section reports the univariate analysis of the nine individual models regressed against the ROA. The nine models which capture all the six measures of working capital management and three measures of corporate governance are presented in Table 4.8 using OLS regression estimates. Similarly, the intercepts (constant) in all the models are also significant at 1% level, indicating the average effects of the independent variables on the dependent variable over time and across firms (Torres-Reyna, 2010). Each of the variables (the six working capital management and three corporate governance variables) was regressed with the ROA.

Table 4.8 reveals that the coefficient of accounts receivable period, inventory holding period, corporate cash holdings and cash conversion efficiency exhibits a significant relationship with ROA. In this study, it is hypothesised that there is a negative relationship between SMEs' profitability measured by ROA and accounts receivable period. Consistent with the study's hypothesis, the coefficient of accounts receivable period is found to be negative and

Table 4.8

Regression Model I – IX with ROA

Variables	MODEL								
	I	II	III	IV	V	VI	VII	VIII	IX
Constant	11.55	11.75	11.17	11.49	9.59	13.7	10.76	11.54	11.38
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
CCC	0.79								
	0.432								
ARP		-2.44							
		(0.015)**							
IHP			2.66						
			(0.008)***						
APP				0.47					
				0.642					
CCH					7.32				
					(0.000)***				
CCE						8.44			
						(0.000)***			
FMLY							0.78		
							0.437		
BSIZE								0.34	
								0.731	
GENDER									0.91
									0.362
FSIZE	6.2	3.42	3.46	3.43	-0.65	-0.54	3.48	3.26	3.48
	(0.000)***	(0.001)***	(0.001)***	(0.001)***	0.514	0.588	(0.001)***	(0.001)***	(0.001)***
SGROW	8.15	7.36	7.40	7.42	7.42	7.66	7.41	7.44	7.43
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
LEVERAGE	4.78	3.17	3.35	3.33	3.68	3.34	3.42	3.35	3.38
	(0.000)***	(0.002)***	(0.001)***	(0.001)***	(0.000)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***
FAGE	1.75	2.31	2.43	2.34	2.00	2.94	2.39	2.33	2.4
	(0.080)*	(0.021)**	(0.015)**	(0.019)**	(0.045)**	(0.003)***	(0.017)**	(0.020)**	(0.017)**
GDPGROW	-0.74	-0.73	-0.69	-0.72	-1.27	-0.45	-0.72	-0.72	-0.72
	0.457	0.467	0.489	0.469	0.205	0.650	0.470	0.474	0.470
R-Squared	0.0749	0.0507	0.0512	0.0482	0.0711	0.0784	0.0484	0.0481	0.0485
Adj. R-Sqr.	0.0723	0.0481	0.0486	0.0456	0.0685	0.0758	0.0457	0.0455	0.0458
F-Statistics	29.28	19.31	19.51	18.31	27.66	30.75	18.38	18.29	18.42
Prob. Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The p-values are in parentheses with *, ** and *** denoting significance at 10%, 5% and 1% level, respectively.

Legend: ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

significant. Accounts receivable period is one of the important components of working capital management which measures the average number of days a firm takes to collect receivables in a year. The negative relationship found between ARP and ROA implies that a decrease in accounts receivable period is associated with an increase in firm's profitability.

Conversely, an increase in the number of days of accounts receivable can result in decline in the firm's profitability. This result is consistent with the result obtained in Table 4.7 which reveals a significantly negative relationship between ARP and firm's profitability. Moreover, the findings are in line with the corporate finance theory, that the lesser the number of days of accounts receivable, the more it will add to the firm's profitability. Furthermore, the findings are supported by previous studies, such as Deloof (2003); Lazaridis and Tryfonidis (2006); Raheman and Nasr (2007); García-Teruel and Martínez-Solano (2007); and Gill et al. (2010). This indicates that an increase or decrease in the accounts receivable period will significantly affect the firm's profitability (Gill et al., 2010). The results suggest that a firm can increase its profitability by reducing its accounts receivable period (Mathuva, 2010). It also means that managers can increase firm's profitability by decreasing the accounts receivable period (Lazaridis & Tryfonidis, 2006). In this case, a more restricted credit policy which gives customers less time to make their payment may improve firm performance (Mathuva, 2010).

The coefficient of the inventory holding period in Table 4.8 is found to be positive and highly significant. This is consistent with the finding in Table 4.7 which implies that there is a positive relationship between inventory holding period and ROA. In this study, it is hypothesised that there is a negative relationship between inventory holding period and SMEs' profitability. Thus, the findings fail to support the preposition that firm's profitability can be increased by reducing the number of days of inventory held by a firm. Similarly, the findings are contrary to corporate finance theory that the lesser the number of days of inventory, the higher the firm's profitability (Sharma & Kumar, 2011). However, the results are consistent with the result obtained by Mathuva (2010) which suggests that higher inventory reduces the cost of possible interruption in

the production and loss of business due to scarcity of products. Baños-Caballero et al. (2012, pp. 519) further add that, "*maintaining higher inventory levels helps in reducing the cost of supplying the products and protects the firm against price fluctuations as a result of macroeconomic factors*".

Table 4.8 also presents the regression estimates of the relationship between corporate cash holdings and ROA. The relationship is found to be positive and highly significant at 1% level which implies that increase in the firm's level of cash holdings will significantly affect its profitability. The finding is consistent with the result obtained in Table 4.7 which indicates that an increase in cash holdings by 1% will bring about an increase in the ROA by 7.44%. In this study, it is hypothesised that there is a negative relationship between corporate cash holdings and SMEs' profitability. Thus, the finding fails to support Hypothesis 5 by reporting a highly significant and positive relationship between corporate cash holdings and ROA as the measure of SMEs' profitability.

Furthermore, the findings of the study are consistent with the results obtained by Muhammad et al. (2010); Naoki (2012); Anagnostopoulou (2012); and Abushammala and Sulaiman (2014) which reveal a significantly positive relationship between corporate cash holdings and firm's profitability. Opler, Pinkowitz, Stulz and Williamson (2001); Boyle and Guthrie (2003); and Naoki (2012) argue that firms with large investment opportunities accumulate cash holdings and use the cash for profitable investment which increases the firm's profitability and value. This implies that firm's profitability is increased by reducing the firm's cost of financing investment

projects (Isshaq et al., 2009). Similarly, the positive association between corporate cash holdings and operating profitability can be explained as a manifestation of capital raising constraints for most private firms (Anagnostopoulou, 2012; Abushammala & Sulaiman, 2014). Muhammad et al. (2012) add that maintaining optimal cash level would allow a firm to carry out its operations without any interruption and take advantage of every business opportunity. Naoki (2012) posits that high cash holdings reflects the effectiveness of hedging behaviours by managers that the strategies help firms to avoid cash shortage for easily paying obligations which positively affect firm's profitability. Similarly, Mikkelson and Partch (2003); and Pan (2006) found a positive relationship between corporate cash holdings and firm performance of USA firms which implies that large cash holdings do not hinder firm performance.

The finding in Model VI reveals a highly significant and positive association between cash conversion efficiency and ROA. Consistent with the findings in Table 4.7, the findings reveal a positive coefficient for the cash conversion efficiency at 1% significance level. This result proves that efficient management of working capital measured by cash conversion efficiency significantly affects SMEs' profitability. Anand and Gupta (2001) describe cash conversion efficiency as the speed of a firm's engine which takes it on the path of growth and answers the question of how well companies convert revenue to cash flows. Kaur and Singh (2013) further add that cash conversion efficiency measures the ability at which the firm is able to change its sales revenue to cash flows. It is hypothesised in this study that a positive relationship exists between cash conversion efficiency and SMEs' profitability. Thus, the findings of this study support the proposition that efficiency in the management of working capital affects firm's profitability positively.

Furthermore, the findings of the study are consistent with the overall result of Kaur and Singh (2013) which document an association between efficient working capital management and high profitability and a poor working capital management with low profitability. Similarly, Gill and Biger (2013) found a positive relatioship between financial performance and cash conversion efficiency of American manufacturing firms. Ramachandran and Jankiraman (2009), in their study, found that efficient working capital management is necessary for achieving a trade-off between liquidity and profitability.

As for the control variables, Table 4.8 shows that the coefficient of firm size, sales growth, leverage and firm age across the models reveal a significant relationship with ROA, except in models V and VI with respect to firm size. The positive relationship between firm size and ROA implies that large SMEs are more profitable than small firms. Large firms are able to exploit their economies of scale towards increased profitability (Mathuva, 2010). The finding is consistent with findings by Raheman and Afza (2007; 2010) which indicate that large firms are reporting higher profit that small firms. Further, the association between sales growth, leverage and firm age with SMEs' profitability is found to be positive and highly significant. The positive relationship between sales growth and firm's profitability is consistent with findings by Mathuva (2010); Raheman et al. (2011); and Ademola (2014) which imply that firm's future sales growth increases profitability. Similarly, a positive relationship between firm age and profitability is consistent with findings by Mathuva (2010); and Baños-Caballero et al. (2012) which indicate that the number of years a firm puts into business significantly influences its performance. The possible explanation is that older firms might establish a long-term relationship with their customers and suppliers which can have a significant impact on profitability. Moreover, the

positive relationship found between leverage and firm's profitability is consistent with statement in financial management that high risk is associated with high returns but the finding contrasts Mathuva (2010); and Raheman and Nasr (2007). Overall, the findings imply that profitability of Nigerian SMEs increases with the increase in the firm size, sales growth, use of leverage and firm age. However, Table 4.8, reports across the models, an insignificantly negative relationship between GDP growth and ROA.

4.5 Sensitivity Analysis

In this section, the impact of working capital management and corporate governance is further tested on the SMEs' profitability, first, by using log10 GOP. This is based on the diagnostic tests from the Histogram, Normal Probability Plot and Scatterplot for the GOP presented in Appendix A, Figure 4.1. The normal probability plot shows that the distribution of the scores follows the diagonal line, but does not lie straight on the diagonal line and the distribution of the scores from the scatterplot is fairly concentrated in the centre along the 0 point, but there are elements of deviation. Therefore, based on the tests, it suggests that there exist elements of outliers and deviation from normality. Second, the independent variables were further regressed against the GOP and ROA using fixed effects regression model and across different classifications of the sub-sample data (entities based and geo-political zones). The aim is to double check whether there are any significant changes from the previous results and to further test across sub-samples based on entities' size and geopolitical location of the samples SMEs. The first part of this section presents the OLS regression result with log10 of GOP. The second part presents the FE regression model using the two measures of the SMEs' profitability: GOP and ROA. The last

part presents the findings of the study across different sub-samples of the data based on entities' size and geopolitical area. The sub-samples are sorted according to: entities' size and geopolitical zone. Under the entities' size, the firms are separately analysed according to entities type: small and medium size. The next step involves analysing the firms according to geopolitical zones in order to assess the impact on the sub-sample firms from each of the six geopolitical zones.

4.5.1 OSL Regression Analysis with Log10 GOP

Table 4.9 presents the findings on the impact of working capital management and corporate governance on SMEs' profitability using log10 GOP. The results were analysed using OLS regression with robust standard error for normality of residuals. The coefficient of the intercepts (constant) of the model is 83.390 with F-value of 7.28 at 1% significance level, which implies that the model is fit and all the coefficients in the model are different than zero.

Based on the result in Table 4.9, the coefficient of cash conversion cycle is positive and significant at 1% level which implies that an increase in cash conversion period will result in increase in the firm's profitability. The finding confirms the result obtained in Table 4.5 as discussed in Section 4.4.1. The finding also fails to support the study's hypothesis 1 which assumes a negative relationship between cash conversion cycle and SMEs' profitability.

In contrast, the coefficient of inventory holding period is found to be negative and significant which indicates that reduction in the days of inventory holding period is associated with increase in the firm's profitability. The finding supports the study's Hypothesis 3 which postulates a negative relationship between inventory holding period and SMEs' profitability and is in line with aggressive working capital policy. The possible explanation is that an increase in the inventory holding period will result in increase in the firm's operating cost which negatively affects firm's profitability.

Similarly, the coefficient of accounts payable period is negative and significant which means reduction in the days of accounts payable period is associated with increase in the firm's profitability. This finding is contrary to the study's Hypothesis 4 which predicts a positive association between accounts payable period and SMEs' profitability. Accounts payable is a source of free financing for SMEs. Thus, firm's profitability can be increased by increasing the days of accounts payable period (Mathuva, 2010).

Furthermore, the coefficient of corporate cash holdings is found to be negative and highly significant which implies that holding large amount of assets in cash is associated with low profitability. The finding is consistent with the study's Hypothesis 5 which predicts a negative relationship between corporate cash holdings and SMEs' profitability. For the cash conversion efficiency, the finding reveals a highly significant and positive relationship with firm's profitability. Similarly, the finding is in line with the assumption of Hypothesis 6 which posits a positive relationship between CCE and SMEs' profitability. This implies

that SMEs with high cash flow ratio from operating activities to total assets achieve an increase in the firm's profitability.

Table 4.9
OLS Regression Estimates with Log10 GOP

Variables	Hypothesis	Expected Sign	OLS with Robustness			
			Coefficient	Std. Error	t-value	p-value
Constant			83.390	147.848	0.560	0.573
CCC	1	-	0.3228	0.0926	3.480	0.001***
ARP	2	-	0.0873	0.1730	0.500	0.614
IHP	3	-	-0.5452	0.2215	-2.460	0.014**
APP	4	+	-0.2159	0.1253	-1.720	0.086*
CCH	5	-	-26.664	8.1147	-3.290	0.001***
CCE	6	+	238.67	81.634	2.920	0.004***
FMLY	7	+	-10.994	20.593	-0.530	0.594
BSIZE	8	+	-7.5406	7.0444	-1.070	0.285
GENDER	9	+	-56.682	38.168	-1.490	0.139
FSIZE			52.568	10.233	5.140	0.000***
SGROW			-9.4966	6.3335	-1.500	0.135
LEVERAGE			100.32	26.229	3.820	0.000***
FAGE			-1.4126	1.3647	-1.040	0.301
GDPGROW			1.3786	6.1989	0.220	0.824
R-squared						0.0771
F-statistics						7.28
Prob. (F-stat.)						0.000
Observations						2,177
Skewness						-0.323
Kurtosis						1.729

*** Significant at 1%, ** significant at 5% and * significant at 10%.
Legend**:** Log10_GOP is Log of Gross Operating Profit; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

With respect to corporate governance, the results in Table 4.9 for all the three variables: FMLY, BSIZE and GENDER, are found to be insignificantly related to SMEs' profitability measured by the log10 GOP. This is contrary to what is obtained in Table 4.5 which reveals a significant relationship between the three corporate governance mechanisms and GOP.

