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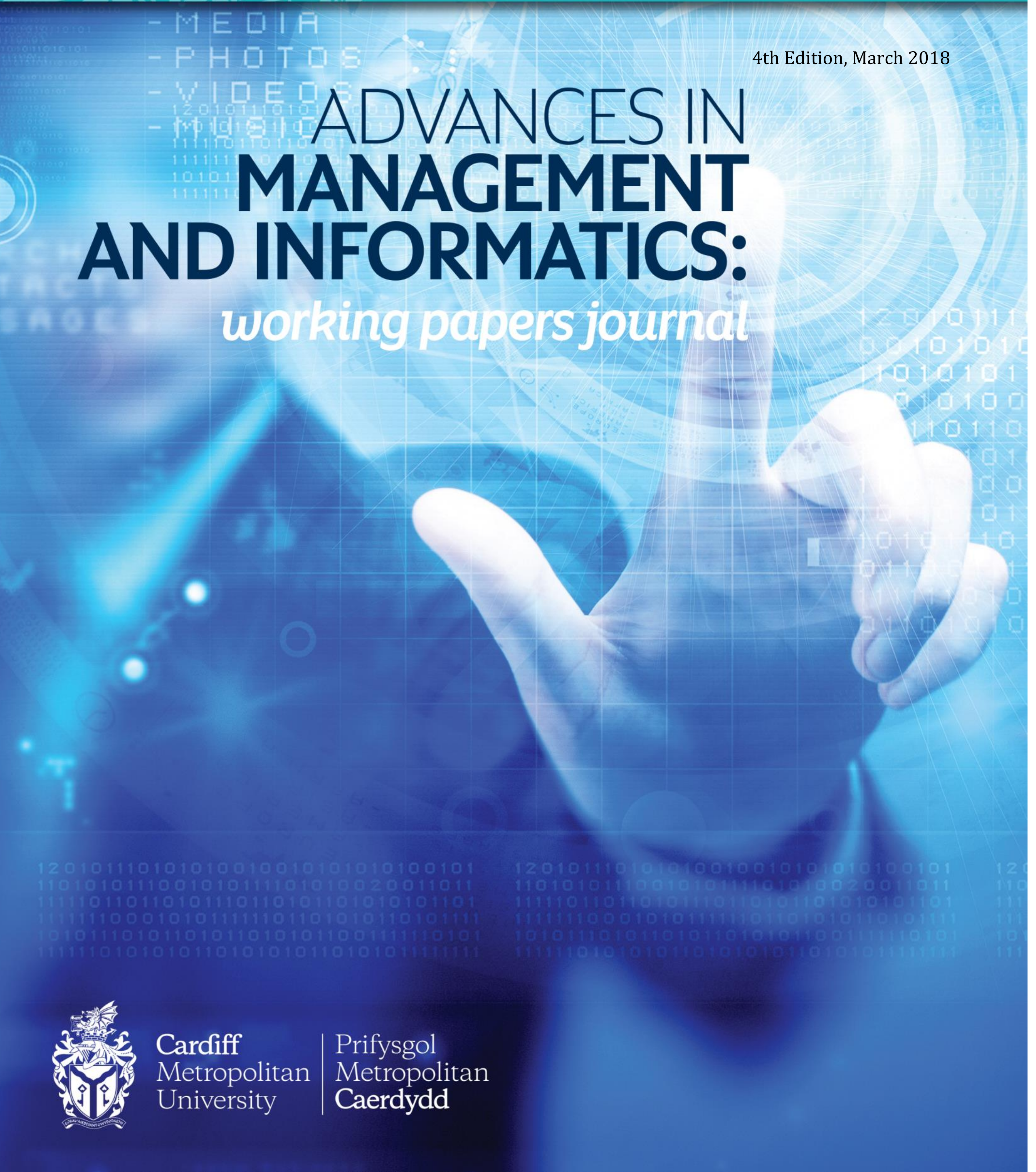

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Aims and Scope

Welcome to the fourth edition of the Advances in Management and Informatics (AMI) Journal. This is the first edition published in the 2017/18 academic year and includes the award winning papers from our AMI Conference in 2017.

