MAKERERE UNIVERSITY

FIRM CHARACTERISTICS, INNOVATION, FINANCIAL RESILIENCE UNDER AUSTERITY AND SURVIVAL OF FINANCIAL INSTITUTIONS IN UGANDA

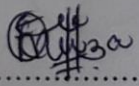**MUGUMYA ELIZABETH**

2015/HD10/2338U

A DISSERTATION SUBMITTED TO MAKERERE UNIVERSITY IN PARTIAL FULFILLMENT FOR THE AWARD OF THE DEGREE OF

MASTER OF FINANCE AND ACCOUNTING

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PLAN A

2018

DECLARATION

I **Mugumya Elizabeth,** hereby declare, to the best of my knowledge, that this dissertation is my original work from my own efforts and has never been published or submitted for any academic award in any University or other institution of higher learning.

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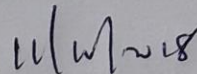
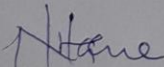**Mugumya Elizabeth**

2015/HD10/2338U

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APPROVAL

This is to certify that this dissertation entitled "**Firm Characteristics, Innovation, Financial Resilience under Austerity and Survival among financial institutions**" is a final research Copy with our approval as University supervisors.

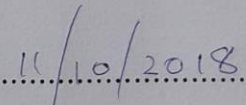Signature ....   Date ....11/10/2018...............................

Assoc. Prof. Nkundabanyanga K. Stephen

Signature ....   Date ....11/10/2018...............

Dr. Nalukenge Irene

DEDICATION

I dedicate this research report to my parents Mr. and Mrs Mugumya Mesusera who always believed in me and whose support, prayers and encouragement, gave me hope and motivation to complete this study. I dedicate this scholarly achievement to you for standing up with me in the critical time I needed you most.

ACKNOWLEDGEMENT

My heartfelt appreciation is directed towards the Almighty God who kept me and my family in good health throughout the period of my study. My sincere gratitude also goes to my supervisors, Assoc. Prof. Nkundabanyanga K. Stephen and Dr. Nalukenge Irene for their tireless and valuable guidance, academic intellect, timely advice and constructive criticism throughout this research. Your tireless attention and devotion towards my research journey has contributed greatly to the successful accomplishment of this study. May God bless you abundantly.

I am grateful to the management of the different financial institutions for allowing me to collect data for this study. In the same way, I am also grateful to the Master of finance and accounting class of 2015/16 academic year for their endless support in our discussions and throughout my studies. More so, I thank lecturers in the department of accounting for their support and academic expertise offered to me during my academic struggle. You were very inspiring to my academic life at Makerere University Business School and this research dissertation would not have seen the light of day without your input from inception to its logical conclusion. To Assoc. Prof. Nkundabanyanga Stephen, words may not express my appreciation for your continuous guidance throughout the entire research project. You remain my source of inspiration.

Finally, this acknowledgment would be incomplete without special marks of regard and appreciation to my beloved parents Mr. and Mrs Mugumya Mesusera for their wisdom, support, encouragement and prayers throughout my studies. Last, but not least, I am indebted to my brothers Mutabazi Josiah, Asiimwe Job and Mugumya Jesse for your kind reminders to pursue a master's degree and other academic accolades. To them I say, thanks for the moral, spiritual and physical support, unceasing patience and continuous encouragement throughout my studies.

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LIST OF ACRONYMS

ANOVA   Analysis of Variances

CEO   Chief Executive Officer

CFO   Chief Finance Officer

CVI   Content Validity Index

GDP   Gross Domestic Product

MDIs   Micro Deposit taking Institutions

R&D   Research and Development

ROI   Return on Investment

SD   Standard Deviation

SPSS   Statistical Package for Social Scientists

ABSTRACT

Globally, the survival of firms is a much sought after by business managers and other stakeholders because of its underlying benefits in creating value for key stakeholders of a firm including boards, policy makers, regulatory agencies, shareholders, staff, suppliers and customers. However, it has remained elusive as statistics indicate that several giants such as Lehman Brothers and Enron collapsed partly due to their failure to manage shocks and uncertainties. Uganda is not an exception either as several indigenous firms have gone out of business, put under receiverships, forming mergers and others sold off. Faced with this uncertainty, a study was initiated to explore the relationship between firm characteristics, innovation, financial resilience under austerity and survival of financial institutions in Uganda. Specifically, the study was guided by the objectives of identifying the relationship between firm characteristics and survival of financial institutions, establishing the relationship between innovation and survival, assessing the relationship between financial resilience under austerity and survival of financial institutions, ascertaining the relationship between firm characteristics, innovation and financial resilience under austerity among financial institutions as well examining the combined relationship between firm characteristics, innovation, financial resilience under austerity and survival of financial institutions.

The study employed a cross sectional research design in which views from CEO/General Managers, Operational officers, Chief finance officers and Risk officers from 44 financial institutions were sampled of which 21 banks, 4 MDIs and 15 insurance companies successfully responded giving a response rate of 40 (90.9%). Both descriptive statistics of mean and standard deviation as well as inferential statistics of correlation and regression analysis were used in the interpretation and analysis of the study findings. In addition, quantitative approach was also used in which numerical data was used to interpret the study findings.

The findings found that unlike firm size, number of branches, employees and number of products, firm characteristics of turnover and category significantly relate to firm's survival. Innovation is also predictive of firm survival. Financial resilience under austerity was significantly and positively related to firm survival. Moreover, the study findings revealed that a combination of firm characteristics, firm innovation and financial resilience under austerity explained a significant contribution in the survival chances among financial institutions. The mediating effect of financial resilience under austerity was found to be significant only with innovation. It was recommended that managers should put much effort on designing mechanisms aimed at boosting growth in turnover, invest in innovation and should devote much effort to increase their level of financial robustness if they are to remain in business

CHAPTER ONE

INTRODUCTION

This study examined the relationship between firm characteristics, innovation, financial resilience under austerity and survival of financial institutions. This section presents the background to the study, statement of the problem, purpose of the study, research objectives, research questions, scope, significance and conceptual framework.

1.1   Background to the study

According to the accounting theory, the survival of firms is more evident with the going concern principle where companies are presumed to survive in the nearby future to create value for key stakeholders of a firm including boards, policy makers, regulatory agencies, shareholders, staff, suppliers and customers (Liao *et al.*, 2008). Firm survival is the ability of an enterprise to perform consistently and exist for a lengthy period (Liu & Pang, 2013). It is a proactive concept determined to ensure that an enterprise thrives despite the anticipated and unanticipated challenges that will emerge during its existence. More broadly, Geroski, Mata and Portugal (2007) assert that business survival creates goodwill, boosts wealth, and provides continuous flow of GDP to the economy. Thus, failure of firms to survive ultimately leads to these corporate objectives unattainable.

However, global statistics show that several giants have failed to survive partly due to shocks and uncertainties that characterize their operating environment. For instance, companies such as Lehman Brothers and Enron, among others have collapsed partly due to their failure to manage shocks, uncertainties in their operations (Javiriyah, 2011) (refer to appendix IV, Figure 1).

Similarly, in Uganda, instances of collapsing institutions are widespread, as the country has seen its own indigenous firms failing to survive, put under receiverships, forming mergers and others sold off (refer to appendix I, section B for details & Figure 2). Many institutions have tried to lay off workers and cut off sponsorships, with a view of ensuring their survival but have still ended up failing. For example, with reference to the banking sector, Nile bank was taken over by Barclays in 2009, while Barclays bank reportedly plan to wind up its operations in Africa by close of 2016 (Semakula & Adengo, 2016). In the same way, Greenland bank and more recently, Crane bank where closed by Bank of Uganda (Mutebile, 2016). Furthermore, signs of financial squeeze are evident by several companies causing staff downsizing (Orient bank), and many applying for government bailout (as seen in appendix I, section C & figure 5) (Muhumuza & Adengo, 2016), this signifies their inability to survive (Ahaibwe, Kasirye & Barungi, 2014).

Furthermore, signs of financial squeeze are evidently experienced by several companies causing staff downsizing (Orient bank), winding up in some regions (Barclays bank) and many in Uganda have applied for government bailout (as seen in appendix I, section C & figure 5) (Muhumuza & Adengo, 2016), something that signifies their inability to survive on their own financial resources (Ahaibwe, Kasirye & Barungi, 2014).

Previous studies have tried to predict survival of firms using variables such as length of existence (Dunne *et al.*, 2010), firm characteristics (Madhoushi & Nasiri, 2011), level of innovation and technology adoption (Cefis & Marsili, 2005), firm diversification (Ramanujam & Varadarajan, 2009) as well as firm size and performance (Liu & Pang, 2013). However, the evidence relating the survival of firms with respect to these measures is inconclusive. For instance, a study by

Huynh et al., (2010), in Denmark, concluded that the initial size of the firm is negatively associated with the company's likelihood of exit. Besides, Audretsch and Mahmood (2005) in their study in USA reported a negative effect of firm size on survival of new firms, but Romanelli (2009) found this effect insignificant among Portuguese firms. While, studies that have analyzed the relationship between technological innovation and firm survival have presented more ambiguous results, revealing either no relationship, a negative one or a mixture (Wagner 2009; Segarra & Callejon 2012).

From the foregoing observation, the evidence has shown that scholars have concentrated on other variables as predictors of survival of firms other than financial resilience under austerity. Even in studies where financial resilience under austerity has been undertaken, most studies have focused on developed countries such as USA (Ahrens & Ferry, 2015) with little or no applicability in a developing context like Uganda. Moreover, these studies have concentrated on the public sector as their focal area of concern with little regard to developing countries like Uganda. As such, findings derived from these studies do not merit action from private sector players. The other notable shortcoming has been that most of these studies examined the effect of one variable on the other, without considering the tripartite effect of firm characteristics, innovation, financial resilience under austerity and survival of firms in a single study. Notably, a study by Bovaird and Quirk (2013) in Birmingham looked at risk and resilience without looking at a third variable. This kind of scenario leaves financial resilience under austerity in the private sector unexplored and has stimulated the researcher's interest on how a combination of financial resilience under austerity and innovation can predict survival of private firms in a developing country context.

1.2   Statement of the problem

Survival of firms is one of the ultimate objectives for which companies are established. As such, it is a focal point among business executives as it ensures wealth creation for owners, provides tax revenue to the government and provide a source of employment to the people (Liao *et al.*, 2008). However, global statistics indicate a declining survival rate for firms. According to the Global Entrepreneurship Monitor Report (2014), the number of business failures rose from 90.2% in 2011 to 91.9% in 2012. In Uganda, available statistics indicate that whereas the country is ranked among the top three entrepreneurial countries in the world in terms of enterprise creation, another dismal statistic shows that the country has the highest enterprise failure rate estimated at 50% (Kazooba, 2014). Institutions such as Greenland bank, Mercantile bank, Imperial bank, Global Trust Bank have failed to survive while more recently, Crane bank was sold to DFCU in the first quarter of 2017 due to what was perceived as a systemic risk to the banking sector in Uganda and failure to facilitate operations sustainably in the long run (Mutebile, 2017). This trend exposes the economy to increased poverty, unemployment and low GDP among others. This justifies why the researcher is interested in ascertaining the extent to which survival of firms within Kampala are affected by financial resilience under austerity and innovation.

1.3   Purpose of the study

The study sought to establish the relationship between firm characteristics, innovation, financial resilience under austerity and survival of financial institutions in Uganda.

1.4   Objectives of the study

i.)   To establish the relationship between firm characteristics and survival of financial institutions

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ii.)   To establish the relationship between innovation and survival of financial institutions

iii.)   To establish the relationship between financial resilience under austerity and survival of financial institutions

iv.)   To establish the relationship between firm characteristics, innovation and financial resilience under austerity among financial institutions.

v.)   To examine the contribution made by firm characteristics, innovation, financial resilience under austerity on survival of financial institutions.

1.5   Research questions

i.)   Do firm characteristics increase or decrease the odds of financial institutions' survival?

ii.)   How does innovation relate to the survival outcomes among financial institutions?

iii.)   Does financial resilience matter in the survival of financial institutions under conditions of austerity?

iv.)   Is there a relationship between firm characteristics, innovation and financial resilience under austerity of financial institutions?

v.)   Does firm characteristics, innovation and financial resilience under austerity contribute to survival of financial institutions?

1.6   Scope of the study

This study was limited to the subject and geographical scopes respectively.

1.6.1   Subject scope

This study focused on firm characteristics, innovation, financial resilience under austerity and survival of financial institutions as the major variables of the study.

1.6.2   Geographical scope

The study was conducted among financial institutions operating within Kampala central region. This study area was chosen because of available statistics indicating the increasing trend of collapsing financial institutions.

1.7   Significance of the study

In developing economies like Uganda, the existence of a healthy corporate structure is vital to the pursuit of long-term policy objectives of employment and sustainable economic growth. This makes it important to understand what determines firm survival. The findings will be used by policy makers in designing suitable policies that can shape the macroeconomic environment to promote the survival of firms.

In addition, the study will establish the relationship between financial resilience under austerity, innovation and survival of firms. As such, the government of Uganda could also use these findings to minimize bottlenecks faced by firms in their pursuit of corporate and survival objectives.