4.5.2 Fixed Effects Regression Analysis

Based on the result of the Hausman Specification Test result in Section 4.3.4 (Para 2), it is established that fixed effects model is the alternative model for this study. However, FEM analyses the impact of variables that vary over time. Hence, the model has some limitations, including omission of all time-invariant variables. According to Stock and Watson (2003, pp. 289 - 290), '*if any predictor variable does not change over time, then any change in the dependent variable must be due to influence other than those fixed characteristics*'. Consistent with some previous studies and the time-invariant nature of family ownership, board size and women on the board prompted the utilization of both the OLS regression model and fixed effects model in the study. Thus, this section presents the regression analysis using the FEM.

4.5.2.1 Regression Analysis with Gross Operating Profit

Table 4.10 reports the summary of the FEM using GOP. The coefficient of the intercepts (constants) in the model is 3.296 with t-value of 15.90, exhibiting a highly significant relationship among all the variables. The F-value in the model is 30.85 and is significant at 1%

level which denotes the model is fit and all the coefficients in the model are different than zero. The value of R-square is 15.46% which indicates the amount of variance of the GOP explained by the independent variables of the working capital management components within firms. The intra- class correlation (rho) reports a value of 54.66% which implies that the variances are due to differences across the panels. As stated earlier, one of the limitations of the fixed effects model is that it works with variables that vary over time and drops all time-invariant variables (Stock & Watson, 2003; Torres-Reyna, 2011). Thus, the three corporate governance variables (family ownership, board size and gender) were omitted from the regression estimates.

The estimates of the individual regressors in the fixed effects regression results show that the coefficient of cash conversion cycle is positive (0.0004) and highly significant. This suggests that an increase in the cash conversion cycle by a day is associated with an increase of profitability by 0.04%. This means that profitable SMEs are less efficient in managing their working capital. The finding is consistent with the result obtained by Gill et al. (2010); and Abuzayed (2011), supporting the view that more profitable firms are realising longer cash conversion cycles. These findings are against the theory of working capital management which relates lower cash conversion cycle to increase in profitability (Shin & Soenen, 1998; Deloof, 2003; Lazaridis & Tryfonidis, 2006). The results also show that the coefficient of accounts receivable is negative (-0.0004) and significant at 10% level. This implies that an increase in the accounts receivable period by one day is associated with a decline in the profitability by 0.04%. The explanation of this is that managers can increase firm's profitability by reducing the number of days of accounts receivable (García-Teruel & Martínez-Solano, 2007). Similarly, the coefficients of inventory holding period and accounts payable period exhibit an insignificantly

negative association with SMEs' GOP. The negative relationship between inventory holding period and GOP is in line with findings of previous studies by Afeef (2011); and García-Teruel and Martínez-Solano (2007), which indicate an increase in the inventory holding period is associated with a decrease in firms' profitability. However, the negative relationship found between accounts payable period and GOP is not consistent with theory of working capital and findings of most previous scholars.

Furthermore, the coefficient of cash conversion efficiency is positive and significant at 5% level. This indicates that an increase in the cash conversion efficiency by 1% is also associated with an increase in firm's profitability by 23.73%, signifying the importance of a firm's cash flow from operating activities to profitability.

The regression results of the control variables in this panel show that firm size exhibits a highly significant and negative relationship with firm's profitability. Similarly, the coefficient of GDP growth reveals a negative relationship with firm's profitability at 5% significance level. The negative association between GOP and firm size implies that large SMEs report low profits which may be due to higher cost of operations. However, the coefficient of sales growth, leverage and firm age indicates highly significant and positive relationship with GOP. According to García-Teruel and Martínez-Solano (2007), sales growth could be an indicator of firms' business opportunities and is an important factor which allows firms to earn high profitability. Similarly, firm's profitability increases with an increase in firm age. This may be due to long relationship established by older firms with their contacts. However, the positive

relationship between leverage and profitability is contrary to most of the previous findings (Gill et al., 2010; Mathuva, 2010; Ogundipe et al., 2012).

Table 4.10
Fixed Effect Regression Estimates (GOP)

Variables	Hypothesis	Expected Sign	Fixed Effects Model			
			Coefficient	Std. Error	t-value	p-value
Constant			3.2957	0.2072	15.900	0.000***
CCC	1	-	0.0004	0.0001	2.730	0.006***
ARP	2	-	-0.0004	0.0002	-1.860	0.063*
IHP	3	-	-0.0004	0.0003	-1.440	0.151
APP	4	+	-0.0000	0.0002	-0.090	0.930
CCH	5	-	0.0012	0.0094	0.130	0.900
CCE	6	+	0.2373	0.1056	2.250	0.025**
FMLY	7	-	-	-	-	-
BSIZE	8	+	-	-	-	-
GENDER	9	+	-	-	-	-
FSIZE			-0.1989	0.0139	-14.320	0.000***
SGROW			0.0012	0.0001	9.420	0.000***
LEVERAGE			0.0033	0.0008	4.400	0.000***
FAGE			0.0281	0.0051	5.530	0.000***
GDPGROW			-0.0229	0.0103	-2.230	0.026**
R-squared						0.1546
F-statistics						30.85
Prob. (F-stat.)						0.000
Rho						.5466
Observations						2,177

*** Significant at 1%, ** significant at 5% and * significant at 10%.
Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

4.5.2.2 Regression Analysis with Return on Assets

Table 4.11 presents the regression estimates of the impact of working capital management and corporate governance on the SMEs' profitability measured by ROA using fixed effects regression estimation. The results in Table 4.11 show that the fixed effects model is acceptable from a statistical perspective and the p-value is significant at 1% level.

The summarised model shows that there is a correlation between the unobservable heterogeneity (fixed effects) of each firm with the independent variables. This makes it possible to obtain consistent estimations by means of within group estimators (Mathuva, 2010). The Model's F-value is 30.84 and is significant at 1% level which denotes the model is fit and all the coefficients in the model are different than zero. The value of R-square is 15.46% which indicates the amount of variance of the ROA explained by the working capital management components within the firms. The intra-class correlation (rho) reports a value of 54.66% which implies that the variances are due to differences across the panels.

The result in Table 4.11 reveals a positive coefficient of cash conversion cycle and is significant at 5% level, which means an increase in the cash conversion period is associated with an increase in profitability by 0.08%. This implies that profitable SMEs are less efficient in managing their working capital. This finding is consistent with Gill et al. (2010); and Abuzayed (2012) supporting that more profitable firms are realising longer cash conversion cycle. The coefficient of accounts receivable is negative and significant at 1% level which means an increase in the

accounts receivable period by one day is associated with a decline in the profitability by 0.02%. The coefficient of inventory shows a significantly positive relationship with ROA, indicating an increase in the inventory holding period by one day is associated with an increase in the firm's profitability by 0.02%.

More significantly, there is a relationship found between the last two measures of working capital management, namely corporate cash holdings and cash conversion efficiency with the SMEs' profitability; the outcome shows that the relationships are all positive and highly significant. Corporate cash holdings are measured by natural logarithm of average cash which implies that an increase in firm's cash holding by 1% is associated with an increase in firm's profitability by 94%. Similarly, an increase in the cash conversion efficiency by 1% is also related to an increase in firm's profitability by 34.06%.

With reference to the regression results on control variables, firm size reports a highly significant and negative relationship with firm's profitability. This finding is consistent with the study by Sharma and Kumar (2011) which reveals a negative relationship between the size and profitability of Indian companies. However, this result is contrary to corporate finance theory which says that size is an important indicator of firm performance and is generally found to be positively associated with corporate profitability. The greater the size of a firm, the more its profitability will be (Sharma & Kumar, 2011).

Table 4.11
Fixed Effect Regression Estimates (ROA)

Variables	Hypothesis	Expected Sign	Fixed Effects Model			
			Coefficient	Std. Error	t-value	p-value
Constant			27.0852	5.7416	4.720	0.000***
CCC	1	-	0.0081	0.0036	2.250	0.024**
ARP	2	-	-0.0247	0.0064	-3.710	0.000***
IHP	3	-	0.0167	0.0089	1.870	0.062*
APP	4	+	-0.0019	0.0051	-0.390	0.696
CCH	5	-	0.9369	0.2600	3.600	0.000***
CCE	6	+	34.0610	2.9262	11.640	0.000***
FMLY	7	-	-		-	-
BSIZE	8	+	-		-	-
GENDER	9	+	-		-	-
FSIZE			-2.2832	0.3849	-5.930	0.000***
SGROW			0.0290	0.0035	8.380	0.000***
LEVERAGE			0.0649	0.0210	3.090	0.002***
FAGE			0.9807	0.1409	6.960	0.000***
GDPGROW			-0.5529	0.2855	-1.940	0.053*
R-squared						0.1546
F-statistics						30.84
Prob. (F-stat.)						0.000
Rho						0.4836
Observations						2,177

*** Significant at 1%, ** significant at 5% and * significant at 10%.
Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Similarly, the coefficient of GDP growth shows a significantly negative relationship with firm's profitability. This finding is consistent with the study by Ademola (2014) which justifies that as GDP increases, the profitability of the SMEs decreases. The negative association between

profitability and firm size implies that large SMEs report low ROA which may be due to higher cost of operations. However, the coefficient of sales growth, leverage and firm age reports highly significant and positive relationship with firm's profitability. The positive association between firm age and ROA may be due to long term connection with its suppliers and customers. However, the positive relationship between leverage and profitability is contrary to financial management theory and findings of most of the previous studies, such as Gill et al. (2010); Mathuva (2010); Ogundipe et al. (2012); and Ademola (2014).

4.5.3 Entities-Based Analysis (Small and Medium-Sized)

In this section, the 311 sampled SMEs observed over the seven-year period are categorised into small and medium-sized firms based on the SME's definitions in Table 3.3 of Chapter Three. The result in Table 4.1 shows the distributions of the 2,177 sample firms of which 2,046 are classified as small-sized firms, whereas the remaining are medium-sized firms. OLS regression model with robust standard errors was used to estimate the impact of the determinants of the SMEs' profitability

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Table 4.12

OLS Regression Estimates Based on Entitiy Size

Variables	Hypothesis	Small-Sized Entities (2,046)		Medium-Sized Entities (131)	
		GOP	ROA	GOP	ROA
Constant		2.444	-11.932	2.276	0.163
		(5.74)***	(-1.33)	(0.82)	(0.57)
CCC	1	0.001	0.007	0.007	0.001
		(2.63)***	(1.60)	(1.35)	(1.10)
ARP	2	-0.001	-0.024	-0.009	-0.001
		(-2.16)**	(-3.39)***	(-2.32)**	(-0.65)
IHP	3	-0.001	0.028	-0.001	-0.001
		(-0.18)	(2.67)***	(-0.06)	(-0.30)
App	4	7.75e-1	0.002	-0.007	-0.002
		(0.03)	(0.25)	(-2.32)**	(-2.05)**
CCH	5	0.067	2.204	-0.009	0.008
		(3.79)***	(5.46)***	(-0.45)	(1.58)
CCE	6	0.157	43.102	0.082	-0.169
		(0.83)	(7.14)***	(0.25)	(-1.67)
FMLY	7	-0.018	-0.738	0.049	0.098
		(-0.32)	(-0.80)	(0.20)	(2.44)**
BSIZE	8	0.010	0.585	0.131	0.010
		(0.66)	(1.83)*	(1.67)	(0.75)
GENDER	9	0.007	0.105	0.039	-0.008
		(0.95)	(0.73)	(1.16)	(-0.99)
FSIZE		-0.195	-0.495	-0.133	-0.016
		(-5.67)***	(-0.69)	(-0.85)	(-1.15)
SGROW		0.001	0.029	-0.018	0.001
		(6.14)***	(6.10)***	(-1.79)*	(0.27)
LEVERAGE		0.005	0.089	0.018	0.005
		(3.00)***	(2.72)***	(1.94)*	(1.29)
FAGE		0.005	0.072	0.027	0.001
		(2.18)**	(1.34)	(1.67)	(0.30)
GDPGROW		-0.019	-0.646	-0.044	0.004
		(-2.61)***	(-2.56)**	(-0.87)	(0.19)
R-squared		15.57%	20.20%	44.44%	25.11%
F-statistics		9.95	16.55	8.92	7.90
Prob-Value		0.000	0.000	0.000	0.000
Obs.		2,046	2,046	131	131

Figures in parentheses are t-values.***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Table 4.12 presents the coefficients and t-values (in parenthesis) of pooled OLS regression results of the small-sized sub-sample firms and the medium-sized sub-sample firms based on the two measures of firm's profitability: GOP and ROA. Under the small-sized firms, the determinants of the two measures of profitability are investigated for 2,046 firm-year observations. The results indicate that the two models are statistically significant at 1% percent level.

Under the small–sized firms, the coefficients of cash conversion cycle are found to be positive and significant at 1% level under GOP. This indicates that a decrease in the cash conversion cycle will result in a decrease in the firm's profitability, which is contrary to theory that low cash conversion cycle is associated with an increase in the firm's profitability. In theory, shortening the cash conversion cycle increases firm's profitability and vice versa (Sharma and Kumar, 2011). However, the finding is in line with findings that more profitable firms are pursuing longer cash conversion cycle (Gill et al., 2010). Moreover, significantly negative relationships are found between accounts receivable period with GOP and ROA under the small-sized firms. In contrast, a significantly positive relationship is found between inventory holding periods with ROA for the small-sized firms which imply that high inventory level is associated with an increase in firm's profitability.