Advances in Management and Informatics (AMI) is a journal that allows members of Cardiff School of Management to contribute topics of interest, ranging from embryonic ideas through to work that is nearing completion. Some of the ideas presented to the editor have since been published, and some are undergoing further research. We would like to stress that as this is a working paper journal, publication here does not preclude the authors from publishing their work elsewhere. We welcome submissions and comments to the address AMISjournal@cardiffmet.ac.uk, a template can be found in the CSM webpage, http://www.cardiffmet.ac.uk/management/Pages/default.aspx

Editorial

The theme of this edition is focused on exploring and understanding the international context within business and management. The first paper explores SME entrepreneurship in emerging economies (specifically Ghana, Pakistan and Yemen) via a comparative study. The research highlights the important role financial bodies' play in SME establishment and growth. With the focus staying on Ghana, the second paper, explores via hypothesis testing the informal and formal knowledge transfer that occurs between Universities and companies and whether this influences innovation. The research found there is not an automatic benefit to innovation other than within manufacturing firms. Therefore the paper calls for more focus on innovation opportunity within knowledge networks. Continuing the international theme, paper three explore whether nostalgia can justify marketization of historical socio- cultural symbols. In this case nostalgic branding activities within Romania. Given our wide global IT systems, paper four explores IT security policies. The focus of the paper is to examine both the benefits and drawbacks of these policies. The research highlights that companies need to understand that an effective IT security is the responsibility of the whole organisation not just the IT department.

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AMI Conference 2017 Best Academic Paper

A Comparative Study of Financial Entrepreneurship in Ghana, Pakistan and Yemen

Abdul-Fatahi Abdulai*, Khushnood Anwar+, Ahmed Abdullah+, Lyndon Murphy*, Atsede Woldie+, Brychan Thomas+ and Cath Tarling+

*Cardiff Metropolitan University, +University of South Wales

Abstract

The paper reports on a comparative study of enterprise financing in the emerging economies of Ghana, Pakistan and Yemen in terms of global dynamics. The research question addressed 'what is the nature of financial entrepreneurship in the three countries of Ghana, Pakistan and Yemen as emerging economies'. The methodology used is a comparative study of the three countries involving an investigation of the economic background, financial bodies, enterprises, and funding SMEs to determine the nature of financial entrepreneurship. In response to the research question it was found that financial bodies have an important influence on enterprises especially in terms of the way SMEs are funded. From the findings of the comparative study a fundamental model was developed as the main contribution to knowledge concerning the financing of SMEs in emerging economies taking into account important financial aspects, the process of entrepreneurship and the significant outputs of SME activities and growth.

Keywords: finance, entrepreneurship, emerging economies, financial bodies, enterprises, funding, SMEs

Introduction

The discipline of financial entrepreneurship or entrepreneurial finance (Alemany, 2014) is a new subject area of considerable importance to the disciplines of entrepreneurship and finance. It is a fast growing area which has evolved at a rapid pace in recent years. As a new discipline it is of interest to academics in both enterprise and finance (Nanda, 2009). The subject of financial entrepreneurship involves the sub areas of access to enterprise financing, small business finance and international financing of SMEs (Paravisini, 2008). The scholarly value of a paper in the area of financial entrepreneurship in emerging economies like Ghana, Pakistan and Yemen is the interest in this field by academics and practitioners and also by a number of leading academics currently researching the field.

The overall objectives and mission of the paper are to compile an up-to-date and academically grounded study on enterprise financing in the emerging economies of Ghana, Pakistan and Yemen in terms of global dynamics investigating financial bodies, enterprises and the funding of SMEs. The research question addressed 'what is the nature of financial entrepreneurship in the three countries of Ghana, Pakistan and Yemen as emerging economies'. The methodology used a comparative study of the three countries involving an investigation of economic background, financial bodies, enterprises, and funding SMEs to determine the nature of financial entrepreneurship in the three emerging economies.

The potential contribution of the paper is to bring together findings on financial entrepreneurship in the emerging economies which will have an impact on the academic area and will have the purpose to develop the overall subject area. This paper provides a basis for future study of financial entrepreneurship in emerging economies and further potential investigation and contexts for research, scholarship, study and academic inquiry to be utilised by students, researchers and scholars in the area of the financing of small and medium-sized enterprises but also for policy makers and practitioners in emerging economies.

The paper is structured according to sections on research methodology involving a comparative study, findings for the emerging economies investigated, discussion of findings and conclusions for the study. The next section provides the background to the study.