The study will also set a platform upon which future scholars and various academia could review literature that is more contextualized in Uganda's perspective. Thus, the findings will be used as a source of reference for researchers to explore more on some of the variables under this study.

To the members of the academia, the findings of this study will add a pool of literature for researchers interested in one or more of the variables in this study.

1.8 Conceptual framework


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┌─────────────────────────────┐
│ Firm Characteristics        │
│                             │
│   • Firm Age                │
│   • Firm size               │
└─────────────────────────────┘         ┌────────────────────────┐       ┌────────────────────────┐
                                        │ Financial              │       │ Survival        of     │
┌─────────────────────────────┐         │ Resilience    under    │       │ Firms                  │
│ Firm Innovation             │         │ Austerity              │       │                        │
│                             │         │                        │       │   • Gearing            │
│   • R&D                     │         │   • Adaptability       │       │                        │
│   • Technology              │         └────────────────────────┘       └────────────────────────┘
│     Intensity               │
└─────────────────────────────┘
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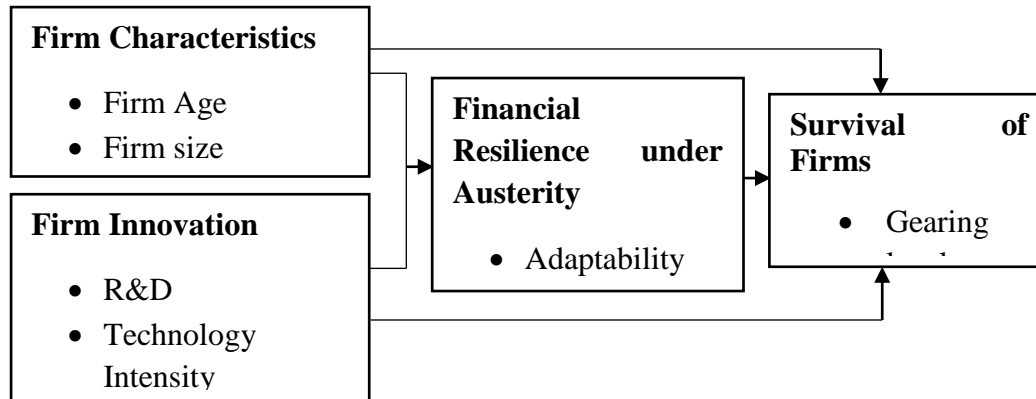
Figure 1: Conceptual Framework

Source: Developed from literature review (Floyd, 2016; Liu & Pang, 2013; Madhoushi & Nasiri, 2011; Taylor, 2013; Spaliara & Tsoukas, 2013).

The above conceptual framework indicated that survival of institutions is influenced in part by firm characteristics, innovation as well as financial resilience under austerity. As per the framework, firm characteristics and innovation were the independent variables; financial resilience under austerity was the mediating variable while survival of firms was the dependent variable. Firm characteristics was conceptualized in terms of age of existence, firm size and diversification. Madhoushi and Nasiri (2011) also suggested these measures. On the other hand, Floyd (2016) suggested that innovation among firms could best be measured in terms of R&D, technology intensity as well as patents and intellectual property. These measures were equally adopted under this study. Furthermore, financial resilience under austerity was conceptualized in terms of adaptability, flexibility and financial robustness as highlighted by Taylor (2013). Meanwhile, survival of firms was analyzed using attributes of gearing level, liquidity and profitability as emphasized by Liu and Pang (2013).

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

This chapter presents the literature review in line with the research objectives. The purpose was to review earlier scholars' works with a view to identify the agreements and disagreements among authors. The chapter begins by reviewing the literature related to the study variables, namely, firm characteristics, firm innovation, financial resilience under austerity and survival of financial institutions in Uganda.

According to the Financial Institutions Act, 2004 financial institution means a company licensed to carryon or conduct financial institutions business in Uganda and includes a commercial bank, merchant bank, mortgage bank, post office savings bank, credit institution, a building society, an acceptance house, a discount house, a finance house or any institution which by regulations is classified as a financial institution by the Central Bank.

2.2   Firm characteristics

According to Madhoushi and Nasiri (2011), firm characteristics are distinguishing attributes that describe the physical, functional and operational dimensions of a firm. They include firm age, size, firm diversification, location, among others. Recent research on firm networks has revealed that firm characteristics play a significant role in firm's activities in general and specifically in the firms' survival and success. Notably, Chen and Hambrick (2005) indicated that firm characteristics of age, size and diversification create distinctive capabilities through which firms can compete for customers. Specifically, the relevance of the individual firm characteristics to firm survival can be discussed as follows;

Firm Age

Firm age denotes the number of years a company has been operating in the market since it was founded (Kaguri, 2013). This metric is an important determinant of firm survival. Past research shows that the probability of firm survival and success increases with firm's age with cases of firm failure common among young and newly established firms. A study by Kristiansen, Furuholt and Wahid (2013) found that length of existence is significantly linked to business success and survival. These studies found that a firm's level of efficiency and profitability are strongly related to its age. This could be attributed to the fact that the large pool of customers with an old institution and the resulting efficiency is likely to make it achieve a higher revenue growth, which in turn leads to firm survival and financial self-sufficiency.

Firm size

The size of the firm reflects how large an enterprise is in infrastructure and employment terms. Firm size is one of the most influential characteristics in organizational studies. For example, Zahid et. al (2015) found that larger firms have higher solvency, profitability and operational self-sufficiency, attributes that measure survival of firms. By contrast, small firms not only find it difficult to compete with larger firms in the market, but they also face problems in obtaining finance, thereby hampering their ability to survive.

Firm diversification

In its broad sense, Hao *et al.*, (2011), defined diversification strategy as a technique used by a firm to broaden company's activities by increasing services, markets and products it offers to its customers whilst identifying and assessing the potential risks that could affect a diverse array of

investments in a portfolio. They assert that the justification is that fluctuations in the value of single security will have smaller negative impact as a part of a diversified portfolio. In other words, losses incurred by investments in some areas will be compensated by profits gained in other areas. In this way, diversification reduces the overall risk of investments. In the view of Akanwa *et al.*, (2006), the formulation of a strategy for diversification must begin with an examination of the firm's basic objectives, skills, and resources and an appraisal of its' strategic design. They posit that the movement into diversification usually necessitates a change in the company's root strategy and a complete recycling of the policy making process.

2.3   Firm innovation

Firm innovation is an organization's process for introducing or creating methodologies that are more effective, processes, innovative ideas, workflows, products and services (Floyd, 2016). For businesses, this could mean implementing new ideas, creating dynamic products or improving the existing services. In the view of Filippetti and Archibugi (2011), successful innovation should be an in-built part of the business strategy, where managers create a culture of innovation and lead the way in innovative thinking and creative problem-solving approaches. Floyd (2016) gives the critical aspects of firm innovation by pointing out three operational measures. These are R&D, technology intensity as well as patents and intellectual property.

Research & Development (R&D)

Firm innovation can also be measured by the quality of its research and development. According to Laycock (2016), research and development (R&D) is one of the means by which a business builds its survival through developing new products or processes to improve and expand its operations. It consists of investigative activities that a business chooses to apply with the intention of carrying out an innovation that can lead either to the development of new products

and procedures, or to improvement of existing products and procedures. In a competitive and fast changing environment, firms must continually revise their design and range of products to satisfy the changing tastes and preferences of their customers.

Technology Intensity

Technological intensity is the degree to which machines and technology substitute for autonomous human action in a production and operational activities of a firm (Freel, 2010). Technology intensity is closely linked to attributes such as information technology, video conferencing, social networks and virtual office technology. These aspects have removed workplace boundaries at the workplace and have influenced the success and survival of firms. Furthermore, available research indicates that organizations that do invest in technology and choose the path of innovation to increase their market share, overall competitiveness and survival (Audretsch, 2005).

Patent & Intellectual Property

According to Jensen and Webster (2010), patents are industrial processes and inventions used by organizations to protect their products against the unauthorized use and access. On the other hand, intellectual property refers to creative work developed by a firm over time in the course of its operations and it is treated as an asset or physical property. Patents are grants made by national governments that give the creator of an invention an exclusive right to use, sell or manufacture the invention. Copyright, patents, designs and trademarks are all types of intellectual property protection used by firms to differentiate their product brands. Helmert and Rogers (2008) analyzed the survival of approximately 162,000 British firms in 2001 over a five-year period. Their results indicate that intellectual property activity is associated with a higher

probability of survival. Specifically, national patents and trademarks are significant in improving survival of firms.

2.4   Financial resilience under Austerity

Different academia has attached diverse meanings to the concept of financial resilience under austerity as a management strategy in business. In the view of Acquaah, Amoako-Gyampah and Jayaram (2011), financial resilience under austerity is the ability of an organization to anticipate, prepare for, respond and adapt to incremental change and sudden unforeseen disruptions in order to survive and prosper by formulating suitable economic policies aimed at reducing budget deficits. According to Krugman (2013), policies grouped under the term 'austerity measures' may include cost reductions, income-increasing strategies or a mixture of both. These policies may be undertaken to demonstrate the firm's fiscal discipline to its creditors and regulatory agencies by bringing revenues closer to expenditures. Taylor (2013) suggested that financial resilience under austerity can be measured using tenets of adaptability, flexibility and financial robustness.

Adaptability

Adaptability refers to the ability of an entity or organisation to respond to the ever-changing circumstances in its operating environment (Pike, Dawley & Tomaney, 2010). It indicates the firm's ability to learn from its experience and improve its operations through formulation of effective strategies. It is worth noting that every organization has its own workplace culture that is strategically important for its survival and success. Therefore, firms need to be adaptive to respond to competition, changes in the market place and sport opportunities that may unfold in the course of operations.

Flexibility

According to Van-Mieghem (2007), flexibility is the ease with which customers consider doing business with a particular firm. Being easy to do business with, regardless of industry sector, has tremendous rewards as customers not only comment on the simplicity and efficiency of business systems and processes, but are also prepared to pay a higher price because of the quality of their customer experience. Flexibility is assessed using attributes such as access to information, simplicity and the friendliness of systems and procedures, as well as the willingness of the firm to make life easy for customers. All of this is premised on a profound understanding of the value that customers seek from the organization. Specifically, customers assess a firm's flexibility in terms of the four Cs: customer needs and wants, convenience factors, costs (and not just the monetary value but also aspects such as cognitive effort, time spent travelling) and communication (Pike, Dawley & Tomaney, 2010). Firms that are in position to satisfy these flexibility attributes command customer loyalty and this in turn translates into repeat sales that promote firm survival.

Financial robustness

Within the financial fraternity, financial robustness is the ability of a firm to remain effective and operational under tight and changing market conditions (Gondo & Orrego, 2011). It entails the strength, flexibility and pro-activeness that spell out a firm's continuity to provide products and services to its customers. It is worth noting that robust firms anticipate, create and spot opportunities that make them survive. A meta-analysis of 67 empirical studies in Denmark revealed that financial robustness is associated with firm survival (Huynh *et al.*, 2010). Additionally, robustness reduces the firm's vulnerability to shocks thereby raising investment and productivity that generates survival rates among firms.

2.5　Survival of firms

According to Liu and Pang (2013), firm survival is the ability of an enterprise to remain in existence and continue its operations consistently for an extended period. It is a proactive concept determined to ensure that an enterprise thrives despite the anticipated and unanticipated challenges that will emerge during its existence. Firm survival is important because the existence of a firm can provide wealth to the owners, generate employment, and attract investors on top contributing GDP to the government. In Liu and Pang (2013)'s view, survival of firms can be conceptualized in terms of gearing level, solvency and profitability as discussed below.

Gearing level

In financial management, gearing is the level of a company's debt related to its equity capital, usually expressed in percentage form (Delen, Kuzey & Uyar, 2013). It is a measure of a company's financial leverage and shows the extent to which its operations are funded by lenders versus shareholders. It is worth noting that whereas borrowing could be a cheap source of funds for many companies, a highly geared company is considered a risky investment by potential investors. This is because such a company has to pay more interest on loans and dividend on preferred stock and, therefore, may have to face problems in maintaining a good level of dividend for common stockholders during the period of low profits (Thachappilly, 2009). It is for this reason that banks and other financial institutions are reluctant to give loans to companies that are highly geared.

Liquidity

According to Elliott (2014), liquidity is a measure of the extent to which a person or organization has cash to meet immediate and short-term obligations, or assets that can be quickly converted to cash for immediate use. The amount of cash a company has on hand or can generate quickly

reveals how healthy the company is financially. Elevated levels of available cash indicate that the business can pay off debt easily when due dates occur. Cash at hand plays a significant role in all modern financial systems. To perform its activities effectively, firms must be safe and be perceived as such. The single most important aspect is for the economic value of a firm's assets to be worth significantly more than the liabilities that it owes. However, a firm can be solvent, holding assets exceeding its liabilities on an economic and accounting basis, and still die a sudden death if its shareholders and other funders lose confidence in the institution.