The coefficients of corporate cash holdings are found to be positive and highly significant for the small-sized firms, indicating the importance of optimal level of cash to small-sized firms for increase in the firms' level of liquidity and profitability as well. More precisely, it suggests that small firms are more effective in managing their cash and this reduces their demand for external

finance. Improving cash management can create a better profit margin and high turnover ratio which result in an increase in the firm's profitability (Larsson & Hammarlund, 2005). Similarly, a strong positive relationship is found for the small-sized firms between cash conversion efficiency and ROA, which indicates the relative effects of cash flow from operating activities to sales ratio to the SMEs' profitability.

The result of the analysis from the corporate governance mechanisms under the small-sized firms shows that only board size exhibits a significantly positive association with ROA. This implies that increase in the firm's profitability under small-sized firms is associated with the board size. Thus, in small-sized firms, board size contributes positively towards better performance than in the medium-sized firms. In other words, the profitability of Nigerian small-sized firms is largely influenced by the size of their boards, unlike in their counterpart medium-sized firms. For the control variables, firm size, sales growth, leverage, firm age and GDP growth are all found to be significantly related to GOP, while only sales growth, leverage and GDP growth exhibit significant relationship with ROA. This implies that large firms with future sales growth might experience increase in the firm's profitability measured by GOP. Similarly, older firms with high risk in the form of high debt to total assets ratio are associated with high returns (GOP). Furthermore, the findings show that future sales growth, leverage and GDP growth impact positively on the SMEs' profitability measured by ROA. Thus, it indicates that in Nigeria, GDP growth and high sales growth lead to increase in the SMEs' profitability.

Furthermore, the findings on the medium-sized SMEs show that accounts receivable periods have a negative association with GOP at 5% significance level. Similarly, a significantly negative relationship is found between the two measures of profitability with accounts payable period. This shows that a decrease in the days of accounts payable is associated with the increase in the GOP and ROA of the medium-sized SMEs in Nigeria. In contrast, a significantly positive relationship is found between family ownership with ROA which implies that ownership of a firm has some effect on its ROA. This result is consistent with findings by Wilson et al. (2013). This suggests that under the medium-sized entities, firms that are owned and controlled by families are more profitable than non-family-owned firms. The possible explanation is that with economic downturn and growing unemployment in Nigeria over the years, families and relatives exhibit love and high commitment to their family-owned and controlled business. This helps to lower agency costs associated with the firm due to common family objectives, trust and shared values among the family members which impact positively on the firm's profitability. Similarly, the unique training and skills for the business by the family members often contribute positively to the performance of the business. Furthermore, family resources, both physical and financial, are committed to support the business, which in turn, improve the firm's performance.

4.5.4 SMEs Analysis Based on Geopolitical Zone

In Chapter Three, area or cluster sampling technique was proposed for this study in which the sample SMEs is obtained out of the six geopolitical zones of Nigeria. Furthermore, Table 4.1 reports the distribution of the sample SMEs according to geopolitical zones and the percentage

thereon. In this section, the study examines the determinants of the sub-sample SMEs' profitability according to their respective geopolitical zones, regardless of size or sector of the firms. The analysis is presented in Tables 4.13(a) and 4.13(b). The analysis is based on the two measures of SMEs' profitability: GOP and ROA. In each case, an appropriate model is applied based on the Breusch-Pagan (Lagrange Multiplier) and Hausman tests. However, in a situation where fixed effects model suffices as the appropriate model, then OLS with robust standard errors is reported in order to adjust for the effects of serial correlation, heteroskedasticity and time-invariant nature of some variables in the study.

4.5.4.1 Geopolitical Zone with GOP

In the first step, the result of the Breusch-Pagan LM test indicates that the probability values are significant at 1% level ($p<0.05$) under the six geopolitical zones. This implies that random effects model is more appropriate for all the zones. The second step is test between random effects model and fixed effects model using Hausman test. The results indicate that the probability values under the North-Central and South-East zones are found to be significant at 1% level ($p<0.05$) which implies that FEM suffices as the most appropriate model. On the other hand, the probability values under the North-West, North-East, South-West and South-South zones are found to be insignificant ($p>0.05$) which implies that REM suffices as the appropriate model. However, OLS model with robust standard errors for the effect of heteroskedasticity and autocorrelation replaces the FEM due to time-invariant nature of the three CG variables. Both the Breusch-Pagan LM and the Hausman tests results are indicated in Table 4.13(a).

The results in the North-West zone apply to 490 observations and random effects model suffices as the appropriate model in Table 4.13(a) with R-square of 15.29% and F-statistic of 80.03 which is significant at 1% level. In the North-Central zone, the results apply to 357 firm-year observations and the OLS regression model reports an R-square of 24.07% with F-statistics of 127.78 significant at 1% level. Random effects model is found to be the appropriate model in the North-East and South-West zones with 285 firm-year observations each. The R-squares of North-East and South-West zones are also found to be 26.09% and 11.41% with F-statistics of 127.78 and 42.33, all at 1% significance levels, respectively. Similarly, the Table reports R-squares of the South-East and South-South geopolitical zones as 14.59% and 33.48% with F-statistics of 5.18 and 122.00, all at 1% significance level, respectively.

The coefficient of cash conversation cycle of firms in the north-west is found to be positive and highly significant. Similarly, positive relationships are reported between cash conversion cycle and profitability of SMEs in the North-Central, North-East and South-East zones, but the relationships are insignificant, unlike the South-West and South-South zones, where cash conversion cycle is negatively linked to profitability which implies that shorter cash conversion cycle is associated with higher profitability. These findings are consistent with the theory of working capital and are in line with findings of Shin and Soenen (1998); Deloof (2003); and Mathuva (2010), suggesting that firm's profitability could increase with the decrease in the cash conversion cycle. The coefficients of the accounts receivable periods are found to be negative across the zones except in the North-East zone which exhibits a positive coefficient, which imply that a decrease in the accounts receivable period by one day will lead to an increase in the firm's profitability across the five zones. The relationships found between inventory holding period

and accounts payable period with GOP are in the ratio of 4:2, signifying negative relationships among four out of the six zones and positive relationships in the remaining two zones; all the relationships are insignificant.

With respect to the relationship between GOP and corporate cash holdings, Table 4.13(a) reveals a positive relationship across all the zones except in the North-West zone which exhibits a significantly negative relationship. The fact that GOP has significantly positive relationship with corporate cash holdings indicates that increase and decrease in the firms' cash level will significantly affect the firms' profitability. This suggests that SMEs need to keep optimal level of cash to ensure liquidity and profitability as well (Muhammad et al., 2010). This confirms that Nigerian SMEs lack external financing sources, which makes them more dependent on trade credits and the internally generated funds, in particular. Further, the relationship between GOP and cash conversion efficiency is only found to be significant in the North-East zone, indicating the importance of efficient working capital management to SMEs' profitability.

Table 4.13(a)
Regression Analysis (GOP)

Variables	Geopolitical Zones					
	NW(490) RE	NC(357) OLS	NE(385) RE	SW(385) RE	SE(294) OLS	SS(266) RE
Constant	3.102	2.045	3.321	1.414	2.392	2.919
	(5.66)***	(5.52)***	(8.29)***	(3.82)***	(3.52)***	(6.97)***
CCC	0.002	0.000	0.001	-0.001	0.001	-0.001
	(2.73)***	(0.16)	(1.65)	(-0.24)	(0.55)	(-0.95)
ARP	-0.001	-0.001	0.001	-0.001	-0.001	-0.000
	(-1.45)	(-1.72)*	(0.99)	(-1.96)**	(-1.06)	(-0.38)
IHP	-0.001	0.001	-0.002	0.002	-0.003	-0.001
	(-0.74)	(1.13)	(-139)	(1.38)	(-1.07)	(-0.85)
APP	-0.001	-0.000	0.001	0.001	-0.000	-0.000
	(-1.11)	(-0.20)	(0.96)	(0.97)	(-0.13)	(-0.51)
CCH	-0.054	0.074	0.019	0.017	0.071	0.028
	(-2.18)**	(.3.75)***	(0.85)	(1.69)*	(2.16)**	(1.20)
CCE	-0.291	0.265	0.902	-0.327	0.519	-0.129
	(-1.22)	(1.66)	(2.47)**	(-1.76)*	(1.58)	(-0.67)
FMLY	-0.187	0.163	0.182	-0.000	-0.029	-0.000
	(-1.33)	(2.93)***	(2.26)**	(-0.00)	(-0.56)	(-0.01)
BSIZE	0.114	-0.018	-0.029	-0.006	0.045	0.018
	(2.78)***	(-0.61)	(-1.17)	(-0.27)	(2.49)**	(0.63)
GENDER	0.053	0.004	0.009	-0.008	-0.008	0.022
	(1.48)	(0.38)	(0.74)	(-0.41)	(-0.82)	(1.25)
FSIZE	-0.098	-0.183	-0.214	-0.069	-0.168	-0.207
	(-3.58)***	(-5.15)***	(-7.36)***	(-2.98)***	(-3.19)***	(-7.08)***
SGROW	0.009	0.037	0.162	0.001	0.028	0.101
	(1.07)	(1.49)	(6.41)***	(2.57)***	(1.66)	(5.60)***
LEVERAGE	.553	-0.030	0.005	0.003	-0.029	0.412
	(4.07)***	(-0.12)	(2.48)***	(1.70)*	(-0.14)	(4.01)***
FAGE	0.005	0.012	0.006	0.003	-0.001	0.029
	(0.74)	(1.62)	(1.18)	(0.81)	(-0.27)	(4.10)***
GDPGROW	-0.056	-0.008	-0.042	-0.019	-0.038	0.009
	(-1.86)*	(-0.57)	(-1.78)*	(-0.96)	(-1.93)*	(0.47)
BP LM test	0.000	0.000	0.000	0.000	0.001	0.000
Hausman test	0.097	0.000	0.269	0.213	0.001	0.593
R-squared	15.29%	24.07%	26.09%	11.41%	14.59%	33.48%
F-statistics	80.03	127.78	127.78	42.33	5.18	122.10
Prob-value	0.000	0.000	0.000	0.000	0.000	0.000
Obs.	490	357	385	385	294	266

Figures in the parentheses are t-values. ***, ** and * denote significant at 1%, 5% and 10% levels, respectively.
Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

From the corporate governance dimensions, family ownership exhibits a significantly positive relationship with GOP only in the North-Central and North-East zones. Similarly, GOP is positively and significantly linked to board size in the North-West and South-East zones. The relationship found between GOP and family ownership and board size are insignificant in the rest of the zones. The positive relationship between family ownership and GOP implies that family-owned and controlled firms perform better in the North-Central and North-East zones than in the other zones. This may be because the founding family businesses in these two zones are providing special corporate governance that curtails agency costs which consequently improves firm performance (Tsagem et al., 2014). However, the insignificant relationship found between GOP with family ownership and board size in the remaining zones is a manifestation of the poor governance practices in most family-owned firms in Nigeria. This finding is consistent with Okpara, 2011; Sunday, 2011; and SMEDAN/NBS, 2012, that claim family-owned firms in Nigeria are associated with poor record-keeping and lack of proficiency in financial management.

In practice, the business entity concept is not fully observed in family-owned firms in Nigeria which separate the activities of the business with that of the owners. In most family-owned firms, business resources are used for personal benefits by the owners and management of the firms. This supports the finding of Ademola et al. (2013) which shows that appointment of board of directors and staff recruitment in family owned businesses in Nigeria are based on family ties, not on ability and skills. These factors cumulatively affect not only the performance of the firms but result in low growth and failure of most family-owned firms in Nigeria.

The relationship between gender and firm's profitability measured by GOP is insignificant across all the six geopolitical zones. The insignificant relationship found between gender and GOP may be linked to low number of women representation in decision-making. In Nigeria, there is high gender inequality at the decision-making level in both public and private enterprises. This is shown in Table 4.1 which indicates that women directors constitute less than 30% of the board members of the sample SMEs.

With respect to control variables, the coefficients of firm size are found to be positive and significant across all the six geopolitical zones. The negative relationship between firm size and profitability is against economic theory which suggests that increase in size of a company is associated with increase in its profitability (Bellouma, 2011). Across all the six zones, sales growth is positively linked to GOP and the relationsships are found to be significant in the North-East, South-West and South-South zones. In the use of leverage, the relationshps are positive and significant in the North-West, North-East and South-South zones and firm age is positively and significantly related to GOP in the South-South zone. This suggests that the older firms are more profitable. The possible explanation is the longer period of firm's operations might have positive effect on its performance due to reputation and good relationship established with its customers and suppliers (Baños-Caballero et al. ,2010). In Nigeria, there has been high failure of SMEs over the years; therefore, firm age is an indication of business sustainability, its ability to generate more returns and meet its future obligations, when due. Finally, the relationship found between GDP growth and GOP across all the six geopolitical zones is not significant.

4.5.4.2 Geopolitical Zone with ROA

Table 4.13(b) presents the regression results of the sampled SMEs on the basis of geopolitical zones using ROA as the measure of SMEs' profitability. In the North-West zone, the result applies to 490 sampled SMEs during the period 2007 – 2013. As indicated in Table 4.13(b), OLS regression model is considered as more appropriate to estimate the data in the North-West, North-Central, North-East and South-South zones. However, the random effects model is considered for the South-West and South-East zone. The OLS model of the North-West zone is statistically significant with R-square of 11.83% and F-statistic of 3.57 which is significant at 1% level. In the North-Central zone, the results applies to 357 sampled SMEs during the period 2007 - 2013 and the model explains 31.38% of the variability of profitability (R-square) with F-statistics of 9.75 and significant at 1% level. Similarly, OLS regression model is applied as the more appropriate model in the North-East and South-South zones with 285 and 266 firm-year observations, each. The R-squares reported in the OLS model in the North-East and South-South zones are 17.57% and 31.65% with F-statistics of 5.86 and 8.30, all at 1% significanc level, respectively. Further, the Table reports the models' R-squares of the South-West and South-East geopolitical zones as 12.35% and 31.35% with F-statistics of 59.01 and 125.10, all at 1% significance level, respectively.