Background

Although the three countries investigated are all emerging economies they have varying statistics and demographics which provide interesting comparisons and findings. Ghana was a British dominion in West Africa, formerly the Gold Coast colony and protectorate, and extends for 334 miles along the Gulf of Guinea. The area of Ghana is 92,100 square miles and is composed of four divisions being the Northern, Southern, East and the West with ten administrative regions. The principal cities are Accra (capital), Kumasi (capital of Ashanti Region) Tamale (capital of Northern Region) and Sekondi-Takoradi (a port city). Ghana lately is the third largest producer of cocoa therefore supplying one third of the World's requirements. Exports of cocoa represent over ninety percent of the country's agricultural exports. Other exports include gold, diamonds, manganese, timber, palm kernels, palm oil, copra, and kola nuts. The population of Ghana is 24,658,000 (GSS 2013) with a population density of 103.4 persons per square km and an annual income of 1,500 US$.

Pakistan is a republic member of the Commonwealth, formerly part of British India, with an area of 307,000 square miles. Agriculture is important with main food crops of rice and wheat, and commercial crops of cotton, rape, mustard and jute. Important industries in Pakistan are jute, paper, chemicals and fertilizers, cement, iron and steel, sugar, textiles, and crude petroleum production. The capital of Pakistan is Islamabad, and the population is 172,800,000 with a population density of 217 persons per square km and an annual income of 2,600 US$.

The Republic of Yemen, commonly known as Yemen, is located in Western Asia, occupying the southwestern to southern end of the Arabian Peninsula, and has an area of 204,000 square miles. It is bordered by Saudi Arabia to the north, the Red Sea to the west, and Oman to the east. Yemen's territory includes over 200 islands. It is the only state in the Arabian Peninsula to have a purely republican form of government. About seventy varieties of grape are grown. Trade involves exports of coffee, food grains, hides and resins, cotton and oil. The main cities are Sana'a (capital), Aden, Hadhramaut and Taiz. The population of Yemen is around 26,737,000, with 46% of the population being under 15 years old and 2.7% above 65 years, and a population density of 52 persons per square km and an annual income of 2,700 US$.

From the country statistics it can be seen that Pakistan is the largest country in terms of area and population. Although Yemen has an area about two thirds of Pakistan it has a population about one sixth and a population density about a quarter of Pakistan. Interestingly the annual income is about the same as Pakistan. On the other hand Ghana is a much smaller country in terms of size when compared with Pakistan and Yemen and has a population smaller than Yemen and a population density nearly twice Yemen. Also, Ghana has an annual income just over half that of Yemen.

The literature on financial entrepreneurship has been investigated according to the role of financial bodies, enterprise activity and the funding of SMEs in emerging economies. The role of financial bodies is affected by the banking sector in emerging economies and the ability to support SMEs (LCFRD, 2006). Enterprise activity in these economies is responsive to policy and regulatory systems and the need to be conducive to SME growth (Khawaja, 2006). Similar to developed economies access to finance is a major factor for SME development (Abor and Biekpe, 2006; Liedholm, MacPherson and Chuta, 1994; Bigsten et al., 2000; Buatsi, 2002), and the funding of SMEs is influenced by international financial institutions (BIC, 2007). We therefore investigate the main areas of the role of financial bodies, enterprise activity and the funding of SMEs in this paper.

There are a number of relevant models regarding the financing of SMEs in emerging economies applicable to countries like Ghana, Pakistan and Yemen. According to Akosua and Agyapong (2012) an alternative model for financing SMEs in Ghana is the SMEs' Network Fund Model. This involves state contribution for venture capital funds, international donors and private investors for SME funds. Further to this, with regard to bridging the SME financing gap in Ghana, Quaye et al. (2014) report that banks primarily target corporations, multinationals and large enterprises and there is micro finance for micro-enterprises. This results in the SME finance gap for medium and small enterprises (Quaye et al., 2014). For the development of SME policy in Pakistan, SMEDA (2016) delineates the business support network in Pakistan for agencies and programmes which involves provincial agencies, financial agencies, SME support agencies, export promotion, training and support. Further, concerning obstacles for small and medium enterprises in Pakistan, Sherazi et al. (2013) use a principal component analysis approach. Here internal obstacles (financial, management and training issues) and external obstacles (infrastructure, corruption and technology issues) are investigated with regard to SME obstacles (Okpara and Wynn, 2007; Sherazi et al., 2013). These models have informed this study in terms of the nature of financial bodies, enterprises and funding SMEs explored in this paper.