Profitability

According to Thachappilly (2009), profitability measures a company's ability to generate profits or positive net income for a given level of sales or investment. If a company is not profitable, it eventually becomes insolvent and may require reorganization or liquidation. The greater a company's ratio of net income to sales or investment, the stronger it is in financial terms. One example of a financial ratio that measures a firm's profitability is the profit margin ratio that measures the amount of net income a company generates relative to the amount of sales it generates. Another example of a financial ratio that measures profitability is return on Investment or ('ROI") which measures a firm's profitability relative to the amount of capital invested to generate that profitability.

2.6   Firm Characteristics and Survival of Firms

Several scholars have indicated that firm characteristics such as length of existence, size and firm diversification explain the variations in survival rates among firms. As such, there is a positive relationship between firm size and survival. For instance, a study by Klapper and Richmond (2011) concluded that firm size is a driving factor in the survival of firms, arguing that larger firms have a higher probability of survival than smaller ones. This is because bigger firms have

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production economies that smaller firms do not have, and this helps them generate more revenue that can be used to finance future operations. In the same way, Geroski, Mata and Portugal (2007) argued that bigger firms are presumed to be more efficient than smaller ones. Moreover, the market power and access to capital markets of large firms may give them access to investment opportunities that are not available to smaller ones and this helps them in achieving economies of scale.

In relation to the length of existence, firm age (measured as the number of years a company is operating in the market since it was founded) is an important determinant of firm survival. Past research shows that the probability of firm survival and firm failure varies with a firm's age (Yasuda, 2005). According to the life cycle effect, younger companies are more dynamic and more volatile in their growth experience than older companies are. Firms learn more precisely their market positioning, cost structures and efficiency levels. These attributes act as cornerstones towards the survival of firms. From these results, it can be noted that firm characteristics explain the survival or failure of firms.

Meanwhile, the issue on whether and how diversification affects organizational survival has been extensively investigated in empirical research for over the last four decades or so. Literature indicates a positive relationship between diversification and firm survival. For instance, Berger *et al.*, (2005), support this view by explaining further that if related diversification were continued over a period of 3 to 5 years, the survival levels would stabilize.

Contrarily, survival of firms being a multidimensional construct, some scholars have indicated that it takes more than firm size, age of existence, location and diversification. For instance, Madhoushi and Rezaee (2014) argued that managerial competence is key to the existence of a

firm arguing that the initial size of the firm is negatively associated with the company's likelihood of exit. Therefore, if these characteristics are not coupled with management commitment, it may not be possible to register positive outcomes in survival of firms. As such, the relationship may not exist in such circumstances. Therefore, given this controversy, it is difficult to conclude that the two variables are significantly related.

2.7   Innovation and Survival of Firms

Over the past three decades, there has been a great deal of interest in using innovative activities like R&D, technology adoption as well as patent and intellectual property to explore their influence on firm survival. Academics tend to view survival as important because they want to understand the reasoning and rationale why some firms have superior business survival prospects and fit within the economic environment compared to others that either do not grow or do not survive. According to Fontana and Nesta (2009), firms compete on technological advances more than ever, and productivity improvements are becoming increasingly important in maintaining their competitiveness. This explains the relevance of innovation to the survival of a firm. A study by Floyd (2016) among 4,928 American start-ups from 2004 to 2011 revealed that firms that invest in research and development (R&D) and machinery and equipment persistently are more likely to survive than those that do not, or those that only invest once in these types of innovative business activities. Also, concerning intellectual property (copyrights, trademarks and patents), firms that hold these types of intellectual property have a better chance of survival than those that do not hold any intellectual property.

Moreover, when one thinks of innovation, it is often associated with R&D as the R&D process is so closely linked to innovation activities. Looking specifically at R&D, Lilischkis (2011) reports that the intensity of R&D expenditure increases the survival probability, and that this effect is

stronger for firms that do not patent than for firms that do. Fontana and Nesta (2009) report related results, in that the effect of R&D intensity is positive on firm survival. In a related study, Cole and Sokolyk (2016) found out that firms that invest in R&D activities experience a 57 per cent lower exit risk than firms that do not. Therefore, innovation is a critical determinant for firm survival.

With regards to intellectual property, Garnsey, Stam and Heffernan (2006) suggested that intellectual property is an extension of innovation and as such, it is important to understand any potential relationships between intellectual property and survival as well. Helmert and Rogers (2008) analyzed the survival of approximately 162,000 British firms in 2001 over a five-year period and noted that intellectual property is positively associated with a higher probability of firm survival. Notably, national patents and trademarks are significant in improving firm survival. Likewise, Buddelmeyer, Jensen and Webster (2010) looked at 300,000 Australian firms and found out that past successful radical innovations, as proxied by the stock of patents and incremental innovation investment (new-to-company), measured by trademark applications, are associated with higher firm survival rates.

On the other hand, other scholars have reported contradictory results on the relationship between innovation and survival of firms. This problem can be attributed to the quantitative measurement of the qualitative variables of innovation and the inherent uncertainty of innovation. Whereas studies indicate that corporate R&D has a positive effect on firm survival as postulated by Roper (2007) and Freel (2010), other empirical studies show that R&D investment has a negative effect on firm survival (Bottazzi *et al.*, 2011). Hyytinena, Pajarinenb and Rouvinenb (2015) indicated that innovation in some markets might not be appreciated and adopted quickly by consumers.

Products and services are adopted at different paces and companies need to understand how quickly something will be adopted to produce the right offerings to their consumers. Moreover, innovations do not always work and are not always embraced by consumers.

2.8   Financial Resilience Under Austerity and Survival of Firms

There is consensus among academic scholars that, in this ever-changing business environment, firms must be resilient and austere to survive. This is because resilient firms as well as those operating under austerity have financial robustness, anticipatory capacity, awareness, flexibility and recovery ability, attributes that determine the survival of firms in the unpredictable market place and stimulates responses to financial shocks (Taylor, 2013). In the same way, Nkonoki (2010) indicated that organizational resilience could help a business to harness the competition, embrace opportunities and pass the test of time. Furthermore, Audretsch and Lehmann (2014) articulated that to ensure lasting success and protect themselves from growing threats, firms must become resiliently austerile. Likewise, Geroski, Mata and Portugal (2007) also noted that risk and uncertainty create distinct challenges for the survival and effectiveness of firms. Hence, firms must be adaptive in their operating environment to survive and to remain fit for purpose. In this way, organizational resilience under austerity underpins enviable business health prospects and priceless risk management benefits that boost business survival. From this observation, the link between financial resilience under austerity cannot be overemphasized.

Besides, early adopters of resilience have demonstrated how they can augment traditional risk management practices with new competencies that help them anticipate, prepare for and recover from disruptions and in some cases, treat disasters as an opportunity for gaining advantage by responding faster than their competitors (Acquaah, Amoako-Gyampah & Jayaram, 2011). In a

turbulent world, consistent firm profitability cannot be realized from a smooth trajectory, but rather from continuous adaptation to changing conditions, which makes the aspect of financial resilience under austerity a crucial one.

A study by Gibb and McNully (2014) concluded that financial resilience is one the of the rare business phenomenon that firms seek to survive. However, whereas there is always an essential element of risk management in financial resilience, it should equally be focused on business improvement. As such, financial resilience is not a defensive strategy, but a positive, forward-looking "strategic enabler", which allows business leaders to take measured risks with confidence. Robust and resilient organisations are flexible and proactive at seeing, anticipating, creating and taking advantage of new opportunities to pass the test of time. By demonstrating that a firm can survive in conditions of financial resilience under austerity, management is also showing that it is reliable, trustworthy and part of a company that others would want to do with business. Consistent with Gibb and McNully (2014) study findings, Berman, De-Sousa, Martin and Mayer (2012) suggested that financial resilience under austerity is associated with established activities like risk and crisis management and business continuity planning, which are vital in firm survival.

2.9 Mediating Effect of Financial Resilience Under Austerity on Firm Characteristics, Innovation and Survival of Firms

The increasing failure of firms to survive in both developed and developing countries has made the aspects of firm characteristics and innovation a topical issue. For instance, Smallbone, Deakins, Battisti and Kitching (2012) argued that firm characteristics especially length of existence and firm size enable organizations to build strong processes and structures that are vital

in promoting flexibility in the firm's operations. With flexible operations, a firm is able to use its resources efficiently and this promotes its financial robustness in the end. Lending support to this argument, Pike, Dawley and Tomaney (2010) observed that flexibility in firm survival includes an organization's ability to adjust (what it does, how it does and when it does) to changes in the operating environment and to respond to changes in a timely manner. Barbera, Jones, Saliterer & Steccolini (2014) consequently applauded this view by stating that firms operating in conditions of financial resilience under austerity apply flexibility practices to generate a compromise between fixed constraints and firm norms defined by the policies and procedures put in place. Thus, in an economy marked by many unpredictable changes, it is only those firms capable of using their inherent characteristics to face and adjust to these transformations that can survive.

In relation to firm innovation, the innovative ability of a firm plays an integral role in promoting financial resilience under austerity and its dimensions are especially significant in understanding the potential benefits of its contribution. Notably, Filippetti and Archibugi (2011) indicated that through its tenets of R&D, technology intensity as well as patents and intellectual property, firm innovations create the adaptive capabilities necessary to keep firms operating under tight financial conditions. Similarly, as Roper (2007) noted, markets are ever changing entities, and everything is changing rapidly. According to him, change is driven by consumers who demand more and more, by competitors who continuously come up with new offerings to satisfy the needs of the consumers and by technology that is growing day by day. This argument therefore suggests that there is a relationship between firm innovation and financial resilience under austerity. From the foregoing discussion, it is clear that a firm has to be innovative in order to remain resilient under conditions of austerity since innovation is a critical determinant for business survival.

On the contrary, Freel (2010) indicated that innovative companies and pioneers do not always succeed, as their way of thinking in terms of achieving a competitive advantage can be costly, disruptive and time consuming. Firms, by constantly trying to keep up with the evolving technology and by constantly creating and offering new products and services, some consumers can lose their interest in the firm and be turned off by its offerings thereby creating a negative relationship with resilience under austerity.

2.10   Firm Characteristics, Firm Innovation, Financial Resilience Under Austerity and Survival of Firms

Studies investigating the relationship between firm characteristics, firm innovation, financial resilience under austerity and survival of firms are rare and the literature is scanty. This study tries to bridge this gap by examining how these variables are interlinked in a single study. Nevertheless, proponents of firm innovation and financial resilience under austerity argue that these two variables are intertwined and their combination influences austerity outcomes, which in turn promotes firm survival (Filippetti & Archibugi, 2011). As such, the attributes have become the defining ambition of most firms worldwide and are considered the principle lever for increasing growth through driving efficiencies and creativity.

According to Raz and Gloor (2007), firm characteristics, innovation and financial resilience have become critical concepts for achieving success among firms. The need for creative problem solving has arisen as more and more management problems require creative insights in order to find suitable solutions. This is in line with Kitching, Blackburn, Smallbone and Dixon (2009) who noted that financial resilience under austerity and innovation within a well-run company have always been recognized as a sure path to success. Thus, stimulating innovation and exploring completely new methods of adapting to situations results into increasing the

probability of survival for the firm. Likewise, encouraging the employees to think outside of the box and giving them time and resources to explore new areas for innovative ideas is the key to the long-term survival for firms.

CHAPTER THREE

METHODOLOGY

3.1   Introduction

This chapter provides the methodological aspects of the study. It provides the research design, study population, sample size and selection techniques, data sources, data collection instrument, validity and reliability, data processing and analysis, measurement of variables, ethical issues and limitations of the study.

3.2   Research design

This study adopted a cross-sectional research design and applied a quantitative research approach in the analysis of results. This research design was selected because it enabled the researcher to collect data to make inferences about a population of interest at one point in time or just once in a snapshot. On the other hand, a quantitative research approach allowed the collection of numerical data to give facts on a given phenomenon.

3.3   Study population

The study was carried out among financial institutions operating within Kampala. This study area was chosen because of available statistics indicating the increasing trend of collapsing institutions with indicators showing financial institutions becoming vulnerable to financial shocks and applying for government bailout to continue operating. According to Bank of Uganda Supervisory Report (2015), there were 25 commercial banks and 4 Microfinance Deposit Taking Institutions (MDIs) while the Insurance Regulatory Report (2015) indicated that there were 22 insurance firms by close of 2015. This put the total number of financial institutions for this study at 51. These categories were selected because they are the most dominant in the market while

Credit Institutions (Cl's) are also dominant, they were left out because examination findings by Bank of Uganda (Mutebile 2005) revealed weaknesses/concerns related to strategic and corporate governance, credit and operational risks which would affect the study since the unit of inquiry was top management.

3.4   Sample size and selecting techniques

From the 51 institutions, the researcher sampled 44 firms. This number was derived using Krejcie and Morgan (1970) table for determining the sample size from a known population. According to Krejcie and Morgan (1970), a sample size of 44 institutions was representative of 51 financial institutions. The 44 were obtained using stratified sampling. 21 were selected from commercial banks, 4 from MDIs and 19 from insurance companies. Conclusions were made from items in each stratum. From these institutions, the researcher targeted 1 finance officer, 1 operations manager, 1 risk manager and 1 chief executive officer/general manager, bringing the total number of potential respondents at 176. These positions were considered because they were the ones responsible for designing strategies for innovation and formulating policies that ensure the long-term survival for their firms. As such, they were deemed suitable to provide objective responses to the questions in this study. The responses from the sample are explained in the subsequent sections that follow hereunder.