The results obtained in Table 4.13(b) show that the coefficients of cash conversion cycle across all the six zones are positive and insignificant, except in the South-South which exhibits a negative value. A negative relationship between cash conversion cycle and ROA entails that more profitable firms are pursuing shorter cash conversion cycle. Uyar (2009) argues that firms

with shorter cash conversion cycle do not require external financing which results in less borrowing cost and consequently increase in the firms' profitability. The relationship between accounts receivable period and ROA is found to be negative and significant in the North-Central, South-West and South-East zones, which indicates that profitability increases with the decrease in the number of days of accounts receivable. These findings are a good sign of effective working capital management in the affected zones. With respect to inventory holding period, the finding shows that the relationships are insignificant across all the zones, except in the North-East zone which reveals a significantly positive relationship with ROA. As for the accounts payable period, the findings are mixed across all the six geopolitical zones. For example, in the North-Central, South-West and South-East zones, a positive relationship is revealed between accounts payable period and ROA, whereas, a negative relationship is exhibited in the North-West, North-East and South-South zones. However, all the relationships found are insignificant except in the South-South zone. A positive relationship between accounts payable period and profitability implies that more profitable firms have to delay their bill payment for a longer period.

Furthermore, the coefficients of corporate cash holdings of the sub-sample firms across all the six geopolitical zones are positive and highly significant except in the North-East zone. The results entail that an increase or decrease in the firms' corporate cash holdings significantly affects the firms' profitability. Similarly, the relationship between cash conversion efficiency and ROA is positive and significant across all the six geopolitical zones, except in North-West zone which exhibits an insignificant result. The findings show how well the sub-sample firms

convert their revenues from sales to cash flows. Similarly, the results are an indication of working capital management efficiency of Nigerian SMEs.

With respect to corporate governance, Table 4.13(b) reports the results of the relationship between family ownership, board size and women on the board with ROA. In particular, the relationship between family ownership and ROA is found to be mixed across the six geopolitical zones. The results indicate significant relationship in the sub-sample firms of the North-Central, South-East and South-South zones whereas, the relationships found in the North-West, North-East and South-West zones are insignificant. The insignificant relationship between family-owned firms and firms' profitability measured by ROA in the North-West, North-East and South-West zones is consistent with the result obtained in Table 4.13(a) which implies that family-owned firm are associated with low performance. The possible explanation is that family- owned firms in Nigeria are found to be associated with poor governance practices and lack managerial competency, skills and ability, which result in low performance.

For the board size, the relationhip found is only significant in the South-East and South-South zones, which implies that board size is significantly associated with increase in the firm's profitability measured by ROA in these two zones. The finding is consistent with the result obtained in Table 4.13(a) which shows a significant relationship between board size and firm's profitability in the South-East and North-West zones. The possible explanation may be linked to the resources capability and expertise of the board members of the SMEs in the South-South and South-East zones. In contrast, board size is associated with low SMEs' profitability in the other four zones.

Table 4.13(b)
Regression Analysis (ROA)

	Geopolitical Zones					
Variables	NW(490) OLS	NC(357) OLS	NE(385) OLS	SW(385) RE	SE(294) RE	SS(266) OLS
Constant	-8.444	0.385	0.163	-0.262	0.177	0.107
	(-0.55)	(4.86)***	(0.62)	(-2.02)**	(1.59)	(0.89)
CCC	0.024	0.000	0.001	0.000	0.000	-0.000
	(1.20)	(0.06)	(1.61)	(1.91)*	(0.88)	(-0.36)
ARP	-0.019	-0.001	0.000	-0.001	-0.001	0.000
	(-0.81)	(-2.57)**	(0.25)	(-1.98)**	(-2.50)**	(0.33)
IHP	0.048	0.000	0.001	0.000	0.000	0.000
	(1.15)	(0.30)	(2.02)**	(0.21)	(0.83)	(0.33)
APP	-0.032	0.000	-0.001	0.000	0.000	-0.000
	(-1.14)	(0.20)	(-0.99)	(1.12)	(0.95)	(-1.71)*
CCH	2.313	0.023	0.003	0.009	0.021	0.021
	(2.43)**	(4.85)***	(0.27)	(2.58)***	(3.02)***	(2.77)***
CCE	5.303	0.548	0.688	0.149	0.613	0.408
	(0.66)	(4.39)***	(3.08)***	(2.31)**	(8.22)***	(5.99)***
FMLY	-0.202	0.042	0.052	0.014	-0.039	-0.021
	(-0.09)	(4.49)***	(1.64)	(0.58)	(-2.03)**	(-1.73)*
BSIZE	0.189	-0.001	-0.017	-0.002	0.014	0.016
	(0.26)	(-0.11)	(-1.56)	(-0.33)	(2.23)**	(3.15)***
GENDER	0.215	0.001	-0.008	0.000	0.001	-0.004
	(0.52)	(0.52)	(0.98)	(0.02)	(0.15)	(-1.29)
FSIZE	-0.167	-0.043	-0.015	0.017	-0.023	-0.020
	(-0.23)	(-5.14)***	(-0.77)	(2.10)**	(-2.56)***	(-2.18)**
SGROW	0.659	0.018	0.045	0.000	0.015	0.041
	(1.74)	(1.60)	(4.60)***	(0.85)	(3.49)***	(6.10)***
LEVERAGE	6.548	-0.083	0.003	0.002	0.109	0.108
	(1.17)	(-1.79)*	(2.84)**	(3.03)***	(2.08)**	(2.93)***
FAGE	0.067	0.002	0.002	0.002	0.002	-0.002
	(0.64)	(2.27)**	(0.71)	(1.25)	(1.55)	(-1.12)
GDPGROW	-0.924	-0.005	-0.007	-0.011	-0.005	0.002
	(-1.53)	(-1.07)	(-1.03)	(-1.55)	(-0.69)	(0.21)
BP LM test	0.000	0.001	0.000	0.000	0.000	0.479
Hausman test	0.000	0.001	0.030	0.435	0.472	-
R-squared	11.83%	31.38%	17.57%	12.35%	31.67%	31.65%
F-test	3.57	9.75	5.86	59.01	125.10	8.30
Prob-value	0.002	0.000	0.000	0.000	0.000	0.000
Obs.	490	357	385	385	294	266

Figures in the parentheses are t-values. ***, ** and * denote significant at 1%, 5% and 10% levels, respectively.
Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEV is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Furthermore, the association between women on the boards and ROA of the sub-sample firms across the six zones are all insignificant. This finding is consistent with results obtained in Table 4.13(a) which imply that presence of women on boards of Nigerian SMEs across the six geopolitical zones has no significant influence on the firms' profitability. The possible explanation is that the finding may be related to low representations of women on the boards of directors of SMEs in Nigeria. This indicates that the proportion of women directors on the boards of Nigerian SMEs across the sub-samples is too insignificant to influence their performance.

Also reported in Table 4.13(b) are relationships between the control variables and the profitability of the sub-sample firms across the six geopolitical zones. The coefficient of firm size is found to be positive and significant in the South-West and there are also significantly negative relationships in the North-Central, South-East and South-South zones. The positive relationship found between firm size and ROA is consistent with findings of most previous studies which imply that larger firms are associated with higher profitability. The relationship between profitability measured by ROA and sales growth of the sub-sample firms reveal a significantly positive relationship in the North-East, South-East and South-South zones. Similarly, the relationship between use of leverage and ROA is positive and significant across the six geopolitical zones, except in the North-Central zone, which exhibits a significantly negative relationship. The negative association found between leverage and ROA is consistent with findings of most studies which entails an increase in the firm level of debt may result in a decrease in the firm's profitability. The relationships between firm age and GDP growth with ROA are all insignificant across the zones except North-Central zone which reveals a

significantly positive link between firm age and ROA of the sub-sample firms. This implies that older firms exhibit increase in profitability as compared to newer firms.

4.6 Summary of the Chapter

This chapter presents the findings of the relationship between working capital management and corporate governance with SMEs' profitability proxied by GOP and ROA. Specifically, the chapter reveals that the relationship between cash conversion cycle, accounts receivable period, family ownership, board size and gender with GOP are significant. This indicates that profitable Nigerian SMEs are pursuing longer cash conversion cycle for the increase in the firms' profitability. This may be due to high level of accounts receivable period, as a result of generous credit policy (Sharma & Kumar, 2011). Similarly, the results of the five control variables of the study, namely firm size, sales growth, leverage, GDP growth and firm age consistently exhibit significant association with GOP. In contrast, the findings reveal that, the relationship found between accounts receivable period, accounts payable period and family ownership with GOP are insignificant. With respect to the relationship between GOP with inventory holding period, accounts payable period, corporate cash holdings and cash conversion efficiency, the findings are inconsistent across the OLS and FE models.

Furthermore, the chapter presents the findings of the relationship between the working capital management and corporate governance with the ROA. The findings reveal that accounts receivable period, inventory holding period, corporate cash holdings, cash conversion efficiency

and board size are significantly related to ROA. Accounts receivable period, inventory holding period and corporate cash holdings are major elements of working capital management which have significant effects on firm's profitability. These findings indicate that profitable Nigerian SMEs are pursuing restricted credit policies that give customers less time to make payment and they are maintaining high inventory level to guard against any disruption in the production process and loss of sales due to scarcity of products. Similarly, the findings reveal that cash conversion cycle, family ownership and gender are positively related to ROA but the relationships are insignificant. However, the findings of the five control variables of the study (firm size, sales growth, leverage, GDP growth and firm age) consistently reveal significant association with ROA over the period.

The finding of the study shows that based on entities size, the small-sized firms are performing better in working capital management when compared to medium-sized firms. This is evidenced in the results in Table 4.12 which reveal that five of the six working capital management variables under the small-sized firms exhibit a strong significant relationship with outcome variable (SMEs' profitability). These variables are cash conversion cycle, accounts receivable period, accounts payable period, inventory holding period, corporate cash holdings and cash conversion efficiency. Similarly, all the five control variables are found to be significant under the small-sized firms. In contrast, the findings under the medium-sized firms show that only three of the main study variables are found to be significant. These include accounts receivable period, accounts payable period and family ownership; only sales growth and leverage exhibit significant relationship with profitability at 10% level. Thus, working capital management

performance of medium-sized firms is relatively low when compared to what is obtained in the small-sized firms.

Finally, comparison among firms in the six geopolitical areas as presented shows that North-Central zone is more efficient in working capital management and corporate governance practices as accounts receivable period, corporate cash holdings, cash conversion efficiency and family ownership reveal a significant relationship with profitability in Tables 4.13(a) and 4.13(b). The South-West and South-East zones are at the second ranking while South-South zone is at the third position.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 An Overview

This chapter summarises the empirical findings of the study and its contribution to the body of knowledge and methodology, including practical contributions. The chapter presents the findings of the study in summary based on the test of the research questions and hypotheses proposed in Chapter One. A brief highlight provides how the results of the study fill in the existing gaps in the body of knowledge and make significant contributions in the context of working capital management and corporate governance in the SME sector in Nigeria. Finally, the chapter also discusses the limitations of the study and the direction of future studies with concluding remarks.

The main objective of this study is to investigate the impact of working capital management measured by cash conversion cycle, accounts receivable period, inventory holding period, accounts payable period, corporate cash holdings and cash conversion efficiency; and corporate governance measured by family ownership, board size and women on the boards with SMEs' profitability proxied by GOP and ROA. The study utilises financial data of 311 samples of Nigerian SMEs observed over a period of seven years from 2007 - 2013.

Table 5.1 presents the summary of the findings of this study. The answers to the research questions are based on the OLS regression estimates using the two measures of SMEs' profitability as presented in Table 4.5 and Table 4.7 in Chapter four.

Table 5.1
Summary of Findings on the Research Questions

Research Questions	Findings	
	GOP	ROA
1. Does cash conversion cycle have any impact on the SMEs' profitability in Nigeria?	Significant Positive	Insignificant Negative
2. Does number of days of accounts receivable have any impact on the SMEs' profitability in Nigeria?	Significant Negative	Significant Negative
3. Does inventory holding period have any impact on the SMEs' profitability in Nigeria?	Insignificant Negative	Significant Positive
4. Does number of days of accounts payable have any impact on the SMEs' profitability in Nigeria?	Insignificant Negative	Insignificant Positive
5. Do corporate cash holdings have any impact on the SMEs' profitability in Nigeria?	Insignificant Positive	Significant Positive
6. Does cash conversion efficiency have any impact on the SMEs' profitability in Nigeria?	Insignificant Positive	Significant Positive
7. Does family ownership have any impact on the SMEs' profitability in Nigeria?	Significant Negative	Insignificant Positive
8. Does board size have any impact on the SMEs' profitability in Nigeria?	Significant Positive	Significant Positive
9. Do women on the board have any impact on the SMEs' profitability in Nigeria?	Significant Positive	Insignificant Positive

Overall, the summary results in Table 5.1 show that cash conversion cycle and accounts receivable period have a significant impact on the SMEs' profitability measured by GOP. Similarly, family ownership reveals a significantly negative impact, whereas board size and gender exhibit a significantly positive impact on the GOP. Furthermore, accounts receivable

period reveals a significantly negative impact on SMEs' ROA. In contrast, inventory holding period, corporate cash holdings, cash conversion efficiency and board size show significantly positive impact on the ROA. However, cash conversion cycle, accounts payable period, family ownership and the presence of women on the board do not have significant impact on ROA.

5.2 Test of Hypotheses

Table 5.2 presents the summary of the hypotheses testing under the OLS regression estimates. From Table 5.2, Hypothesis 1 is not supported for both GOP and ROA. The association between cash conversion cycle and GOP is significant, however in the opposite direction. Furthermore, cash conversion cycle has negative impact on ROA as expected; nevertheless, the association is not significant. The results are consistent with previous studies by Gill et al. (2010); Sharma and Kumar (2011); and Ademola (2014) which suggested that more profitable firms are pursuing longer cash conversion cycles. This is against the working capital management theory which advocates low cash conversion cycle with high profitability. The result proves that Nigerian SMEs are less efficient in their working capital management.