3.4.1   Response rate

From the 44 financial institutions that were sampled, the researcher was able to successfully collect data from 21 banks, 4 MDIs and 15 insurance companies, giving a response rate of 40 (90.9%) against the 4 (9.1%) that never returned the questionnaires. These results are summarized in Table 1.

Table 1: Response rate

Category	Target	Response	Percentage	No. of questionnaires collected
Banks	21	21	52.5	81
MDIs	4	4	10	14
Insurance Companies	19	15	37.5	48
Total	**44**	**40**	**100**	**143**

Source: Primary data

3.4.1.1 Firm characteristics

The study obtained information in relation to annual turnover, duration, number of employees, branch network, number of products and services as well as category. The results obtained are summarized in Table 2.

Table 2: Characteristics of Financial Institutions

Characteristic	Freq (n=40)	Percent
Annual Turnover		
UGX 201M-400M	10	25
UGX 401M-600M	18	45
UGX 601M & above	12	30
Duration of Institution		
5 years & less	2	5
6-10 years	11	27.5
11 years & above	27	67.5
Number of Employees		
Less or equal to 50	4	10
51-100 employees	20	50
100 & above	16	40
Branch Network		
Less than 6	2	5
6-10 branches	7	17.5
11-15 branches	16	40
More than 15	15	37.5
Number of products and services		
5 & below	2	5

6-10	10	25
More than 10	28	70
Category of Financial Institution		
Banking	25	62.5
Insurance	15	37.5

Source: Primary data

Table 2 indicates that majority of the financial institutions' turnover ranges between UGX 401M and UGX 600M (45%). Most financial institutions have also been in existence for at least 11 years (67.5%) signifying stability of the sector. In relation to the number of employees, the results obtained indicate that most financial institutions employ more than 100. Results further indicate that most financial institutions have between 11 and 15 branches which implies that the outreach of financial services in Uganda is still low. In addition, the results reveal that financial institutions in Uganda are offering more than 10 products and services to customers (70%), which implies financial services diversification within the industry. Lastly, most of the financial services in Uganda are within the banking sector (62.5%) compared to 37.5% engaged in insurance. This implies slow growth of insurance in Uganda.

3.4.1.2 Respondents Characteristics

The individual characteristics of gender, position, age bracket and education level were ascertained. The results are summarized in Table 3.

Table 3: Respondents Characteristics

	Frequency	Percent
Gender		
Male	73	51
Female	70	49
Position		
C.E.O/Gen Manager	32	22.4
Operations	39	27.3
C.F. O	39	27.3
Risk Officer	33	23.1
Age Bracket		
24 or less	1	0.7
25-34 years	56	39.2
35-44 years	53	37.1
45-54 years	28	19.6
55 or more	5	3.5
Education Level		
Diploma	16	11.2
Degree	65	45.5
Masters	59	41.3
PhD	2	1.4
Others	1	0.7

Source: Primary Data

Table 3 indicates that the number of male was almost like that of female respondents. Male respondents were slightly higher (51%) than females (49%). The results could imply gender equality within the employment framework financial institutions in Uganda. In addition, it is obtained that the number of Operations and Chief Finance Officers who participated in the study were the same (27.3%). In relation to age of respondents, majority ranged between 25-34 years, which implies that most financial institutions are more interested in employing young people. This could be due to the aggressive, creative and innovative nature of young people as opposed to old staff. Results also indicate that most employees in financial institutions are degree holders

(45.3%) although a significant number (41.3%) possess master's degree. The high master's degree respondents could signal career development opportunities offered by financial institutions in Uganda.

3.5   Data sources

The study used only primary data. Primary data is the first-hand data collected from the field. This data is only obtained using data collection tools of questionnaires filled by respondents. Primary data was preferred because such data is original and provided a better understanding of the current trends on firm characteristics and survival of firms. Amin (2005) also supported the use of primary data by emphasizing that such data is relevant in minimizing duplication and helps to gather enough information to fully explore a topic.

3.6   Data collection instrument

Under this study, data was collected using the questionnaire guide. The questionnaire aimed at identifying respondents' demographics as well as their knowledge on study variables of innovation, financial resilience under austerity and firm survival. Furthermore, each question set in the data collection instrument was structured in line with the specific objectives of the study.

3.7   Validity and reliability

This study ensured validity of the questionnaires using expert judgment technique where the questionnaires were presented to experts for review. Their suggestions formed a basis on areas of improvement until a final instrument to be used in the field was got. This helped in minimizing errors. Amin (2005) suggested that a content validity index of 0.7 qualifies the questionnaire a valid instrument for use. On the other hand, reliability of the study variables was ensured by pilot testing on 5-10 respondents to gauge their responses on the questions raised in the questionnaire.

Furthermore, the reliability threshold was based on a Cronbach Reliability Coefficient. According to Cronbach, a coefficient of 0.7 or more is adequate to generalize the study findings. The validity and reliability statistics are indicated in Table 4.

Table 4: Validity and reliability statistics

Study variables	Number of items	Cronbach's Alpha coefficient	Content validity index
Innovation			
Research & development	7	0.952	0.714
Technological intensity	6	0.706	0.833
Patents & intellectual property	7	0.701	0.714
Financial resilience under austerity			
Adaptability	5	0.708	0.800
Flexibility	9	0.714	0.778
Financial robustness	6	0.727	0.833
Firm survival			
Gearing	5	0.723	0.800
Liquidity	6	0.720	0.833
Profitability	7	0.712	0.714
Total/Average	**58**	**0.740**	**0.780**

Source: Primary data

Results show all sub-variables of innovation, financial resilience under austerity and survival exceed the minimum acceptable value of alpha=.7 as presented in Table 4 (Nunnally, 1978). Therefore, the results were reliable and therefore fit to be based upon to make conclusions and recommendations. The content validity index also portrays that each construct fulfills the threshold coefficient=.7 (Field, 2009). Henceforth, the results were fit for generalization.

3.8   Data processing and analysis

After obtaining the required data from the field, it will be sorted, coded and tabulated using the Statistical Package for Social Scientists (SPSS v20) to facilitate quick analysis and presentation of the data. Thereafter, frequency tables and graphs, descriptive statistics of mean and standard deviation as well as inferential statistics of correlation and regression were extracted to give meaningful and reliable interpretations.

3.9   Measurement of variables

Consistent with Madhoushi and Nasiri (2011), firm characteristics were conceptualized in terms of age of existence, firm size and diversification. Meanwhile, Floyd (2016) suggested that innovation among firms could best be measured in terms of R&D, technology intensity as well as patents and intellectual property. These measures were equally adopted under this study. Furthermore, financial resilience under austerity was measured using tenets of adaptability, flexibility and financial robustness as was highlighted by Taylor (2013). On the other hand, Liu and Pang (2013) indicated that survival of firms could be analyzed using attributes of gearing level, liquidity and profitability. According to them, these attributes are true measures of firm survival. All these items were anchored on a three point Likert scale of 1-for yes, 2-for neutral and 3-for no responses. Jacob and Michael (1971), using findings from three critical ratio computations, indicated that the difference in the validity and reliability of the results were non-significant, demonstrating that, regardless of the number of steps originally employed to collect the data, conversion to dichotomous or trichotomous measures does not result in any significant decrement in reliability or validity. Therefore, provided an adequate number of items are contained on the inventory, increasing the precision of measurement does not lead to greater reliability or validity. The evidence indicates that both reliability and validity are independent of

the number of scale points used for Likert-type items. A summary for the measurement of the

study variables is indicated in Table 5.

Table 5: A table showing measurement of variables.

No.	VARIABLE *Global Variable*	*Dimensions*	Measurement	Definitions	Sample Item Scales
1	**FIRM CHARACTERISTICS**	Firm Age	Measurement of variable from financial statements	Firm age denotes the number of years a company has been operating in the market since it was founded (Kaguri, 2013).	For how long has this institution been in operation?
		Firm size	Measurement of variable from financial statements	The size of the firm reflects how large an enterprise is in infrastructure and employment terms. Firm size is one of the most influential characteristics in organizational studies. McMahon (2011)	What is the total number of employees in this institution?
		Firm Diversification	Measurement of variable from financial statements	Diversification strategy is a technique used by a firm to broaden company's activities by increasing services, markets and products it offers to its customers whilst identifying and assessing the potential risks that could affect a diverse array of investments in a portfolio. Hao *et al.*, (2011)	How many products/services do you offer?
2	**INNOVATION**	R&D	Respondents mean rank of 7 items of information included in a questionnaire on a 3-point Likert scale	Research and development (R&D) is one of how a business builds its survival through developing new products or processes to improve and expand its operations. Laycock (2016),	We periodically conduct customer satisfaction surveys
		Technology Intensity	Respondents mean rank of 6 items of information included in a questionnaire on a 3-point Likert scale	Technological intensity is the degree to which machines and technology substitute for autonomous human action in a production and operational activities of a firm (Freel, 2010).	Our clients find our products and services easy to use
		Patent & Intellectual Property	Respondents mean rank of 7 items of information included in a questionnaire on a 3-point Likert scale	Patents are industrial processes and inventions used by organizations to protect their products against the unauthorized use and access. According to Jensen and Webster (2010),	We have a registered trade mark that symbolizes our products and services
3	**FINANCIAL RESILIENCE UNDER AUSTERITY**	Adaptability	Respondents mean rank of 5 items of information included in a questionnaire on a	Adaptability refers to the ability of an entity or organization to respond to the ever-changing circumstances in	In our institution, we respond easily to competitive pressure from our

			3-point Likert scale	its operating environment (Pike, Dawley & Tomaney, 2010).	rivals
		Flexibility	Respondents mean rank of 9 items of information included in a questionnaire on a 3-point Likert scale	According to Van-Mieghem (2007), flexibility is the ease with which customers consider doing business with a particular firm.	Our customers consider us easy to do business with
		Financial Robustness	Respondents mean rank of 6 items of information included in a questionnaire on a 3-point Likert scale	Financial robustness is the ability of a firm to remain effective and operational under tight and changing market conditions (Gondo & Orrego, 2011).	We normally experience budget cuts in our operations
4	**SURVIVAL OF FIRMS**	Gearing level	Respondents mean rank of 5 items of information included in a questionnaire on a 3-point Likert scale	Gearing is the level of a company's debt related to its equity capital, usually expressed in percentage form (Delen, Kuzey & Uyar, 2013).	We finance most of our operations through borrowed funds
		Liquidity	Respondents mean rank of 6 items of information included in a questionnaire on a 3-point Likert scale	According to Elliott (2014), liquidity is a measure of the extent to which a person or organization has cash to meet immediate and short-term obligations, or assets that can be quickly converted to cash for immediate use.	In our institution, we have adequate liquidity levels to finance day to day activities
		Profitability	Respondents mean rank of 7 items of information included in a questionnaire on a 3-point Likert scale	According to Thachappilly (2009), profitability measures a company's ability to generate profits or positive net income for a given level of sales or investment.	Our institution has declared dividends for the previous financial years

Source: Literature review (Floyd, 2016; Liu & Pang, 2013; Madhoushi & Nasiri, 2011; Taylor, 2013; Spaliara & Tsoukas, 2013) and modified by the researcher

3.10   Ethical issues

To increase the confidentiality of respondents, the researcher got a letter of introduction from the faculty of graduate studies and research authorizing her to collect data. This letter was presented to the administrations of the different institutions that the researcher collected data from. In addition, the researcher informed the respondents of their voluntary participation in the study. All willing participants were informed of their freedom to either participate or reject. Besides, to maintain confidentiality at its best, the data collection instruments were designed without

indicating an option for the name. In this way, participants responded to the questionnaires well knowing that the responses were not be linked to them individually. Besides, the researcher also designed a flexible schedule where the questionnaires were picked from the respondents on appointment to avoid interfering non-participants.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1   Introduction

This chapter provides the presentation, analysis and interpretation of findings based on the objectives of the study which were: to identify the relationship between firm characteristics and survival of financial institutions, establish the relationship between innovation and survival of financial institutions, assess the relationship between financial resilience under austerity and survival of financial institutions, ascertain the relationship between firm characteristics, innovation and financial resilience under austerity as well as to examine the combined relationship between firm characteristics, innovation, financial resilience under austerity and survival of financial institutions. In addition, this section also analyzed the descriptive statistics in respect to the study variables.

4.2   Descriptive Statistics

The study obtained average mean and standard deviation for each of the study variables. The essence was to establish the extent to which respondents agreed or disagreed with the different notions under each construct. The obtained results are shown in Table 6.