The empirical findings on accounts receivable period support Hypothesis 2 by reporting a negative relationship with GOP and ROA. The findings concur with the working capital management theory which proposes shorter accounts receivable period with higher profitability (Deloof, 2003; Raheman & Nasr, 2007). The finding also suggests that managers can improve

their firm's profitability by shortening the accounts receivable period (Deloof, 2003; García-Teruel & Martínez-Solano, 2007; 2008; Afeef, 2011).

As displayed in Table 5.2, Hypotheses 3 - 5 are not supported for both GOP and ROA. This is due to either opposite direction (for example, accounts payable period and corporate cash holdings with GOP) or non-significant association observed (for example, accounts payable period and ROA) or combination of these two reasons. The result is contrary to working capital management theory related to inventory holding period, accounts payable period and corporate cash holdings and their impact on firm's profitability. As for inventory holding period (H3), the results are contrary to the findings of most of the previous literature (García-Teruel & Martínez-Solano, 2007; Raheman & Nasr, 2007). For accounts payable period (H4), the results are consistent with the view that less profitable firms take a longer period to settle their bills (Deloof, 2003). Related to corporate cash holdings (Hypothesis 5), the finding of this study is consistent with Muhammad et al. (2012); Naoki (2012); and Anagnostopoulou (2012) who suggest higher profit firms hold large corporate cash. This also supports the assertion that firms with large investment opportunities build up their cash holdings and use it for further investment (Opler et al., 2001; Naoki, 2012).

The finding on the association between cash conversion efficiency and SMEs' profitability measured by ROA is supported (Hypothesis 6). This suggests that efficient working capital management significantly affects SMEs' profitability (Kaur & Singh, 2013; Gill & Biger, 2013). The finding is consistent with the view that efficient working capital management directly

enhances SMEs' profitability in Nigeria and the trade-off between liquidity and profitability (Tsagem, Aripin & Ishak, 2014).

Table 5.2
Summary of Hypotheses Testing (OLS Regression)

Hypothesis	Hypothesised Paths			Expected Sign	Results	
					GOP (Table 4.5)	ROA (Table 4.7)
H1	CCC	→	SMEs' Profitability	-	Not Supported	Not Supported
H2	ARP	→	SMEs' profitability	-	Supported	Supported
H3	IHP	→	SMEs' profitability	-	Not Supported	Not Supported
H4	APP	→	SMEs' profitability	+	Not Supported	Not Supported
H5	CCH	→	SMEs' profitability	-	Not Supported	Not Supported
H6	CCE.	→	SMEs' profitability	+	Not Supported	Supported
H7	FMLY	→	SMEs' profitability	-	Supported	Not Supported
H8	BSIZE	→	SMEs' profitability	+	Supported	Supported
H9.	GENDER	→	SMEs' profitability	+	Supported	Not Supported

Hypothesis is highly supported if p-value <0.01, supported if 0.01< p-value < 0.05, moderately supported if 0.05 < p-value <0.10, and not supported if p-vale >0.10.
Legend**:** GOP is Gross Operating Profit**;** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Account Receivables Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is women on board.

Hypothesis 7 (family ownership) is supported for GOP. The negative relationship between family ownership and GOP indicates family-owned businesses are associated with low profitability. Similarly, Hypothesis 8 (board size) is supported for both GOP and ROA. This is consistent with the view that a large board enhances SMEs' profitability. It is also consistent

with findings by previous scholars, such as Abor and Biekpe (2007); and Kumar and Singh (2013) who suggest that a large board leads to more effective decision-making and enhances monitoring capacity which drive firm's performance. Furthermore, Hypothesis 9 (women on the board) is supported for GOP. This implies that presence of women on the board is positively associated with firm's profitability. This is evidenced in the study conducted by Wilson et al. (2013); and Abdullah (2013).

Overall, the result of this study shows that four out of the nine variables (cash conversion cycle, inventory holding period, accounts payable period and corporate cash holdings) fail to support the hypotheses for both GOP and ROA. The most plausible explanation for the failure of cash conversion cycle and its components to support hypothesis 1 could be linked to the following reasons. First, CCC is measured as accounts receivable period plus inventory holding period minus accounts payable period. Result shows that Nigerian SMEs are pursuing longer cash conversion cycle which means a firm must borrow or tie-up its working capital while awaiting payment from customers and this implies that it is less efficient in its working capital management. Poor working capital management results in high cost of investment in working capital, possibly in the form of high inventory level or granting more trade credit to customers which result in longer cash conversion cycle (Takon, 2013). Findings by Baños-Caballero et al. (2012) also show that in the short-run, a firm's profitability might increase with increase in the cash conversion cycle due to high investment in working capital and lack of managerial proficiency. Second, Nigerian SMEs are associated with lack of managerial proficiency and poor management of resources (SMEDAN/NBS, 2012; Sunday, 2011; Ademola et al., 2013). Managerial incompetency might lead to poor financial management, particularly working capital

management, which results in high cash conversion cycle. Third, Nigerian SMEs are associated with financial constraints (Okpara, 2011; SMEDAN/NBS, 2012). This affects their ability to employ skilled and competent personnel who can manage their resources effectively. As such, they rely on cheap labour from the family members and close associates and this may affect the firms' performance.

In addition, the possible reasons for the failure of inventory holding period and accounts payable period to support the Hypotheses could be due to the following: First, SMEs are generally associated with high proportion of current assets in relation to total assets and current liabilities as an important source of financing. In Nigeria, SMEs particularly maintain high inventory level to guard against loss of business due to scarcity of products, occasioned by economic and financial crisis. Second, Nigerian SMEs take longer period to pay their creditors which results in loss of discounts; this negatively affects their profitability. The financial constraints of most Nigerian SMEs lead them to utilise accounts payable period as a source of internal financing by delaying payment of their bills, which leads to loss of cash discount and consequently reduces the firm's profitability.

The finding on corporate cash holdings also fails to support Hypothesis 5 which predicts negative relationship with SMEs' profitability. The possible explanation is that in Nigeria, there is no law that sets a limit to the level of cash firms should maintain, particularly with regards to SMEs. SMEs in Nigeria also hold substantial level of cash to avoid cash shortage for meeting both investment needs and financial obligations and to cushion the firms against any economic downturn. Moreover, the inability of the SMEs to obtain financing from the capital market and

other suppliers of capital as a result of their information asymmetry and vulnerability to risk results in negative effects on the SMEs' profitability. Similarly, Nigerian SMEs, in particular, are associated with low performance and high risk of bankruptcy due to inadequate funding, poor record-keeping and managerial incompetency.

Though the aim of this study is not to compare firms of different sizes and from different geopolitical zones in Nigeria, yet the study examines and reports findings on the different sub-samples in Chapter 4. The findings indicate that small-sized firms are higher in working capital management performance and corporate governance practices by exhibiting a strong significant relationship among five out of the six variables of working capital management and two of the three corporate governance variables with the two measures of SMEs' profitability. Similarly, the findings show that the sub-sample SMEs from the north-central zone are top in working capital performance and good corporate governance practices. The sub-sample SMEs from the south-west and south-east zones are in second position.

5.3 Contribution of the Study

This study focuses on small and medium-sized entities and establishes the simultaneous impact of working capital management and corporate governance on the profitability of the Nigerian SMEs over a period of seven years. It provides contributions to the body of knowledge and methodology. Practically, the study provides SME owners/managers with suggestions relating to

approaches for improving firm's profitability through efficient management of working capital components and good governance practices.

5.3.1 Contributions to the Body of Knowledge

Previous studies on working capital management and firm's profitability (for example, (Shin & Soenen, 1998; Deloof, 2003; Lazaridis & Tryfonidis, 2006; Raheman & Nasr, 2007; Mathuva, 2010; Falope & Ajilore, 2009; Gill et al., 2010; Nobanee et al., 2011; Kaur & Singh, 2013) have mostly focused on large firms listed on the stock exchange in developed nations. Further, Gill et al. (2010); Ramachandran and Jankiraman (2009); Sutanto and Pribadi (2012); and Goel (2013) recommend that in addition to the three major components of working capital management, firm's cash holdings and cash conversion efficiency could have significant effects on the firm's profitability. Scholars, such as García-Teruel and Martínez-Solano (2007); Padachi, Narasimhan, Durbarry, and Howorth (2008); Afeef (2011); Baños-Caballero et al. (2010; 2012); Samson et al. (2012); and Ogundipe et al. (2012) conducted studies on the relationship between working capital management and SMEs' profitability.

Furthermore, most of the previous studies on corporate governance and firm's performance have focused on large listed companies because traditionally, corporate governance is mostly linked to large listed companies due to separation of ownership and control (Abor & Biekpe, 2007; Lappalainen & Niskanen, 2012). Thus, most studies, with respect to corporate governance and SMEs, have been undertaken in the developed economies, such as the UK and the US

(Lappalainen & Niskanen, 2012; Abor & Adjasi, 2007; Adegbite, 2014; Tsagem et al., 2014). Thus, this study uses six working capital management elements and three corporate governance mechanisms to investigate the impact of working capital management and corporate governance on the profitability of Nigerian SMEs.

Corporate cash holdings, cash conversion efficiency and the three corporate governance mechanisms are included in the framework of this study to investigate their impact on SMEs' profitability and are expected to contribute to the body of knowledge. After the analysis, the outcome of the study provides evidence that there is a significantly positive relationship between corporate cash holdings and firm's profitability. Thus, this study empirically validates the findings of Mikkelson and Partch (2003); Pan (2006); Isshaq et al. (2009); and Muhammad et al. (2010) that the increase in firms' cash level results in an increase in the firms' profitability. This implies that having large amount of cash in the corporate account can impact positively on the firm's profitability in addition to ensuring firm's liquidity. Improvement in cash management can increase SMEs' profit margin and high turnover, which can improve the firm's profitability. SMEs should hold sufficient cash in their corporate account for transactional, precautionary and speculative motives. This will improve the firm's profitability, reduce risk of corporate failure and increase its chances of survival. Similarly, the outcome of the study confirms that there is a significant relationship between cash conversion efficiency (an indicator of efficient working capital management) with ROA. Thus, this study empirically supports Kaur and Singh (2013); and Gill and Biger (2013) that cash conversion efficiency is significantly associated with firm's profitability. This implies that optimising the firm's cash flow through efficient working capital management can improve firm's profitability.

Accounts receivable period and inventory holding period and their impact on SMEs' profitability are also expected to contribute to the body of knowledge. The findings of the study empirically testify the existence of a significant impact of accounts receivable period and inventory holding period on the SMEs' profitability measured by the ROA. The findings of the study validate the results of the studies conducted by Deloof (2003); Lazaridis and Tryfonidis (2006); Raheman and Nasr (2007); Gill et al. (2010); García-Teruel andMartínez-Solano (2007); and Tauringana and Afrifa (2013). This implies that SMEs' profitability can be improved significantly by speeding up collection of accounts receivable and maintaining sufficient level of inventory to prevent interruption of production process due to stock-out. Furthermore, trade credit can also stimulate sales; thus managers should grant more trade credit to improve firm's profitability.

The three corporate governance mechanisms (family ownership, board size and women on the board) are introduced into this study to identify their impact on SMEs' profitability. The research finding confirms existence of significant impact of family ownership, board size and women on the board on SMEs' profitability measured by GOP. Based on this, it could be concluded that this study empirically validates the findings by Abor and Biekpe (2007); Ehikioya (2009); Mollah et al. (2012); and Saibaba and Ansari (2012) that large board size has a significant impact on SMEs' profitability. Similarly, the results of this study confirm the existence of significant association between gender and firm's profitability. On this basis, this study empirically validates the views of Abdullahet et al. (2013); Wilson et al. (2013); and Lückerath-Rovers (2013) that the presence of women directors on the board of directors could have an impact on the SMEs' profitability. Thus, investigating these three governance mechanisms emphasises the importance of corporate governance relationship with SMEs'

profitability. Abor and Biekpe (2007, pp.5) argue that, '*good corporate governance practices assist SME owners or managers in improving their prospects for obtaining funding from investors and financial institutions*'. However, the effects of the three corporate governance variables: family ownership, board size and women on the boards, on the SMEs' profitability might differ significantly due to the limitations of the data on the variables. Thus, there is possibility for future studies to arrive at a different result by using different measurements or approaches.

Finally, review of previous literature on working capital management and corporate governance suggests that most of the studies have been conducted in the USA, Europe and Asia, neglecting Africa, which has limited studies as compared to other continents. Specifically, there are limited studies on working capital management and corporate governance in Nigeria, and more especially, in relation to SMEs. The limited studies have mostly focused on large listed companies where the data is publicly available. This has resulted in lack of awareness on the importance of working capital management and corporate governance to the SMEs which consequently has affected their growth and sustainability. Further, previous studies, for example, Shin and Soenen (1998); and Deloof (2003) have established the relevance of efficient working capital management to overall growth and sustainability of business entities, large or small. Hence, it is important to investigate the phenomenon from the context of SMEs in developing economies, such as Nigeria. Similarly, previous studies (e.g., Keasey et al., 1997) have established the relevance of corporate governance for enhancing business prosperity and corporate accountability. Thus, investigating the impact of working capital management and

corporate governance on the profitability of Nigerian SMEs will add to the existing literature, particularly from the Nigerian context and Sub-Saharan Africa.