Table 6: Descriptive Statistics for Study Variables

Variable	Mean	Std. Deviation
Innovation	1.74	0.82
Financial Resilience	1.74	0.78
Survival	1.73	0.82

Source: Primary Data

Table 6 indicates average mean and standard deviation values in relation to the study variables. The mean values ranged between 1.73 to 1.74, suggesting that most of the responses obtained in relation to the statements disagreed. The average SD in relation to the variables of innovation, financial resilience and survival ranged between 0.78 and 0.82 which implies a moderate variability of responses away from the respective mean values. Hence, responses provided were free from bias due to the exhibited certainty.

4.3   Inferential statistics

Correlation and regression analysis were carried out. Correlation analysis was used to establish the relationship between firm characteristics, innovation, financial resilience under austerity and survival of firms. On the other hand, regression analysis was obtained to determine the combined relationship between firm characteristics, innovation, financial resilience under austerity and survival of firms.

4.3.1   Correlation analysis

Correlation analysis was used to determine the relationship between the indicated variables. A correlation analysis is a statistical function used for testing a relationship between two or more variables. That said, the coefficient of correlation (r) is used to determine whether the relationship is perfect, strong, moderate or weak and the value ranges between (-1 and 1). In this research, *positive and negative correlation* is used to indicate the nature of the relationship alongside the strength of the relationship. Furthermore, a coefficient equal to 1 it indicates a perfect positive relation. Where the coefficient is somewhere between 0.6-1, it is a strong relationship while between 0.3-0.6 it entitles a moderate relationship and 0.1-0.2 indicates weak relationship. The results obtained are summarized in Table 7.

Table 7: Pearson correlation coefficients

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Turnover (1)	1																	
Firm Age (2)	.134	1																
Employees (3)	.297**	.386**	1															
Branches (4)	.222**	.366**	.822**	1														
Products (5)	.288**	.232**	.567**	.640**	1													
Category (6)	-.377**	-.341**	-.258**	-.327**	-.378**	1												
R&D (7)	.086	-.034	-.249**	-.294**	-.403**	.044	1											
Tech. intensity (8)	.214*	-.391**	-.004	-.017	-.162	.102	.015	1										
Patents (9)	-.048	.073	-.219**	-.125	-.086	-.027	.031	.047	1									
Innovation (10)	.149	-.193*	-.272**	-.270**	-.405**	.072	.725**	.545**	.482**	1								
Adaptability (11)	-.114	-.409**	-.110	-.133	-.116	.271**	-.003	-.017	.087	.027	1							
Flexibility (12)	.175*	.080	.149	.132	.200*	-.269**	.035	.156	-.161	.035	-.193*	1						
Fin. Robust (13)	.086	-.118	-.173*	-.066	-.135	.108	.085	-.027	.344**	.196*	.281**	-.286**	1					
Fin. Res. (14)	.073	-.286**	-.121	-.065	-.075	.115	.075	.041	.225**	.172*	.696**	.131	.751**	1				
Gearing (15)	.439**	-.080	-.070	-.104	-.058	-.183*	.038	.242**	.200*	.238**	.132	.039	.226**	.256**	1			
Liquidity (16)	.278**	.144	.136	.269**	.194*	-.277**	-.084	-.039	.177*	-.002	-.111	-.291**	.277**	.004	.218**	1		
Profitability (17)	.269**	-.045	-.170*	-.058	-.192*	-.192*	.241**	.491**	.247**	.529**	.030	-.012	.275**	.209*	.454**	.080	1	
Survival (18)	**.463****	.007	-.053	.047	-.031	-.306**	.096	.333**	.295**	**.368****	.025	-.121	.367**	**.223****	.787**	.600**	.735**	1

**p (two-tailed) values are < 0.01, p (two-tailed) values are <0.05

Source: Primary Data.

4.3.1.1 Firm Characteristics and Firm Survival

The first objective of the study sought to examine the relationship between firm characteristics and survival of financial institutions. The firm characteristics considered were turnover, firm age, number of employees, branches, products and category. Table 7 indicate a significant and positive relationship between turnover and survival (r=.463, p<0.01). According to this statistic, improvement in turnover would enhance survival of financial institutions. The results further indicate a significant and negative relationship between firm category and survival of financial institutions (r=-.306, p<0.01). Henceforth, the result implies that category would negatively impact survival of financial institutions. Correlation results of (r=.007) in regard to firm size, r=-.053 in relation to number of employees, r=.047 for number of branches and r=-.031 in relation to number of products were obtained in association with survival of financial institutions. The results signify that firm characteristics of firm size, branches, employees and number of products are not statistically significant in survival of financial institutions. The above results provide answers to research question one.

4.3.1.2 Innovation and firm survival

Table 7 indicates a significant and positive relationship between innovation and survival of financial institutions (r=.368, p<0.01). The results portray that increased innovation would be associated with survival of financial institutions. The study further indicates significant and positive relationship between innovation constructs of technology intensity (r=.333, p<0.05), patents (r=.295, p<0.01) and survival of financial institutions. On the contrary, results presented indicate that research and development is insignificant in the survival of financial institutions (r=.096). Henceforth, the results imply that except research and development, improvement in

patents and technology intensity is likely to enhance survival of financial institutions. These results address research question two.

4.3.1.3 Financial Resilience Under Austerity and Firm Survival

Correlation results presented in Table 7 indicate a significant and positive relationship between financial resilience under austerity and survival of financial institutions ($r=.223$, $p<.01$). The results signify that financial resilience under austerity is necessary in enhancing survival of financial institutions. Worth noting, financial resilience under austerity had sub-components of adaptability, flexibility and financial robustness. The results indicate a correlation ($r=.367$) at a 99% significance level ($p<.01$) in relation to the construct of financial robustness and survival. In other words, the results indicate that improvement in financial robustness would improve survival of financial institutions. On the other hand, the results reveal that the constructs of adaptability and flexibility are insignificant when it comes to the survival of financial institutions. The statistics indicate ($r=.025$) and ($r=. -121$) respectively. The results imply that improvement in adaptability by financial institutions is not necessary in enhancing survival. On the other hand, the results indicate that enhancement in flexibility would decline survival of financial institutions, although such decline would be insignificant. The above results therefore address research question three.

4.3.2   Regression analysis

Multiple regression and hierarchical regression models were obtained to establish the degree of predictability and examining the mediating relationship of financial resilience under austerity.

4.3.2.1 Predictive Potential of Study Variables

Multiple regression analysis was carried out to examine the relationship between firm characteristics, innovation, financial resilience under austerity and survival of financial institutions to establish the prediction potential of the variables in explaining variances in the dependent variable. The study used the Durbin-Watson regression method. The obtained results are indicated in Table 8.

Table 8: Regression analysis for the study variables

Variables	Unstand. B	Std Err	Std B	t-value	Sig.
(Constant)	.793	.286		2.772	.006
Financial Resilience	.218	.102	.151	2.140	.034
Innovation	.258	.084	.239	3.071	.003
Turnover	.120	.024	.400	5.077	.000
Period	.005	.033	.011	.143	.886
Employees	-.110	.041	-.332	-2.689	.008
Branches	.078	.032	.319	2.472	.015
Products	-.052	.036	-.141	-1.451	.149
Category	-.099	.036	-.220	-2.776	.006

a. Dependent Variable: Firm survival

Notes. Number of obs = 143; F =11.699; Prob = 0.000; R = .641, R^2= 0.411; Adj $R2$ = .376; Durbin–Watson = 0.607.

Source: Primary Data.

Table 8 revealed F=11.699, Sig.<.05 in relation to firm characteristics, innovation and financial resilience under austerity which implies statistical significant predictability of the model. Henceforth, the regression model is fit to be based upon to make conclusions and recommendations. The results obtained Adj $R2$ = .376 in relation the independent variables towards the dependent variables. The result implies that jointly firm characteristics, innovation

and financial resilience under austerity explain 37.6% of the variance in survival of financial institutions while other variables which were not considered in the study explain 62.4%.

Results in relation to the standardized coefficients indicate β= .151, t=2.141, p< .05 for financial resilience and β=.239, t=3.071, p<.05 for innovation. These results imply that both financial resilience and innovation are significant predictors of survival of financial institutions. The t-values further reveal that innovation is a better predictor of survival of financial institutions. In relation to firm characteristics, standardized coefficients for turnover revealed β= .400, t=5.077, p<.05, period (β= .011, t=.143, p> .05), number of employees (β= -.332, t= -2.689, p<.05) and (β= .319, t=2.472, p<.05) in relation to number of branches. Furthermore, (β=- .141, t=-1.451, p>.05) and (β=- .220, t=-2.776, p<.05) were obtained in relation to the number of products and the category respectively. These statistics imply that the firm characteristics which significantly predict survival of financial institutions are turnover, number of employees, number of branches and category. The results further reveal that the most significant characteristic predictor of survival of financial institutions is turnover.

4.3.2.2 Testing the Mediating Effect

This study used hierarchical multiple regression model to examine the mediating effect of financial resilience under austerity on firm characteristics, innovation and survival of firms. The analysis was further used to check whether the conditions suggested by Baron and Kenny (1986) who indicated that a mediating effect occurs when an independent variable influences the dependent through its effects or because of a mediator variable are satisfied. The *Med Graph* program was also used to illustrate the significance of mediation role of financial resilience

under austerity on the on firms' characteristics, innovation and survival of firms. The results are

displayed in Table 9 and Figure 2 correspondingly.

Table 9: Mediating Effect of Financial resilience under austerity

Model		Unstandardized Coefficients		Standardized Coefficients	F-value	r2	Adj r2	Δr
		B	Std. Error	Beta				
1	(Constant)	1.711	.151					
	Turnover	.148	.023	.496**				
	Duration	-.018	.031	-.044				
	Employees	-.138	.042	-.417				
	Branches	.096	.033	.395				
	Products and Services	-.094	.035	-.254				
	Category	-.093	.037	-.208**	11.68	0.340	0.311	0.34
2	(Constant)	1.138	.226					
	Turnover	.124	.024	.418				
	Duration	-.008	.030	-.019*				
	Employees	-.121	.041	-.366**				
	Branches	.087	.032	.357**				
	Products and Services	-.050	.036	-.137**				
	Category	-.091	.036	-.203				
	Innovation	.280	.084	.258**	12.31	.389	0.358	0.050
3	(Constant)	.775	.280					
	Turnover	.118	.023	.398				
	Duration	.007	.031	.018				
	Employees	-.112	.041	-.338				
	Branches	.079	.032	.325				
	Products and Services	-.050	.036	-.135				
	Category	-.098	.035	-.218				
	Innovation	.262	.084	.242**				
	Financial Resilience	.220	.102	.152**	11.65	0.410	0.376	0.021

a. Dependent Variable: Firm survival

b. Predictors: (Constant), Firm Characteristics

c. Predictors: (Constant), Firm Characteristics, Innovation

d. Predictors: (Constant), Frim Characteristics, Innovation, Financial Resilience

Note: N=143, *. $p<.05$, **.$p<.01$, sig^b=.000, sig^c=.000, sig^d=.000

Source: Primary Data
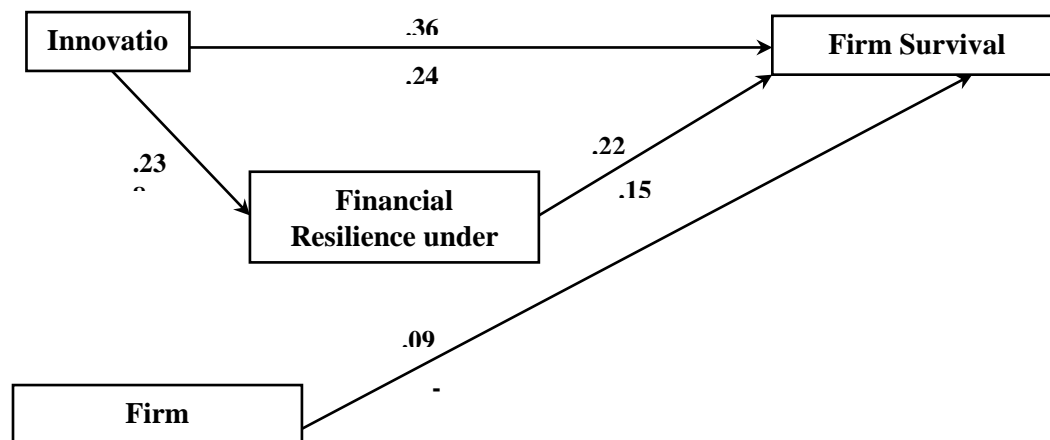
Figure 2: The Med Graph illustrating mediation of financial resilience under austerity on firm characteristics, innovation and firm survival

Note: Type of Mediation: Partial; Durbin-Watson=.607 Sig.=.000 Direct= .242; Indirect=.126.