5.3.2 Methodological Contribution

In addition, the study also contributes to the research methodology. The model used in this study is linear based on the balanced panel or longitudinal data adopted from different sources as highlighted in Section 4.5. To ensure accurate or unbiased and reliable estimates, STATA statistical software is employed for the data analysis as utilised in most studies in finance, accounting and economics. Similarly, appropriate regression models are selected on the basis of underlying assumptions for obtaining unbiased and reliable estimates in panel data analysis. This method captures the unobservable heterogeneity and complexity inherent in each firm and provides sufficient observations with more sample variability for efficiency of estimations, increase in the degree of freedom and accurate inference. Thus, the study provides methodological contribution by empirically establishing the validity and reliability of the measurement techniques used. Further, the finding of the study provides evidence that STATA estimates the true effects of longitudinal or panel data for establishing relationships which have both time-series and cross-sectional dimensions.

Similarly, investigating the impact of working capital management together with corporate governance on the SMEs' profitability under a single structured model is unique, since there has not been any such study, particularly in Nigeria. The study also differs from other studies by

utilising SMEs as a sample and a more recent time frame. To the best of my knowledge, this study is the first of its kind which examines simultaneously the impact of working capital management and corporate governance on SMEs' profitability using a sample of Nigerian SMEs. This is unlike previous literature, where most of the studies have focused on the influence of one aspect or the other on the firm's profitability. In other words, the study contributes by combining the influence of working capital management and corporate governance on the profitability of SMEs in Nigeria. For example, Gill and Biger (2013); and Hajar and Hoseyn (2015) investigated the impact of corporate governance on working capital management. They argue that effective corporate governance serves as a check on the management of the firm's resources. In this study, both efficient working capital management and good corporate governance significantly impact on firm's profitability.

5.3.3 Managerial and Policy Implications

Research on working capital management and corporate governance with respect to SMEs' profitability will assist in transformation of the sector for growth and sustainability and act as a reference for improvement in the efficient management of firm's resources. Overall, the finding of the study provides evidence for establishing a significant impact of working capital management and corporate governance on SMEs' profitability. The findings of the study are drawn based on the statistical findings and practical recommendations are logically derived from the results. The findings of the study will benefit SME owners or managers and policy-makers in the Nigerian economy by applying efficient working capital management and good corporate governance practices. For the owners or managers, SMEs' profitability can be improved and the

need for costly external financing can also be reduced. The finding of this study reveals a significantly positive relationship between cash conversion cycle and SMEs' profitability. This implies that Nigerian SMEs are pursuing longer cash conversion cycle to increase firm's profitability. This implies that they are less efficient in managing their working capital. In the short-run, firm's profitability might be increased with the increase of cash conversion cycle due to high investment in working capital and lack of managerial proficiency (Baños-Caballero et al., 2012). However, Soenen (1993) suggests long cash conversion cycle may be a major reason for a firm's bankruptcy. Thus, SMEs managers should maintain an optimum level of working capital which can maximise their profitability.

As for the accounts receivable, a very good trade credit policy induces customers to place more orders which can result in higher sales and consequently increase firm's profitability. Similarly, an efficient accounts receivable policy ensures speeding up collection of receivables by way of discounts and generous trade credit policies. The finding of this study shows that maintaining higher inventory level is associated with increase in the SMEs' profitability. SME owners/managers should pursue a decrease in accounts receivable period and high inventory level to guard against interruptions in production process and loss of business due to scarcity of products to increase the firm's profitability.

With respect to corporate cash holdings and cash conversion efficiency, the findings of the study show significantly positive relationship with SMEs' profitability, which signals capital raising constraints and maintaining high cash holdings that allow firms to avail every business

opportunity. Similarly, high cash holdings permit a firm to carry out its business operations without any interruption and paying business obligations when due which positively affect firm's profitability. Thus, SME managers need to understand the determinants of their firms' cash holdings level which can balance liquidity and profitability goals.

In particular, the finding of this study reveals a significantly negative association between accounts receivable period and ROA. On this basis, Nigerian SME owners or managers should ensure speedy collection of accounts receivable. This will minimise the cash gap in the cash conversion cycle. Thus, firms should maintain an optimal level of accounts receivable where marginal revenues of the credit lending are equal to the marginal cost. In contrast, the finding of the study reveals a significantly positive association between inventory holding period and ROA. This suggests that Nigerian SMEs hold relatively high level of inventory for transactional, precautionary and speculative motives. However, the relationship found with APP is negative which suggests that most Nigerian SMEs take a longer period to make payment to their creditors. In addition, accounts payable is regarded as a free and flexible source of financing to a business. Hence, Nigerian SME owners/managers should consider prolonging the days of accounts payable to a reasonable level as it will not affect their solvency and reputation with suppliers, although accepting cash discounts for early payment is more beneficial than late payment.

With regards to corporate governance, the finding of the study shows that ownership type, board size and gender are insignificantly related to ROA. Based on the result of the study, the relationship found between board size and gender with GOP is highly significant. This suggests

that Nigerian SMEs with a large board perform better and are more profitable. Similarly, the findings suggest that SMEs with women board member(s) perform better than those without women on their boards. However, the finding of this study might differ from other studies due to time invariant nature of the variables caused by the limitations of the data. Thus, for the Nigerian SMEs to increase their level of profitability, they need to have a large board with women on the board. Large board size and presence of women on the boards are associated with resources capability due to connections, expertise, skills and experience which can positively assist SMEs for improvement of the firm's performance.

Therefore, the findings of this study potentially assist policy-makers and SME owners and managers to show commitment toward efficient management of working capital components and good corporate governance practices. The findings of the study are expected to sensitise the SME owners/managers on managerial policies and decisions related to managing the firm's short term resources and obligations. Thus, any level of commitment aimed at improving the efficient management of working capital and good corporate governance would not only ensure growth but would also reduce the high demand for external funding by the SMEs. On the part of the government, it is of utmost importance to review the existing policy initiatives and programmes to remove any political or social hindrances and ensure equity among the beneficiaries. It is therefore posited that this study has gone a long way to provide a significantly practical contribution to SMEs' establishment in Nigeria and countries with a similar financial system.

5.4 Limitation of the Study

Although there are several contributions from this study with regards to the improvement in the performance of the SMEs in Nigeria, like any other research of this nature, there are some limitations that need to be addressed. These include:

First, there are varying definitions of SMEs from different institutions and organisations for a wider sphere of purposes across countries and sectors. Even in Nigeria, there are such variations in the definitions of this sector from different institutions and bodies and from different perspectives. Therefore, lack of a single and universally acceptable definition may result in inclusion or omission of certain firms. Hence, the SMEs captured under this study are limited to those captured in the definition by the Nigerian National Policy on SMEs and registered with SMEDAN and the CAC within the period of the study.

Second, the sample firms (SMEs) are limited to the non-financial and non-services firms. Similarly, firms with incomplete data from 2007 - 2013 are not included in the sample of this study. In other words, SMEs with incomplete data during the period of the study and/or not in the register of SMEDAN and the CAC are all excluded from this study.

Third, under the corporate governance, the study is limited to the use of only three variables: family ownership, board size and women on the boards which are time invariant. This is due to the limitations of the data in the financial statement of the sampled SMEs, as the law does not

require SMEs in Nigeria to make full disclosure of their corporate governance information. Thus, the findings might differ significantly if alternative measurements and definition are used which vary over time. For example, percentage shareholdings of the family or family group for family ownership, total number of all directors on the board at the end of the financial year for board size and total number of women directors on board as utilised by previous researchers. Moreover, compliance to the Code of Corporate Governance in Nigeria was not mandatory to SMEs, until the implementation of the Unified Code of Corporate Governance (Peters, 2014).

These limitations of the study may affect the results and therefore need to be considered when interpreting the results and the implications thereon.

5.5 Suggestion for Future Research

In order to enhance the study in the future, several recommendations are suggested:

First, this study focuses on registered SMEs with SMEDAN and the CAC as defined under the Nigerian National Policy on SMEs. However, there may be some SMEs that are not captured in this study due to variations in the definitions. Therefore, future studies should explore the SME definitions by other institutions (e.g., the CBN, FIRS and IFRS) to incorporate and capture them into their studies. Adopting this approach will increase the generalisability of the findings.

Second, the sample SMEs in this study are limited to non-financial and non-services firms. Therefore, future studies may consider the SMEs from the financial and services sector in a similar study of this nature. Hopefully, the effects of the variables under investigation will be explored in relation to firms in the financial and services sectors.

Third, the scope of future studies may include more corporate governance mechanisms, for example board composition, levels of education and experiences of the board members, CEO duality, audit committee, auditors' independence and more on ownership structure. Including these in future studies in relation to SMEs' performance, perhaps is timely with the Unified Code of Corporate Governance in operation in Nigeria.

Lastly, this study focuses only on direct relationship between working capital management and three corporate governance mechanisms with SMEs' profitability. Therefore, another possible area of future study may include variables that may intervene in the relationship, such as levels of education, skills and experiences of the board of directors and government policy. Possibly, the results of the intervening variables may strengthen the findings of the relationship. Hence, it is recommended that future studies should investigate the intervening effects of education, skills and experiences of directors and government policies with regards to the relationship between WCM and CG with SMEs' profitability.

5.6 Conclusion

This study focuses on how efficient working capital management and good corporate governance practices influence the profitability of SMEs in Nigeria. To the best of my knowledge, this study is the first and comprehensive study which investigates the combined impact of working capital management and corporate governance on the profitability of SMEs, particularly in the Nigerian context. Based on the foregoing research findings, the conclusion of the study is as follows: That accounts receivable period is found to have a significantly negative impact on the SMEs' profitability measured by GOP and ROA, whereas board size exhibits a significantly positive relationship on the two measures. Similarly, cash conversion efficiency is found to have a significantly positive relationship with ROA. Family ownership measured by family-owned and controlled firms and non-family-owned and controlled firms, exhibits a significantly negative relationship with GOP in the context of Nigeria. Furthermore, a significantly positive impact is exhibited by women on the boards on GOP. With respect to control variables, out of the five control variables adopted in this study, sales growth and firm age are found to have a significantly positive impact on the two measures of SMEs' profitability. However, firm size exhibits a significantly negative impact on both the GOP and ROA, whereas GDP growth is found to have insignificant relationship with ROA.

Overall, it is expected that this study contributes theoretically, methodologically and practically to the improvement of the SMEs' performance and the contributions of the sector to the Nigerian economy at large. The study has contributed to the body of knowledge in the fields of working capital management and corporate governance, particularly with respect to efficient management

of corporate cash holdings and cash conversion efficiency for improving SMEs' performance. Apart from this, the study also shows that board size and gender diversity are important factors in corporate governance with respect to SMEs in Nigeria.

Therefore, it is hoped that this study will add significantly to the Nigerian SMEs sector regarding the importance of efficient working capital management for growth and sustainability. The study also suggests improvement in the corporate governance practices in the SMEs sector for the increase of performance. Similarly, the study urges the government and the SME regulatory bodies to double their efforts, initiatives, policies and programmes targeted at growing the SMEs. Furthermore, inclusion of Nigerian SMEs into the proposed Unified Corporate Governance Code will positively lead to improvement on the corporate governance practices of this sector. Finally, it is hoped that this study will serve as a base for in-depth studies in the future related to working capital management and corporate governance in Nigeria.

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APPENDICES

Appendix A

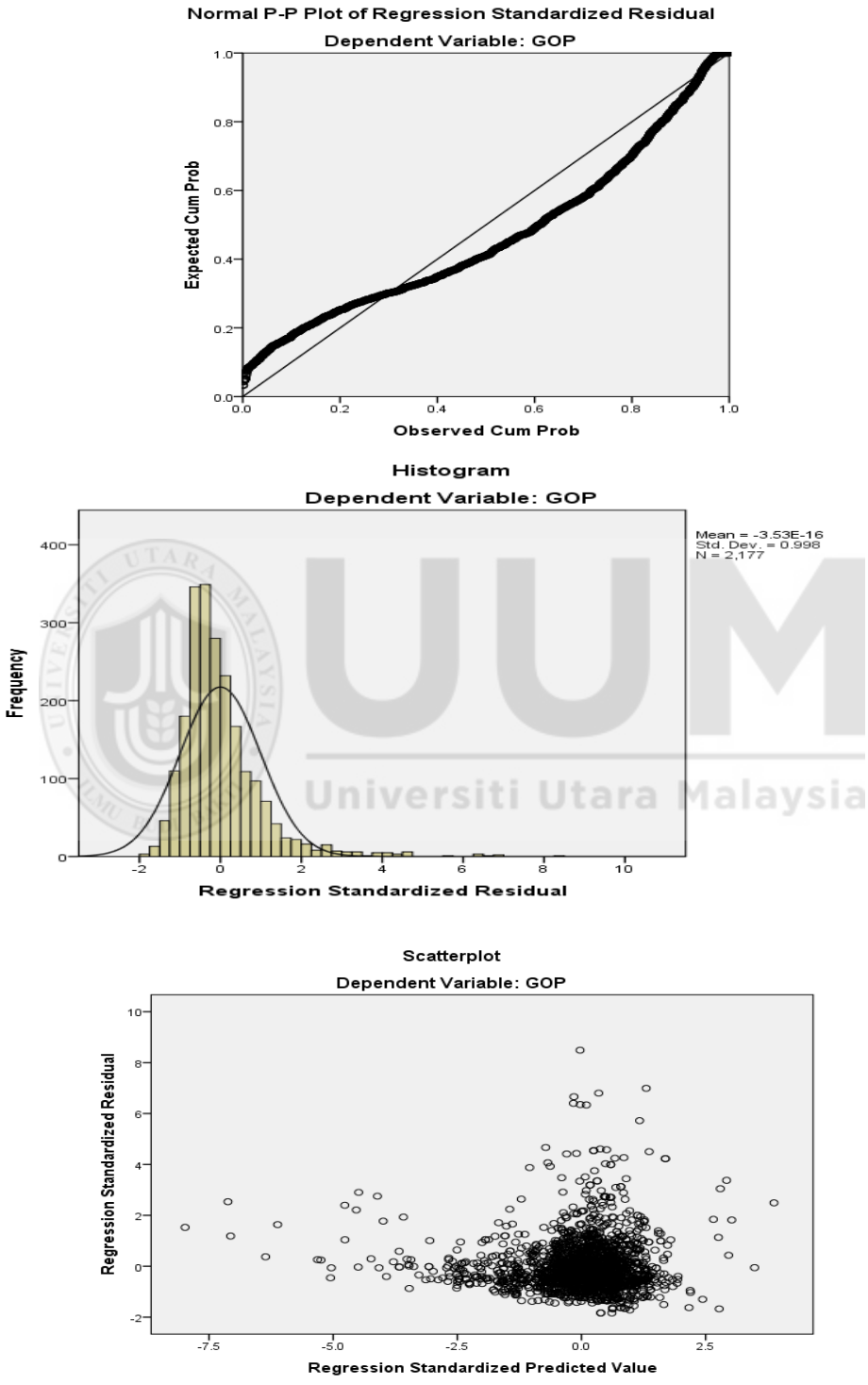
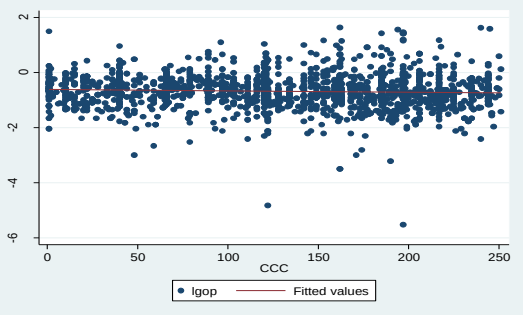
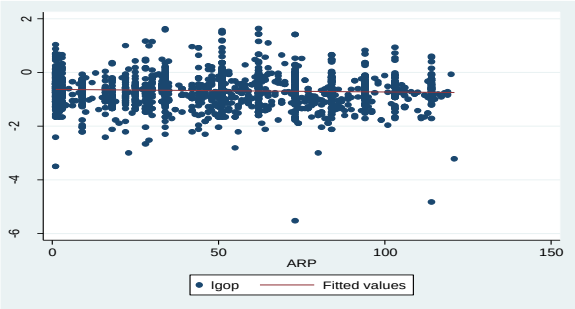