From Table 9 and Figure 2, it is evident that the three conditions for mediation as suggested by Baron and Kenny (1986) are satisfied. First, the effect or relationship to be mediated is existent as noted by (r^2 =.340, F =11.68, $p < 0.05$) in relation to firm characteristics and (r^2 =.389, F =12.31, $p < 0.05$) in regard to innovation. Secondly, the model indicates that there exists a relationship between firm characteristics, innovation and financial resilience under austerity (r^2= .410; F= 11.65, $p < 0.05$). Thirdly, the beta coefficient of the mediator is significant in regression model 3 (β= .152; p<0.01) when firm characteristics, innovation and financial resilience under austerity are regarded as independent variables. Lastly, there is a reduction in the effect of innovation in the regression on survival of firms where financial resilience to austerity is included in the model (β=.258 to β=.242). However, the effect of firm characteristics on the survival of firms indicate a positive change (average β=-.01 to average β=.008). At this point, it is conclusive that financial resilience under austerity does not matter in the mediation of the

relationship between firm characteristics and survival of firms. Rather, financial resilience under austerity matters in the relationship between innovation and survival of firms.

The results of Durbin-Watson indicate in Figure 2 point to partial type of mediation, in view of the fact that the supreme effect of innovation on survival of firms is reduced to a considerable and significant level (β =.258** to β =.242**). These results demonstrate significant mediation of financial resilience under austerity on firm characteristic, innovation and survival of firms. Finally, the ratio index or proportional index of 6.2 percent derived by (0.016/0.258*100) means that 6.2 percent of the effect of innovation on survival of firms goes through financial resilience 93.8 percent of the effect is direct. The statistic of Δr =.021 reveal that financial resilience under austerity would bring about 2.1% change in survival of firms on the overall 38.9% (Adj r^2=.389) which would change because of firm characteristics and innovation.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION OF FINDINGS

5.1   Introduction

This chapter provides the presentation, analysis and interpretation of findings based on the objectives of the study which were: to identify the relationship between firm characteristics and survival of financial institutions, establish the relationship between innovation and survival of financial institutions, assess the relationship between financial resilience under austerity and survival of financial institutions, ascertain the relationship between firm characteristics, innovation and financial resilience under austerity as well as to examine the combined relationship between firm characteristics, innovation, financial resilience under austerity and survival of financial institutions. In addition, this section also analyzed the descriptive statistics in respect to the study variables.

5.2   Discussion of Findings

5.2.1   Firm Characteristics And Firm Survival

The findings noted that there are specific firm characteristics which are positively associated with firm survival. While there are many firm characteristics, the focal characteristics considered in this study related to turnover, firm age, number of employees, branches, products and category. The findings herein observed a positive relationship between turnover and survival. These findings emphasize that when firms enhance turnover, their chances of survival would be enhanced. It confirms that when turnover increases, firms would be able to enhance revenue resulting from the sale of products and services which they would use for investing in other ventures to increase survival. More so, the higher the turnover, the more firms would boost cash

inflow to meet operational expenses to ensure continuity of the firm. This is in line with Madhoushi and Nasiri (2011) postulated that firm characteristics are important facets and attributes that describe the physical, functional and operational dimensions of a firm and this subsequently determines liquidity, profitability and gearing level of the firm which subsequently enhances firm survival. In this regard, the findings suggest the need for firms to ensure that they enhance turnover if they are to enhance survival.

Nevertheless, findings demonstrate that firm age, number of employees and the number of branches held by firms cannot affect survival of firms. In other words, the findings postulate that both whether small or large firms are vulnerable to survival. Indeed, many firms have collapsed when even when they are regarded large, as it is the case with small firms. Furthermore, it is revealed that number of employees and survival of firms are not related. The implication of these findings is that much as firms employ a substantial number or few employees, survival may not be enhanced by this firm attribute. Therefore, operational costs in terms of salaries and other staff related costs are not relevant in enhancing survival of firms. However, most firms which have adopted a cost minimization strategy have considered minimizing operational expenses of which salary has been regarded a major cost center worth taking such decision. This contradicts with Madhoushi and Nasiri (2011) who emphasized that firm age and number of employees play a fundamental role in determining survival of firms. In addition, it is evident that Kristiansen *et al.*, (2013) noted that length of existence and age are significantly linked to business success and survival because aged firms are more efficient. However, it could be argued in this study that employees are fundamental in the execution of company goals and objectives and since the larger the firm, the more employees who would be required to run the company, such decisions

would not guarantee any survival chances. Perhaps, there are more cost minimization practices which are more appropriate, which should be addressed in subsequent studies.

On the other hand, the findings obtained that firm category is negatively associated with survival of firms. This is in line with Smallbone *et al.*, (2012) who postulated that firm category is important in determining survival of firms. In the context of the study, the study presumes that some businesses are riskier than others. Therefore, depending on the sector some firms are able to survive than others. From the above, it is conclusive that firms should examine the characteristics that would increase their likelihood of surviving.

5.2.2 Innovation and Firm Survival

The findings revealed that innovation is necessary in firm survival. It is demonstrated that when a firm engages in innovation, it would increase its survival potential. It is this investment innovation which would prompt firms to invest in R&D, technology intensity and patents & intellectual property, which are likely to enhance the gearing level, liquidity and profitability of firms. These findings are consistent with Fontana and Nesta (2009) revealed that since firms compete on technological advances more than ever and productivity improvements, it is increasingly important to engage in innovative activities simply because this enhances their competitiveness in the market which consequently leads to an improvement in firm survival. Similarly, Filippetti and Archibugi (2011) emphasized the need for managers to create a strategy and a culture of innovation because it is one potential channel through which firms can increase their possibility of surviving in business. In other words, it is necessary for firms to engage in innovation if they are to increase the possibility of survival.

It is important to note that innovation is a multi-dimensional concept as has widely been documented by different researchers and academia. A critical analysis of the findings postulates that engagement in research and development is would not necessarily improve firms' survival. However, Floyd (2016) postulated that engagement in R&D is very critical in ensuring the survival of firms. On the contrary, Hyytinena et al., (2015) support the findings as they stated that innovation in some markets might not be appreciated and adopted quickly by consumers. This is because products and services are adopted at different paces and companies need to understand how quickly certain products will be adopted in order to produce the right offerings to their consumers. This contradiction would be explained from the perspective of the cost implication associated with research and development. For instance, the whole process of inventing new products and services, expanding into new markets and conducting customer satisfaction surveys have a financial implication on the firm.

Notwithstanding, the findings observe that it is necessary for firms to improve patents as well as increase their technology intensity in to enhance survival. This is justified because the nature of the financial sector is generally technology driven. As institutions are seeking best practices to enhance customer service, they have found technology inevitably vital. Moreover, institutions which offer better services are likely to dominate the market and become more profitable and liquid. The findings concur with Lilischkis (2011) who reported that technology intensity and engagement in research and development increases the survival probability. The findings reveal that when institutions become more technology intense, they would become more efficient which would enhance profitability, liquidity and gearing ratio. Furthermore, findings emphasize that enhancing patents and intellectual property would enhance survival of firms. With effective patent and intellectual property, a firm would be able to distinguish its products and services.

This would make it easy for customers to obtain specific products and services of their interest to subsequently enhance profitability and liquidity. In the same view, Palich *et al.*, (2010) established that the more a firm can distinguish itself and builds capability, the more competitive it becomes, and patents is one critical channel. Generally, the findings reveal that it is necessary to innovate to enhance survival. While this is the case, it is important to scrutinize the innovation tendencies which are necessary for a firm.

5.2.3 Financial Resilience Under Austerity and Firm Survival

The findings obtained that the enhancement of financial resilience under austerity would enhance survival of firms. Henceforth, it is suggested that firms should focus on how best they can become more financial resilient to increase the possibility of becoming more profitable, liquid and report better gearing status. Financial resilience under austerity is widely regarded a multifaceted concept defined by attributes such as adaptability, flexibility and financial robustness. Therefore, the positive relationship in relation to financial resilience under austerity and firm survival suggests that firms should become more vigilant about how adaptable, flexible and financially robust if they are to improve profitability, liquidity and gearing level. This is consistent with Nkonoki (2010) who revealed that organizational resilience could help a business to harness the competition, embrace opportunities and pass the test of time. Furthermore, Taylor (2013) posed that resilient firms as well as those operating under austerity have financial robustness, anticipatory capacity, awareness, flexibility and recovery ability, attributes that determine the survival of firms in the unpredictable market place and stimulates responses to financial shocks.

In addition, the findings observe that when firms become financially robust, they would be in a better position of surviving. This is so because with better financial robustness, firms would be able to carry out budget cuts and manage financial shocks to remain operational, subsequently enhancing profitability and liquidity of the firm. Furthermore, the findings reveal that the more financially robust the firm becomes, the more they would implement activities as planned without suffocating other programs as this would increase their possibility of generating additional profit and becoming more liquid which are critical attributes for survival. Consistent with these findings, Acquaah et al., (2011) emphasized that financial robustness is makes firms to successfully go through tough times because they consistently adjust activities in consideration of the market. Worth noting, Gibb and McNully (2014) concluded that financial robustness is one of the rare business phenomenon that firms seek to survive. It guides firms to become more defensive strategy which allows business leaders to take measured risks with confidence.

Nonetheless, the findings reveal that much as adaptability is necessary, its impact would not be sufficient. In other words, the findings suggest that firms do not need to be adaptive to survive. Although this is the case, the findings contradict with Geroski et al., (2007) who postulated that risk and uncertainty create distinct challenges for the survival and effectiveness of firms. Hence, firms must be adaptive in their operating environment to survive and to remain fit for purpose. It could be argued that when firms become highly adaptive, they respond to what the competitors do rather than devise a mechanism for boosting capabilities for a more competitive advantage. In addition, the findings reveal that the firm's ability to identify opportunities without necessarily implementing them would give a small edge but not absolute advantage to survive because other competitors could equally exploit the same. In relation to flexibility, the findings postulate that

the more flexible a firm becomes, the more likely it would pose a threat to survival. Therefore, the findings suggest that a fir should have a defined way of doing things rather than rotate between policies. On the other hand, Gibb and McNully (2014) observe that firms need to be flexible if they are to succeed in the fierce business environment. Therefore, it is necessary to seek an understanding of the resilient aspects necessary for survival of firms.

5.2.3   Mediating Effect of Financial Resilience under austerity on Firm Characteristics, Innovation and Firm Survival

Findings reveal a significant mediation of financial resilience under austerity. The findings reveal that when firms become more adaptive, flexible and financially robust, they would increase their potential to survive. This concurs with Pike et al., (2010) who noted that flexibility is a core financial resilience attribute which enables firms to survive and undertake decisions in a timelier manner. Moreover, the findings revealed that financial resilience under austerity matters only matters in innovation and not firm characteristics. These findings suggest that tendencies of innovation would prompt firms to engage in research and development, become technology intensive and promote patent and intellectual property which would make firms more adaptive, highly flexible and financially robust. These actions would subsequently result in increased profitability, improve gearing level and profitability which are critical indicators for survival. In the same regard, Filippetti and Archibugi (2011) indicated that through its tenets of R&D, technology intensity as well as patents and intellectual property, firm innovations create the adaptive capabilities necessary to keep firms operating under tight financial conditions to enhance survival.

This study further elaborates that when firms engage in research and development, they would start offering new products and services to their customers, they would become more engaged in conducting satisfaction surveys and to guarantee that their products and services are in congruence with the market needs. Such actions would lay a foundation flexibility and subsequently stimulate firm survival. Furthermore, the findings suggest that practice which involve change of software system after a specified period and employability of the latest technologies in the operational framework would make firms more adaptive which would increase their financial resilience. Accordingly, the adaptability would increase firm survival especially through increased profitability, liquidity and improved gearing level. With a similar view, Freel (2010) indicated that innovation is an important ascendant of financial resilience under austerity because it increases adaptability and flexibility which are core attributes for surviving firms. More so, the findings reflect that as firms become more concerned about their patent and intellectual property, they direct their effort towards becoming different from other competitors. In this case, they would gain a competitive advantage and financially robust to stimulate survival. Therefore, the findings affirm that much as innovation would stimulate firm survival, it would require the innovating firm to be highly financially resilient to increase such chances. This is in line with Roper (2007) revealed that due to the changing business environment, it is paramount for firms to engage in innovation. Moreover, they should bear in mind such changes require their vigilance in financial resilience if they are to survive. This argument therefore suggests that there is a relationship between firm innovation and financial resilience under austerity which subsequently stimulates survival of firms.

Nevertheless, the findings reveal that the amount of turnover, duration of the firm, number of employees, the branch network, products and services as well as the category of firm can only

influence survival directly. Henceforth, however adaptive, flexible or financially robust a firm can be, it would not determine the potential of firm characteristics to influence survival of firms. The findings contradict with Smallbone et al., (2012) argued that firm characteristics especially length of existence and firm size enable organizations to build strong processes and structures that are vital in promoting flexibility in the firm's operations through which survival of firms can be enhanced. This study however argues that financial resilience under austerity is one predominant practice among many firms facing a fierce business environment. But their actions do not protect firms from survival as long as the firm characteristic odds are against the potential of firms to survive. The realistic example is the economic meltdown of 2008 which resulted in closure of many firms in USA, Europe and other parts of the world.