Figure 4.1 *Normality Graphs for GOP*

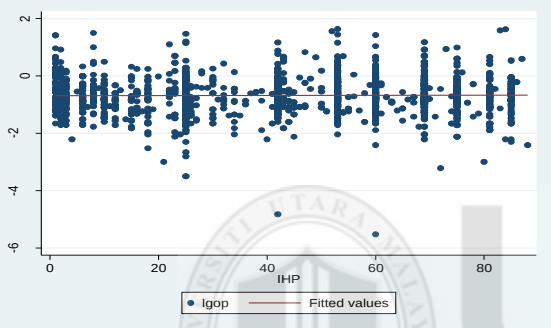
H1: Negative relationship between GOP and CCC



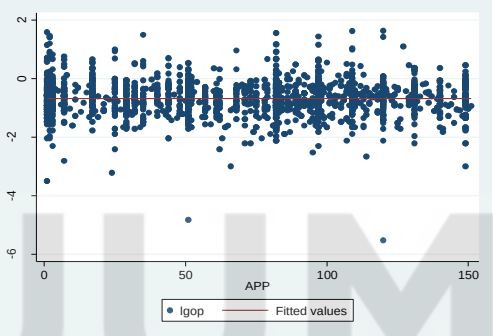
H2: Negative relationship between GOP and ARP



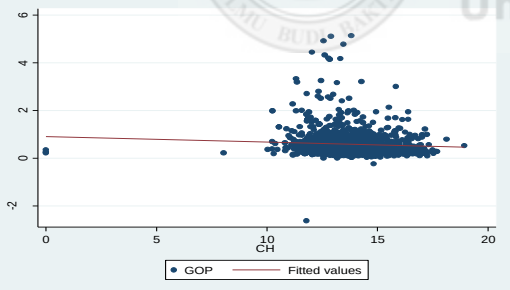
H3: Negative relationships between GOP and IHP



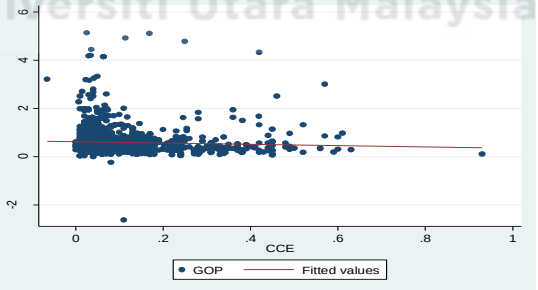
H4: Positive relationship between GOP and APP



H5: Negative relationships between GOP and CCH



H6: Positive relationships between GOP and CCE



H8: Positive relationship Between GOP and BSIZE

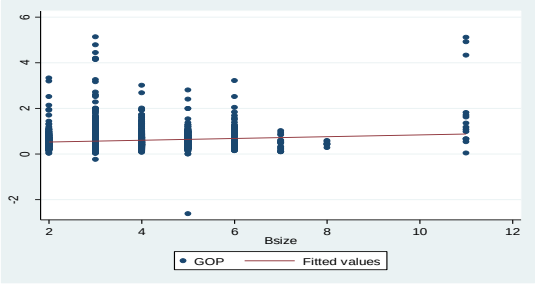
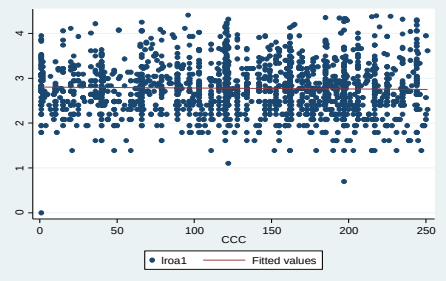
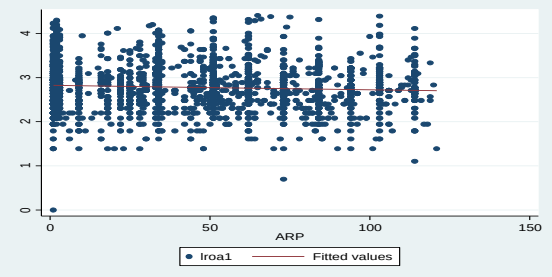


Figure 4.2
Scatter Plots with GOP

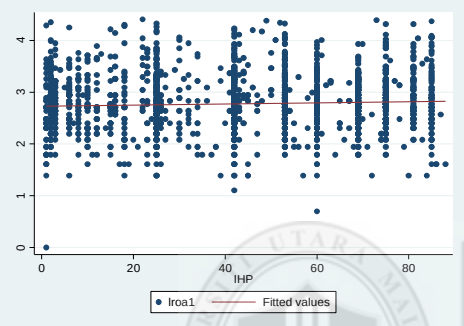
H1: Negative relationship between ROA and CCC



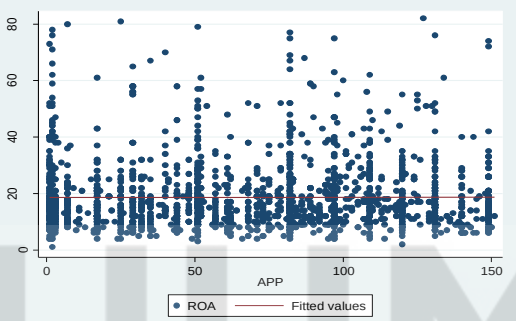
H2: Negative relationship between ROA and ARP



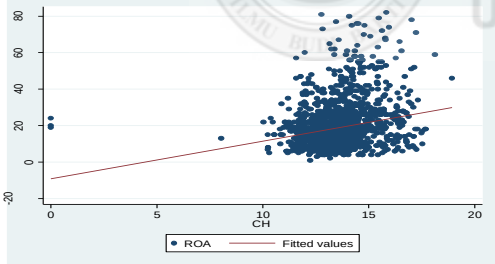
H3: Negative relationships between ROA and IHP



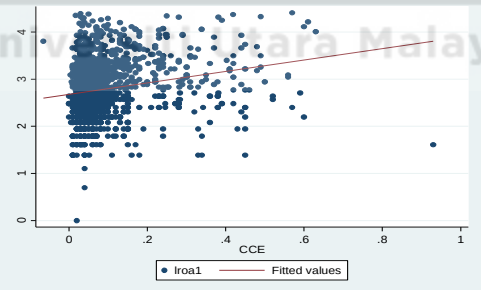
H4: Positive relationship between ROA and APP



H5: Negative relationships between ROA and CCH



H6: Positive relationships between ROA and CCE



H8: Positive relationship Between ROA and BSIZE

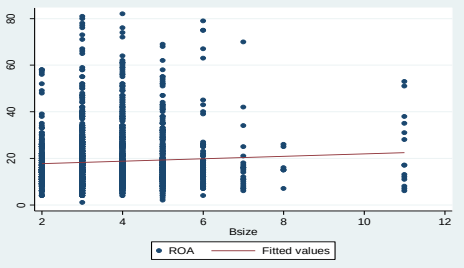


Figure 4.3
Scatter Plots with ROA

Appendix B

Regression Models with GOP

Variables	OLS Regression Model				Random Effect Model			
	Coefficient	Std. Err	t-value	p-value	Coefficient	Std. Err	t-value	p-value
CCC	0.0006	0.0001	3.83	0.000***	0.0004	0.0001	3.32	0.001***
ARP	-0.0004	0.0003	-1.45	0.147	-0.0004	0.0002	-1.88	0.060**
IHP	-0.0001	0.0004	-0.27	0.787	-0.0004	0.0003	-1.23	0.217
APP	-0.0002	0.0002	-0.97	0.334	-0.0001	0.0002	-0.45	0.652
CCH	0.0040	0.0087	0.47	0.642	0.0104	0.0082	1.27	0.205
CCE	0.0688	0.1169	0.59	0.556	0.1399	0.1020	1.37	0.170
FMLY	-0.0504	0.0226	-2.23	0.026**	-0.0638	0.0414	-1.54	0.124
BSIZE	0.0478	0.0078	6.11	0.000***	0.0633	0.0139	4.52	0.000***
GENDER	0.0075	0.0033	2.27	0.023**	0.0067	0.0061	1.10	0.273
FSIZE	-0.0799	0.0106	-7.56	0.000***	-0.1431	0.0116	-12.38	0.000***
SGROW	0.0010	0.0002	6.70	0.000***	0.0011	0.0001	9.18	0.000***
LEVERAGE	0.0066	0.0008	8.23	0.000***	0.0044	0.0007	5.97	0.000***
FAGE	0.0077	0.0014	5.35	0.000***	0.0114	0.0024	4.75	0.000***
GDPGROW	-0.0207	0.0134	-1.54	0.123	-0.0201	0.0104	-1.94	0.053**
Constant	1.4628	0.1701	8.60	0.000***	2.3149	0.1859	12.45	0.000***
R-squared				10.25				14.71
F-statistics				17.63				311.21
Prob-value				0.000				0.000

*** Significant at 1%, ** significant at 5% and * significant at 10%.

Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Accounts Receivable Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Regression Models with ROA

Variables	OLS Regression Model				Random Effect Model			
	Coefficient	Std. Err	t-value	p-value	Coefficient	Std. Err	t-value	p-value
CCC	0.0071	0.0036	2.03	0.043**	0.0056	0.0035	1.63	0.102
ARP	-0.0251	0.0067	-3.78	0.000***	-0.0187	0.0062	-2.99	0.003***
IHP	0.0179	0.0089	2.00	0.046**	0.0169	0.0081	2.04	0.041**
APP	-0.0029	0.0051	-0.56	0.578	-0.0046	0.0047	-0.98	0.328
CCH	1.7155	0.2154	7.96	0.000***	1.6336	0.2184	7.48	0.000***
CCE	28.6428	2.8837	9.93	0.000***	30.0207	2.7605	10.88	0.000***
FMLY	0.1761	0.5575	0.32	0.752	0.2196	0.8921	0.25	0.806
BSIZE	0.3627	0.1929	1.88	0.060*	0.4200	0.3031	1.39	0.166
GENDER	0.0884	0.0816	1.08	0.279	0.0919	0.1310	0.70	0.483
FSIZE	-0.7109	0.2607	-2.73	0.006***	-1.0478	0.2969	-3.53	0.000***
SGROW	0.0313	0.0037	8.37	0.000***	0.0305	0.0034	8.96	0.000***
LEV	0.0999	0.0196	5.09	0.000***	0.0842	0.0196	4.29	0.000***
FAGE	0.0784	0.0357	2.20	0.028**	0.1716	0.0542	3.16	0.002***
GDPGROW	-0.3467	0.3304	-1.05	0.294	-0.3650	0.2857	-1.28	0.201
Constant	-1.9792	4.1980	-0.47	0.637	3.4726	4.6614	0.74	0.456
R-squared				14.66				14.92
F-statistics				26.54				353.07
Prob-value				0.000				0.000

*** Significant at 1%, ** significant at 5% and * significant at 10%.

Legend**:** ROA is Return on Assets; CCC is Cash Conversion Cycle; ARP is Accounts Receivable Period; IHP is Inventory Holding Period; APP is Accounts Payable Period; CCH is Corporate Cash Holdings; CCE is Cash Conversion Efficiency; FMLY is Family Ownership; BSIZE is Board Size; GENDER is Gender; FSIZE is Firm Size; SGROW is Sales Growth; LEVERAGE is Leverage; FAGE is Firm Age and GDPGROW is GDP Growth.

Appendix C

1	Umar Bakery Nig. LTD	156	Global Paper Mill Ltd.
2	Maidabino Inv. Ltd	157	Finsbury Inv. Ltd.
3	Nakowa M.B Ltd	158	EC Computer Nig. Ltd
4	Shumo Ph. Nig. Ltd	159	Home Stead Nig Ltd
5	AJS Global Com. Ltd.	160	Kampus Agro. Nig Ltd.
6	Rimi Kat. Soap Ind.	161	Kunle SuperBVen.. Ltd.
7	S.J.M.G.E Nig. Ltd.	162	Ibtal Glob. Ltd.
8	Dan-NT. M. Ltd.	163	Imlass Ven. Ltd.
9	UMKHA Intergr. Ltd.	164	Fine Star Nig. Ltd.
10	M.D. Gen. Ent. Ltd.	165	Integrated Marchant Ltd
11	Dan Marn Pet. Ltd.	166	M.D Universal Ltd.
12	A.M. & Sons. Ltd.	167	M.D Construction Ltd
13	Constr. Marsh Int. Ltd	168	Mabros Nig. Ltd.
14	Farnaba Invest. Ltd.	169	Mainaco Nig. Ltd
15	D/Kura Pet. Ltd.	170	Yashesco Nig. Ltd.
16	Saltine. Eng. Equip. Ltd.	171	Mega DutsiNig.Ltd
17	Dan Hassan Nig. Ltd.	172	Alison Diary Nig. Ltd.
18	Gwarjo Pet. Nig. Ltd	173	Assu & sons. Ltd.
19	M. Gagare Pet. Nig. Ltd	174	Abtusman farm Nig. Ltd
20	Almaru Modest Bakery Ltd.	175	ABIDKAS Glob. Ven. Ltd
21	Masha Allah Pet. Nig.	176	Chidon & Sons Nig. Ltd.
22	Alas Pet.Nig. Ltd.	177	A A Yusuf & Co. Ltd.
23	Godiya Petr. Nig. Ltd	178	Mansrite Nig. Ltd
24	Suduje Floor Mill Ltd.	179	Na-Iya Pha. Ltd.
25	Kadmash Nig. Ltd	180	O'Jeil Nig. Ltd
26	Kash-Nur Nig. Ltd.	181	SAAB Oil. Nig. Ltd.
27	Dana Steel Ltd.	182	Ramujal Ven. Ltd
28	Afdin Nig. Ltd.	183	Prince and Wales Ltd.
29	Hamlaurat Ltd.	184	Real Cartel Invest. Ltd.
30	D/marina Gen. Enter. Ltd.	185	Opal Integ. Nig. Ltd
31	Basic Trade Ltd.	186	Samkon Ent. Nig. Ltd.
32	Dream Homes Ltd.	187	SCHWAIB Enterp. Nig. Ltd.
33	ABIB Foods & Beverages Ltd	188	SABEL Global Ltd.
34	Phenomenal Ltd.	189	Shumo Oil and Gas Ltd.
35	Zim-Tain Res. Ltd	190	Pakco Engineering Ltd.
36	Tower Gal. Nig. Ltd	191	Spear Global Ent. Ltd
37	Kat. Oil Mill Ltd	192	Talia Express Conc. Ltd
38	Tarpaulin Ind. Ltd.	193	Tamal Oil. Nig. Ltd

39	Kat Flour Mills Ltd.	194	TECHNO Glob. Ltd
40	Essence Res. Ltd	195	TIMASON Invest. Ltd
41	ABQUE Ent. Nig. Ltd	196	TMD & Sons Global Ltd.
42	Al-AAM Eng. Ltd	197	TROPHARM Ltd.
43	Jkyari Table Water Ltd.	198	Tropical Water Ltd.
44	Dile Leather Nig Ltd.	199	U.J Associated & Co. Ltd
45	ELBEE Pet. Nig. Ltd.	200	UMA Integ. Co. Ltd
46	Emmkay Tech. Ltd.	201	Wecco Partners Ltd.
47	BIFOCAL Eng. Nig. Ltd.	202	T. Marketers Nig. Ltd.
48	Broadlink Pet. Ltd.	203	Soltrend Eng. Co. Ltd
49	Broadlink Med. Nig. Ltd	204	A.T.Y Integrated Ltd
50	GSM Palace Ltd.	205	A.J.Z Pet. & Gen. Ent. Ltd.
51	Aishaco Energy Nig. Ltd	206	AK Petrol & Gas Ltd
52	ANNOOR GLOBAL Ltd.	207	Allied Dev. Co. Ltd
53	Cold Well Inv. Ltd.	208	Capital Bookshop Ltd
54	Divine Lube. Co. Ltd.	209	FATLUBSY Ven. Ltd
55	Funtua Fertilizer Ltd.	210	Global Hydro & Eng. Ltd.
56	Hasnab Invest. Nig. Ltd	211	Savannah Sugar Nig. Ltd.
57	Immaculate Fac. Ltd.	212	KHABICO Nig. Ltd.
58	Ladmang Const.Nig. Ltd	213	Continental Computers Ltd.
59	Mu'asam Uni. Oil Ltd	214	NUEDGE Nig. Ltd
60	Ajino Moto Nig. Ltd.	215	Right Fortune Glob. Ltd
61	D/Mara Ven.Ltd.	216	Mashasha Nig. Ltd.
62	Rahusa Ven. Ltd.	217	AA Hamzat Tanary Ltd.
63	Afdin Const. Nig. Ltd	218	Abug Invets. Nig. Ltd
64	A.B Global Inv. Ltd.	219	A & G KURFI ENG. LTD
65	A.R.B Hsske Nig. Ltd	220	Abin Allah B.S
66	A.M.H Univ. Ltd.	221	Abdu-Abdu Furnitures Ltd
67	D/baranda Pet. Ltd	222	Al-AB Gen. Enter. Ltd
68	Wapa Nig. Ltd.	223	A.S Salihaw Ven Ltd
69	ABQUE Contr Nig. Ltd	224	Al-Dusar Bookshop Ltd.
70	BB Jargaba Poultry Farm	225	Barda Holdings Ltd
71	Bagiwa Poultry Ltd.	226	Chempharma Nig. Ltd.
72	Dawai Pet. Ltd.	227	Asuk & co. Ltd.
73	Dan LM Rimi Nig. Ltd	228	Bawasa Int. Nig. Ltd.
74	Garewa Foods Nig. Ltd.	229	Garu Pet. Nig Ltd.
75	Global Fama Nig. Ltd	230	HamsHakim Ven. Ltd.
76	Hazo Inv. Ltd	231	Gurbi Pet. Nig. Ltd
77	Fasau Invest. Ltd	232	Gwagware Plastic Ltd.

78	Maje Sal. Nig. Ltd.	233	Al-Musa Cottage Ind. Ltd
79	Hasab Paints Nig. Ltd.	234	Haske Trading Ltd.
80	Himma Pet. Ltd.	235	I.B.S Pet Ltd.
81	Kat. Ent. & Const. Ltd	236	Kamshat Nig. Ltd.
82	Kune Integ. Ltd	237	Jikannana Nig. Ltd
83	Gafai Nig. Ltd.	238	Kaita Oil Nig. Ltd.
84	Daninni Nig. Ltd	239	M.I Pet. Nig. Ltd.
85	M.Fulani Nig. Ltd	240	Alaramma K. Ltd.
86	Makabs Constr. Ltd.	241	Mashaaha & Son Ltd
87	Mashaaha Constr. Ltd.	242	Abu-Musa & Sons. Ltd.
88	Bas Trading co. Ltd.	243	D.B Mangal Nig. Ltd.
89	Abque Pharm. Nig. Ltd	244	Hafiz Haske Nig. Ltd
90	AbunaAllah & Sons Man. Co.	245	Maigari Mult. Ven. Ltd.
91	Makabs Ven Nig. Ltd	246	Maraya Pet. Ltd.
92	Maiwada Pet. Ltd	247	Mutunchi Inv. Nig. Ltd.
93	Allahrufa Asiri Nig. Ltd	248	NaBinta Inv. Ltd.
94	Nakowa Constr. Ltd	249	Newfrontiers Nig. Ltd
95	Niya Eng. Nig. Ltd.	250	O'Jeil Constr. Ltd.
96	RIBS Eng. Nig. Ltd.	251	S.L Sarkin Aiki Ltd.
97	Sabash Nig. Ltd.	252	SALBAK WW. Ltd.
98	Sal. Rabi'u & Sons Ltd.	253	Samdik Integ.Nig. Ltd
99	Sanfari Merch. Nig. Ltd.	254	Sanusi IBS Oil. Ltd.
100	Na'uman Oil & Gas Ltd.	255	SabgaTech Equip Nig. Ltd.
101	SHAUFIZ Global Ltd.	256	SHI Construction Co. Ltd.
102	Sodangi Ven. Nig. Ltd	257	SS Mohammed Nig. Ltd.
103	Sulkan Tech. Equip. Ltd	258	Tammal Trading Co. Ltd
104	Tela Ada Petroleum Co. Ltd	259	Waliyyi Int'l Nig. Ltd.
105	Yandoma United Ltd.	260	Yar Manya Oil & Gas Ltd.
106	Zamam Properties Ltd.	261	Zim-Tain Group Ltd
107	Zinat Global Co. Ltd.	262	Zaihad Invest. Ltd
108	Smauti Construction Ltd	263	Shirash Petroleum. Ltd
109	Anas Technical Equip. Ltd	264	A.A Umar Gen. Enterp. Ltd
110	A.A Umar Group Nig. Ltd.	265	A.L. Namadi Petrol. Ltd.
111	A. Ibr. Danmalam Ltd.	266	Abba Gen. Ent. Ltd.
112	A.B Enterprise Nig. Ltd.	267	AKH Yamawa Vent. Ltd
113	Ali-Amin & Co. Nig. Ltd	268	Alas Engr. & Contr. Ltd
114	AL-BIB Vent. Ltd.	269	A. Barau Contr. Nig. Ltd
115	A. D. Saude Nig. Ltd	270	A. Ummar Jeme Ltd
116	Alheri Surgipham Ltd.	271	Ashak C. Invest. Ltd.

117	Asmayu Drinks Nig. Ltd	272	Barau Yaro & Sons Pet. Ltd.
118	Baure Petro & Gas Ltd.	273	Azuba Quarry Const. Ltd
119	Dankaka Agro.Nig. Ltd	274	Baladini Global Nig. Ltd
120	D/MA Constr. Co. Ltd	275	DLM & Sons Nig. Ltd.
121	Farin Yaro Electronics Ltd.	276	Gwarzo Diary Co. Nig. Ltd
122	Gizanda Salt Nig. Ltd	277	G. Baure Oil Co. Ltd.
123	Hansbalk Integrated Ltd.	278	I.W.T & K Ven. Nig. Ltd.
124	Jamy Ngari Stores Ltd.	279	Jaroda Ven. Ltd.
125	Kurfi Integrated Ltd.	280	Mahaju Rimi Nig. Ltd
126	Magafi Construction Ltd	281	Marhaf Res. Nig. Ltd.
127	Masabo Integrated Ltd.	282	MOT People Nig. Ltd
128	Na Rumbuki Eng. Co. Ltd.	283	Matazu Farm Nig. Ltd.
129	Maje & Sons Nig. Ltd	284	NAK Gen. Merchant Ltd
130	Multi-Concept Com. Ltd.	285	Murja Integrated Ven. Ltd
131	Sal-tune Honda Nig. Ltd.	286	Tsohon kasuwa Nig. Ltd.
132	Amand & Sons Ltd.	287	ELDEE Const. Co. Ltd
133	Shollte Nig. Ltd.	288	Finsdury Nig. Ltd.
134	A.F.M Invest. Ltd.	289	DM Kurfi & S0ns Ltd.
135	Gafai Blocks Industry Ltd	290	Darma Poultry Ltd.
136	D-Maimale Petrol Ltd.	291	Paulin Int'l Nig. Ltd
137	Rossnam Nig. Ltd.	292	Opal-Pharm. Nig. Ltd.
138	Rabash & Co. Nig. Ltd.	293	Sanad Sana'a Int'l. Ltd.
139	Sayba Nig. Ltd	294	Samdik Const. Nig. Ltd
140	Samkon Pet. Nig. Ltd.	295	Sanfari Oil & Gas Ltd.
141	Sansi IBS Cont. Ltd.	296	Ba'umma Petrol Ltd.
142	Schwaib Integ. Nig. Ltd.	297	Ota Farm Nig. Ltd.
143	Sakaw Nig. Ltd	298	Shaufiz Pharm Nig. Ltd.
144	Shiroro Marketing Co. Ltd.	299	S & M Merchants Ltd.
145	Shamaraj Kitchens Ltd.	300	Pakco Store Nig. Ltd.
146	San-ad Print. Co. Ltd.	301	S&M Bakery. Nig. Ltd.
147	Slow & Steady Const. Ltd.	302	Sufab Tech. Nig. Ltd
148	T&E Com. Ltd	303	Tama Merchant. Nig. Ltd
149	Sama Trading co. Ltd	304	EM Global Nig. Ltd
150	Tetra Com. Ltd	305	T & Sons Invest. Ltd
151	TM & Sons Nig. Ltd.	306	Tsanni Enterprise Ltd.
152	Tropicana Invest Ltd.	307	Uja & Co. Nig. Ltd
153	Uche & Co. Ltd	308	Imam Wali Int. Nig. Ltd
154	Zecco Petroleum Ltd.	309	Udoka & Sons Nig Ltd.
155	Yandoma Pet. Co. Ltd.	310	Yanya Pet. Co. Ltd.

		311	SAN-AD UNI. Co. Ltd.

Appendix D

Letters /Correspondance

Business Education Department ,
Federal College of Education,
Katsina,
Katsina State,

28th January, 2014.

To:……
Address:……...
…….
Dear Sir,

REQUEST FOR DATA

I wish to request for data from your organisation for my PhD research programme. I am a lecturer from the above named institution currently undergoing PhD programme in accounting at Universiti Utara Malaysia (UUM). My research area/topic is "Working Capital Management and Corporate Governance in the Small and Medium-Sized Entities (SMEs) of Nigeria. The population of the study is limited to Nigerian SMEs over a period of seven (7) years from 2007 – 2013.

The data required for the study are contained in the Financial Statement/Annual Reports/Accounts of the SMEs for the relevant periods, which include:

The income statement (profit and loss account);

The balance sheet;

Cash flow statement; and

Notes to the accounts

Sir, I wish to assure you that the data is strictly meant for academic purposes only. Attached herewith is an introduction letter (To Whom It May Concern) from my University for your scrutiny. I hope my request will be considered. Thank you for the usual cooperation.

Yours faithfully

Musa Muhammad Tsagem