5.2.4 Firm Characteristics, Innovation, Financial Resilience under Austerity and Firm Survival

The findings ascertained that jointly firm characteristics, innovation and financial resilience under austerity influence survival of firms. These findings portray that for firms to enhance the gearing level, profitability and liquidity, they must ensure that the firm is innovative as well as financially resilient. Moreover, such firms should possess specific firm characteristics which would be significant in influencing survival. There is scanty literature which has elaborated the predictive potential of innovation, financial resilience and firm characteristics in a single study. Henceforth, this research is a value adding one, and perhaps sets up a basis upon which future researchers and academia could build to it. Furthermore, the findings reveal that much as firm characteristics are significant as far as firm survival is concerned, the products and services offered as well as the period of the firm do not cause any impact to survival. However, Smallbone et al., (2012) argued that firm characteristics especially length of existence and firm

size enable organizations to build strong processes and structures that are vital in promoting flexibility in the firm's operations. Conversly, Klapper and Richmond (2011) concluded that firm size is a driving factor in the survival of firms, arguing that larger firms have a higher probability of survival than smaller ones. These contradictory findings could be supported because many firms which have been in existence for a prolonged period have collapsed along with newly developed firms.

The findings affirm the relevance of turnover, employees, branches and the category of the firm as having the potential to influence survival. The increase in turnover would result in increased sales revenue to increase the profitability and liquidity level which would subsequently enhance gearing of the firm. The findings acknowledge that the number of employees is critical in determining survival of firms. The underlying justification is that for firms to achieve goals and objectives, they require the intervention of employees. Further still, the study indicates that the number of branches possessed would has a bearing on the survival of firms. The findings are in line with Raz and Gloor (2007) who noted that firm characteristics have become critical for achieving success among firms. Worth noting, as firms expand branches, they increase outreach for products and services which increases market share, critical in stimulating profitability and liquidity. However, it is worth noting that the same decision has a direct impact on operational expenses incurred by the firm. Based on this argument, the study suggests that firms should be vigilant as they undertake an expansion strategy to ensure that the benefits accruing from such expansion override the expenses that would emanate.

In addition, the findings suggest that firm category is influential in determining survival of firms. These findings confirm the variation in risks encountered by the different businesses.

Furthermore, the findings suggest the business environment for businesses is different with different challenges and opportunities. Hence, the study suggests that the ability of the firm to survive could be evaluated based on its category. Berger *et al.*, (2005) also established the same as established in this study noting that businesses are encountered to different risks and such risk varies across business categories. Furthermore, the findings reveal that innovation is critical. Innovation requires firms to engage in extensive research and development, patents and intellectual property as well as becoming technology intense. Therefore, these findings suggest that firms should engage in research and development because it would enable them to increase on the number of invented product/service and periodically conduct customer satisfaction surveys where they can understand the needs and wants of customers for relevant offerings. This would enable such firms to become more profitable and liquid to make them survive. In the same regard, the findings reveal that when firm's patent and intellectual property is boosted, it would serve as a source of competitive advantage upon which firms would hinge on to survive. Therefore, the study advocates that it is necessary for firms to have a registered trade mark and be part of the association that enforces copyrights if they are to survive. More so, the findings reemphasize the need for firms to become technology intensive. This study observes that when firms adopt technology, they offer fast and efficient services in a more convenient manner which would drive customer preference towards such services, subsequently increasing turnover which has a direct linkage with profitability, liquidity and gearing level of the firm. This is in line with Filippetti and Archibugi (2011) indicated that through its tenets of R&D, technology intensity as well as patents and intellectual property, firm innovations create the adaptive capabilities necessary to keep firms operating under tight financial conditions. Similarly, as Roper (2007) noted, markets are ever changing entities, and everything is changing rapidly

Similarly, findings recognize that financial resilience under austerity substantially stimulates firm's survival. In other words, the study confirms that the more firms become adaptive, flexible and financially robust, they more they would survive. The study reveals that when firms are adaptive, they would potentially insure against shocks and uncertainties, adjust operating procedures whenever it is necessary and easily respond to competitive pressure such that they remain existent within the market. On the other hand, flexible firms would engage in continuous improvement, empower employees to personally handle customer complaints, respond to the queries of customers timely which would subsequently ensure survival. furthermore, the findings indicate that where firms are financially robust, they would find it easy to adjust their budget and ensure that all the activities are planned and implemented within the timeframe to increase profitability and liquidity of firms which are critical in ensuring survival. This concurs with Barbera et al., (2014) consequently applauded this view by stating that firms operating in conditions of financial resilience under austerity apply flexibility practices to generate a compromise between fixed constraints and firm norms defined by the policies and procedures put in place. Therefore, the findings above confirm that watching over the innovation, financial resilience and firm characteristics results in significant survival improvement.

5.3   Conclusion

Firm survival is a primary objective irrespective of what business the firm is engaged. Much as survival of firms is attributable to a numerous factor, the role of financial characteristics, innovation and financial resilience under austerity are critical which must not be ignored. In this regard, the study confirms that R&D, technology intensity and patents & intellectual property are outstanding in the survival of firms caused by innovation. Furthermore, it is confirmed that the adaptive, flexible and financially robust that firms become, the more they would survive. Indeed,

the business environment throughout the life cycle of the firm varies over time. Most importantly, the study reveals that firm characteristics especially turnover is most significant, although category, branches and number of employees are bound to pose a serious statement to the survival of firms. Overall, the study indicates that much as innovation and financial resilience under austerity are significant, for the sake of firm survival, firm characteristics are bound to explain why some firms survive while others fail.

5.4   Recommendations

Based on the above findings, the following recommendations are suggested;

Managers should put much effort in place mechanisms aimed at boosting growth in turnover. This could be achieved through approaches such as extensive marketing, customer retention strategies and providing better services that satisfy customer preferences.

In addition, firms should continuously innovate their operations to come up with better ways of serving their customers. This could be accomplished through carrying out continuous customer surveys where they can clearly identify customers' unique needs and whether the products on offer satisfy customers' needs. This will help them come up with better products that are attractive, as well as better methods for offering their services.

Financial institutions should also devote much effort to increase their level of adaptability, flexibility and financial soundness if they are to remain in business. Such measures include cost reduction strategies, budget cuts, minimizing supplementary expenditure, making revenue forecasts, minimize excessive borrowing as well as downsizing especially for fringe staff positions. Such strategies will reduce unnecessary spending and reduce financial shocks that strain the firms' operational capabilities.

5.5 Limitations of the Study

As with any study, there are several limitations with the present study. The study was unable to obtain any responses using an interview guide much as it had been highlighted in the methodology for addressing the subject matter. Therefore, no views and opinions were able to be captured in this study. More so, the present study is cross-sectional, yet the views held by individuals may change over several years, which may affect the relevance of the conclusions and recommendations made herein.

5.6 Areas for Further Study

This study suggests further academic inquiry in the following fields;

i.) Since the study was carried out in financial institutions, further assessment of the predictors of firm characteristics, innovation, and financial resilience under austerity in other firm categories like the manufacturing sector is recommended to see their effect in firm survival.

ii.) Since a Cross sectional research was carried out, a longitudinal research on firm characteristics, innovation, financial resilience under austerity and firm survival among all financial institutions is recommended since it is effective in determining variable patterns over time and it provides high accuracy when observing changes.

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APPENDICES

Appendix I: Questionnaire form

Dear valued respondent,

I am by name of **Mugumya Elizabeth**, a student of Makerere University pursuing a master's degree with a bias in accounting and finance. This study is aimed at establishing the relationship between "**Firm Characteristics, Innovation, Financial Resilience under Austerity and Survival of Firms".** You have been identified as a resourceful person to the study given your experience in the financial sector in Uganda. You are therefore kindly requested to complete and return the attached questionnaire. Section A of the questionnaire consists of the bio-data and organizational specific questions while section B contains statements that will explore your knowledge on the study variables of innovation, financial resilience under austerity and firm survival. You are required to indicate the extent to which you agree with various statements raised.

The information you will provide is to help the researcher in partial fulfillment for the award of the Degree of Master of Science in Accounting and Finance of Makerere University. Therefore, the information obtained is purely for academic purposes and responses will be treated with utmost confidentiality. Therefore, your assistance will be greatly appreciated in this regard.

SECTION A: Demographic characteristics of respondents

Please tick the option that best describes you.

Q1.   Indicate your gender

Male	Female
1	2

Q2.   Indicate the position that you hold in this institution

Chief Executive Officer/General Manager	Operations Manager	Finance Officer	Risk manager
1	2	3	4

Q3.   In which age bracket do you fall?

<= 24 years	25-34 years	35-44 years	45-54 years	>= 55 years
1	2	3	4	5

Q4.   Indicate the highest level of education you have attained

Diploma	Degree	Masters	PhD	Others
1	2	3	4	5

Q5.   What is the estimated annual gross turnover made by your company?

UGX 200M & less	UGX 201M-400 M	UGX 401M-600M	UGX 601M & above
1	2	3	4

Q6.   For how long has this institution been in operation?

5 years & less	6-10 years	11 years & above
1	2	3

Q7.   What is the total number of employees in this institution?

Less or equal to 50	Between 51-100	Above or equal to 100
1	2	3

Q8.   How many operational branches are affiliated to this institution?

Less than 6	6-10	11-15	More than 15
1	2	3	4

Q9.   How many products/services do you offer?

5 & below	6-10	More than 10
1	2	3

Q10.   In which business category do you fall?

Banking	Insurance
1	2

Section B: Questions on the study variables

This section contains questions about innovation, financial resilience under austerity and survival of firms. You are requested to give your opinions by ticking one of the options that suits your choice using the scale where: **1 represents YES, 2 NEUTRAL and 3 represents NO.**

	STATEMENTS ON STUDY VARIABLES	YES	NEUTRAL	NO
	INNOVATION			
	R&D			
RD1	The percentage of sales from new products/services introduced within the last three years has increased	1	2	3
RD2	We have invented new product/service of late	1	2	3
RD3	Our portfolio investment has increased of late	1	2	3
RD4	We have a fully-fledged R&D department	1	2	3
RD5	Our product/service development strategies are based on market needs	1	2	3

RD6	We periodically conduct customer satisfaction surveys	1	2	3
RD7	We have a plan of expanding into new markets	1	2	3
	Technology intensity			
TI1	In our institution, we have a software for reporting purposes	1	2	3
TI2	This institution changes the reporting software system after a specified period	1	2	3
TI3	We have a fully-fledged IT department in our institution	1	2	3
TI4	Our clients find our products and services easy to use	1	2	3
TI5	Some of our processes are manual	1	2	3
TI6	We employ the latest state of the art equipment in our operating procedures	1	2	3
	Patents & intellectual property			
PI1	We have a registered trade mark that symbolizes our products and services	1	2	3
PI2	Our registered products is known by most customers	1	2	3
PI3	Our customers freely associate with our registered trademark	1	2	3
PI4	Our company is a member of an association that enforces copy rights laws within Uganda	1	2	3
PI5	Our intellectual property rights easily differentiate us from other players within the same industry	1	2	3
PI6	Within our sector, forging/pirating a brand's products and copyrights is heavily punished	1	2	3
PI7	Our trading licenses are regulated by the right government authority	1	2	3
	FINANCIAL RESILIENCE UNDER AUSTERITY			
	Adaptability			
AD1	Most of our operations are insured against shocks and uncertainties	1	2	3
AD2	We easily adjust our operating procedures in case of need	1	2	3
AD3	In our institution, we respond easily to competitive pressure from our rivals	1	2	3
AD4	We are capable of spotting opportunities in our operating environment with ease	1	2	3
AD5	We consistently follow similar priorities from year to year	1	2	3
	Flexibility			
FL1	Our customers consider us easy to do business with	1	2	3
FL2	Our institution enhances business performance through continuous improvement	1	2	3
FL3	We can deal effectively with customers over multiple channels	1	2	3
FL4	We deal with service failures effectively	1	2	3
FL5	We use the online communication channels to enhance the customer's experience	1	2	3
FL6	We respond to customer queries in a timely manner	1	2	3
FL7	In our institution, staffs are empowered to handle customer complaints without referring to their supervisors	1	2	3
FL8	Cost management is one of the aspects that has received a great deal of attention in our institution	1	2	3
FL9	In our institution, we respond to customer needs and wants in a timely	1	2	3

	manner			
	Financial robustness			
FR1	We normally experience budget cuts in our operations	1	2	3
FR2	All our plans in a given financial year are implemented without postponing to other financial periods	1	2	3
FR3	We are compliant to applicable laws and regulations	1	2	3
FR4	We deal with financial shocks well	1	2	3
FR5	We sometimes experience intermittent delivery of services to our customers	1	2	3
FR6	Management is planning to scale down the number of operational branches in the nearby future	1	2	3
	FIRM SURVIVAL			
	Gearing level			
GL1	We finance most of our operations through borrowed funds	1	2	3
GL2	In recent years, our institution has experienced increased cash outflows from its operations	1	2	3
GL3	Our institution is able to clear its financial obligations as and when they fall due	1	2	3
GL4	There are no fixed interest obligations to be cleared by our institution	1	2	3
GL5	Of late, the amount owed to creditors has increased	1	2	3
	Liquidity			
LQ1	In our institution, we have adequate liquidity levels to finance day to day activities	1	2	3
LQ2	Accrued expenses have increased in recent years	1	2	3
LQ3	We are able to lend/provide services to clients timely and without delays	1	2	3
LQ4	We have several services/products that have increased our cash inflows	1	2	3
LQ5	We are servicing several credit facilities from different institutions	1	2	3
LQ6	Our institution's assets exceed the liabilities owed to creditors	1	2	3
	Profitability			
PR1	Our institution's profits have consistently increased year on year	1	2	3
PR2	Our processes are constantly reviewed to minimize defects in operations	1	2	3
PR3	Our institution has declared dividends for the previous financial years	1	2	3
PR4	We conduct regular quality reviews on the products and services offered to our customers	1	2	3
PR5	In our institution, operational expenses have been increasing in recent years	1	2	3
PR6	We have maintained a constant selling price for our products and services across the years	1	2	3
PR7	Our institution has registered declining sales revenue over the years	1	2	3

Thanks a lot for your precious time!

Appendix II: Summary of failed companies & those operating under austerity

Table 10: Table showing companies that have failed to survive a comparison between Europe and Uganda

Section A: Europe				
Co. Name	**Category**	**Total asset base**	**Estimated market share at time of failure**	**Year**
Texaco	Gasoline distribution	$34.9 billion	42% of gasoline market	1987
Financial Corp. of America	Finance & savings	$33.8 billion	48% market share in financial services	1988
Bank of New England Corp.	Banking	$29.7 billion	25% market share in finance	1991
Enron Bankruptcy	Energy	$65.5 billion	60% of energy distribution	2001
Pacific Gas and Electric Co.	Natural gas & electricity	$36.1 billion	65% natural gas & electricity	2001
WorldCom	Financial-services	$103.9 billion	2% market share	2002
Conseco Bankruptcy	Insurance & consumer finance	$61 billion	75% of insurance market	2002
Global Crossing, Ltd.	Telecommunication	$30.1 billion	52% market share	2002
UAL Corporation	Airline services	$25.1 billion	3% market in airline industry	2002
Calpine Corporation	Clean & green energy	$27.2 billion	12% market share in energy deals	2005
Refco	Financial services	$33.3 billion	64% market share in finance	2005
Delta Air Lines	Air transportation	$21.8 billion	6% market share in airline transportation	2005
New Century Financial Corporation	Mortgage financing	$26.1 billion	7% market share	2007
Lehman Brothers	Financial-services	$691 billion	20% of U.S. Treasury securities market.	2008
Washington Mutual	Banking	$327.9 billion	8% market share in Pink Sheets	2008
IndyMac Bancorp, Inc.	Mortgage services	$32.7 billion	33% market share	2008
General Motors	Automobiles	$91 billion	29% market share in automobiles	2009
CIT Bankruptcy	Transportation	$71 billion	80% market share in transportation financing	2009
Chrysler LLC	Automobile manufacturer	$39 billion	58% of automobile market	2009
Thornburg Mortgage	Mortgage	$36.5 billion	45% mortgage market	2009

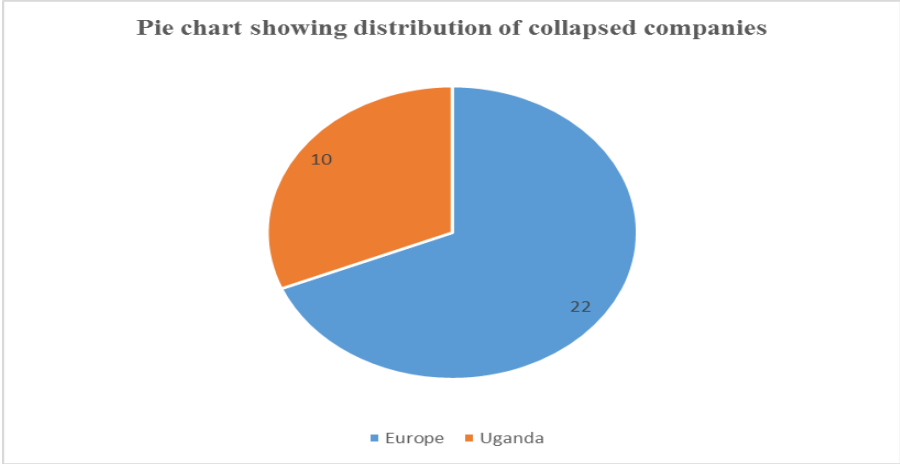|		financing		
General Growth Properties, Inc.	Real estate	$29.5 billion	14% market share in real estate	2009
Lyondell Chemical Company	Chemical manufacturing co.	$29.3 billion	8% market share	2009
Section B: Ugandan companies				
Green land bank	Banking & finance	UGX 88 bn	45% market share in banking	1999
Ug co-operative bank	Banking & finance	UGX 20.14 billion	2.76% market share	2003
GTV	Broadcasting	UGX 180 bn	46% market share in broadcasting	2009
National bank of commerce	Banking & finance	US $20 million	0.25% market share	2012
Pearl microfinance Ltd	Savings & loans	UGX 12.8 bn	2% market share	2013
Uganda Airlines	Airline transportation	UGX 280 bn	45% market share in air transport	2014
Global Trust bank	Banking & finance	UGX 85 billion	12.24% market share	2014
Imperial bank	Banking & finance	UGX 214.65 billion	5.8% market share	2015
Crane bank	Banking & finance	UGX 38.1 billion by 2014	Closed half of its branches from 68 branches to 32 branches; Request for companies to come and invest such that it can acquire enough money to operate. Shockingly, it was recently taken over by BOU; later taken over by DFCU bank	2016
Section C: Ugandan Companies Operating Under Austerity				
Name	**Industry**	**Asset Base**	**Evidence of austerity**	
Barclays bank	Banking & finance	£1.120 trillion by 2015	Intends to close its operations in Africa by close of 2016	
Orient bank	Banking & finance	UGX 480.9 billion by 2014	Sold 42% stake in 2015 to the London-headquartered private equity fund 8 Miles, founded by musician Bob Geldof, who is known to campaign for more aid to Africa, becoming the third investor to buy into the bank in less than six years.	
Uganda Clays	Construction	UGX 62.56 billion by 2015	Fall in market share from shs17 to shs13; Reduced its employees to cope up but in vain. Also failed to pay a 19bn	

			loan from STANCHART bank	
Grapes Construction Ltd	Construction	UGX 165 bn as of Dec 2015	Has failed to clear a debt of Shs100 billion owed to Stanbic Bank	
WBS TV	Media	UGX 9.6 bn as assessed by professional valuers	Taken over by URA due to its failure to clear tax liability amounting to Shs7.2 billion	
Simba group	Holding (Media, telecom, etc)	UGX 105.25 bn by 2015	Has liabilities in excess of shs201 billion owed to crane bank & other banks; Request for bailout from government	
Steel Rolling Mills Ltd	Manufacturing	UGX 132 bn by close of 2015	Under receivership in order for standard charted bank to recover Shs 75.9 billion; Request for bailout from government	
Steel and Tube	Manufacturing	UGX 60 bn as of Dec 2015	The entity is incapable of paying off its debts of 99 billion and has applied for government bailout	
Roofings Ltd	Manufacturing	Over US$ 250 million	Has difficulties in paying loan obligations of Shs201bn & Shs from the International Finance Corporation (IFC) & Diamond Trust Bank.	
Ham enterprises	Real Estate	UGX 2 bn	Request for bail out from government to offset a 100bn debt	
	Oil and gas Sector			
Oil drilling & refineries	Oil distribution	UGX 80 bn	Failed to clear debt obligations of shs 70 billion & have applied for bail out from the government	

Source: Bank of Uganda Report (2016), Muhumuza & Adengo (2016) and Federal Deposit

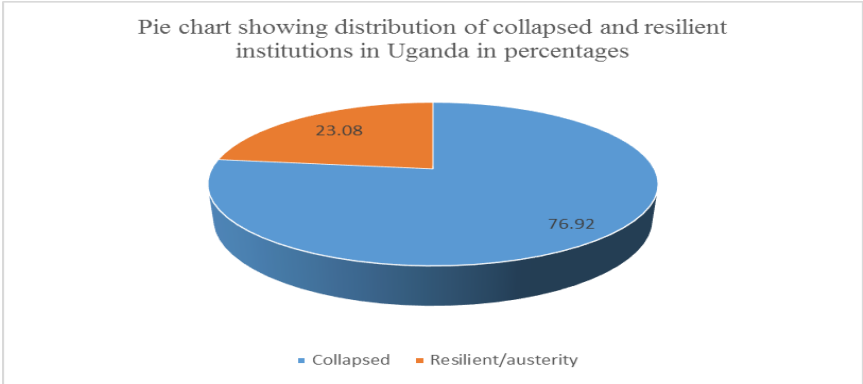Insurance Corporation Report (FDIC, 2016):

Appendix III: Graphs depicting firms that have failed to survive and those under austerity

Figure 3: Comparison of Europe & Ugandan Companies that have failed to survive

Pie chart showing distribution of collapsed companies

10

22

■ Europe ■ Uganda

Source: Table 2 above

Figure 4: Failed companies and firms operating under resilience

Pie chart showing distribution of collapsed and resilient institutions in Uganda in percentages

23.08

76.92

■ Collapsed ■ Resilient/austerity

Source: Table 2 above

Figure 5: Total asset base for firms in Uganda at the time of failure

Asset base of collapsed companies for different sector in Uganda (in billions)
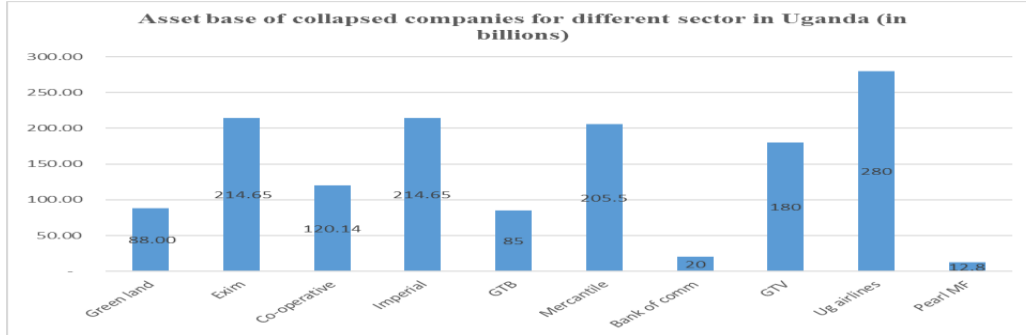
Source: Table 2 above

Figure 6: Asset base for failed companies in Europe at the time of collapse

Assest for collapsed Co.s in Europe (in billions) from 2000 onwards
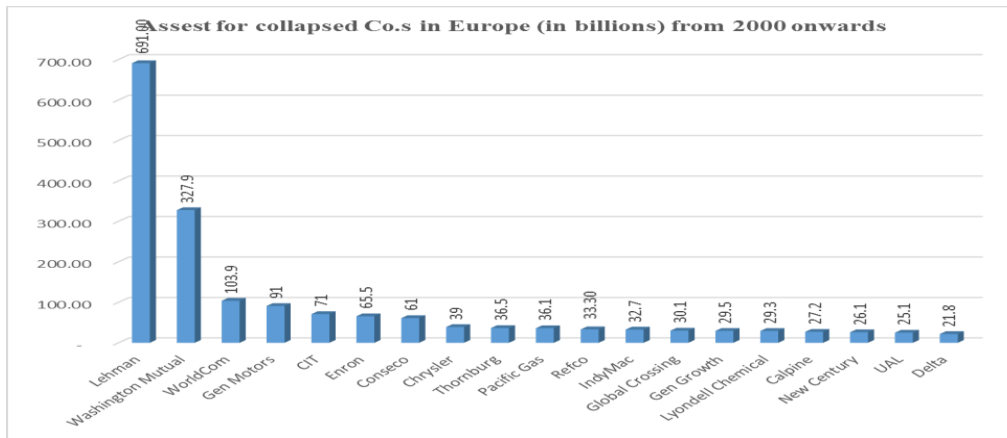
Source: Table 2 above

Figure 7: Total asset and liabilities for firms operating under austerity in Uganda

Graph for companies operating under austerity by their assets & loan values in Uganda (in billions)

Company	Loan obligation (UGX in billions)	Asset base (UGX billions)
Oil Co.s	70.0	80.0
Ham enterprises	100.0	2.0
Roofings Ltd	201.0	750.0
Steel and Tube	99.0	60.0
Steel Rolling mills Ltd	75.9	132.0
Simba group	201.0	105.3
WBS TV	7.2	9.6
Grapes Construction Ltd	100.0	165.0
Uganda Clays	19.0	62.56
Crane bank	-	38.1
Orient bank	-	480.9
Barclays bank	-	1,120.0

Source: Table 2 above

Figure 8: Bar graph for sectoral distribution of financially distressed companies in Uganda

Sectoral distribution of Co.s operating under austerity in Uganda

Sector	Frequency	Percent
Banking	4	26.67
Construction	1	6.67
Media	1	6.67
Telecom	1	6.67
Steel manufacturing	3	20.00
Retail	3	20.00
Oil Co.s	2	13.33

Source: Table 2 above