Methodology

The methodology was undertaken in three stages for a comparative study of the three countries to compare background, financial bodies, enterprises and funding of SMEs. Using a systematic process (Umphrey, 2002) for the three stages of the research appropriate methods for the research stage were used (Schumaker and McMillan, 1993). Analysis for each stage used the most suitable method, taking into account potential downfalls through not relating some hidden underlying trends. The research question addressed 'what is the nature of financial entrepreneurship in the three countries of Ghana, Pakistan and Yemen as emerging economies'. In order to answer this question, primary sources (literature) and secondary sources (government and bank reports) were investigated in the first stage to obtain an understanding of financial entrepreneurship in the three countries. Analysis of the country case studies and synthesis of information were undertaken in the second stage to identify the different factors involved concerning financial bodies, enterprises, and funding of SMEs to determine the nature of financial entrepreneurship. The third stage examined in detail the nature and importance of factors to formulate conclusions.

The research stages considered the following aspects of the nature of financial entrepreneurship in the three countries of Ghana, Pakistan and Yemen as emerging economies:

RS1 – A review of financial bodies, enterprises and funding of SMEs

The research set out to obtain an understanding of financial entrepreneurship in the three countries investigated. It has drawn primarily on existing research and secondary data sources. Secondary data sources have included literature in the area.

RS2 – Investigation of financial entrepreneurship taking into consideration the three country case studies

This part of the research consisted of the analysis of information concerning the three case study countries of Ghana, Pakistan and Yemen. The countries have been investigated to determine the different factors involved concerning financial bodies, enterprises, and funding of SMEs to determine the nature of financial entrepreneurship. Case studies provide information and rich data for greater understanding of poorly understood phenomena supporting the transferability of the researcher's findings (Yin, 2012).

RS3 – The nature and importance of financial entrepreneurship in the three emerging economies.

The objective of this stage of the research has been an assessment of financial entrepreneurship and its importance in the three emerging economies. This was determined from information, concepts and factors identified in the literature, data available, and findings from the country case studies.

The results of the research are presented in the following sections of the paper under the headings of findings, discussion and conclusions.

Findings

The findings of the study are reported according to background, financial bodies, enterprises, funding of SMEs and a summary for Ghana, Pakistan and Yemen.

Ghana

Background to Ghana

In terms of financial entrepreneurship the Ghanaian economy has three main sectors where there are SME activities, which are services, industry and agriculture. GDP was $117 billion in 2014 (est.) (World Bank, 2014) with GDP growth of 8.5% (Q3 2013) (CNBC, 2013) and 8.2% (2012 est.) (PRG, 2011). The economy has a rich resource base, is diverse, and involves manufacturing and exportation of digital technology goods, ship and automotive construction and exportation, and exportation of resources such as industrial minerals and hydrocarbons (worldfolio, 2013; ictworks, 2013). Through these sectors Ghana has had one of the highest GDPs in Africa (worldfolio, 2013; ictworks, 2013). Following GDP rebasement in 2011 Ghana became the fastest growing World economy. In 2012 the domestic economy in Ghana was based around the services sector employing 28% of the workforce and accounting for 50.6% of GDP (World Bank, 2013). In relation to industrial activity involved with oil and minerals there is also industrial development concerning plastics (World Bank, 2012).

The industrial base of Ghana is fairly advanced and there are import substitution industries which include electronics manufacturing with Rlg Communications being the first indigenous African enterprise to assemble mobile phones, desktops and laptops (Standard, 2014). It is also West Africa's largest mobile phone manufacturing company and information and communication technology (ICT) enterprise (Standard, 2014). In recent years Ghana's automotive industry commenced with the assembly of a prototype robust SUV called the SMATI Turtle 1 (Modern Ghana, 2013; Myjoyonlie, 2013). This was aimed for use in rough African terrain, and was designed and manufactured by the Artisans of Suame Magazine Industrial Development Organisation (Modern Ghana, 2013; Myjoyonline, 2013). Additionally, since 2014 urban electronic cars have been built in Ghana (Modern Ghana, 2013; Myjoyonline, 2013). Another important industry is textiles with the four major companies being Ghana Textile Manufacturing Company, Printex Ghana, Tex Style Ghana Limited, and Akosombo Textiles Limited (DGN, 2014). Further to this crude oil and gas exploration, exploitation and refining are dealt with by the Ghana Oil Company and the Ghana National Petroleum Corporation (GNPC, 2014). In the three main sectors industry is characterised by larger enterprises together with SMEs in manufacturing whereas the services and agricultural sectors have many SMEs trading within them.

Financial Bodies in Ghana

Financial bodies operating in Ghana, which provide services to SMEs, involve indigenous Ghanaian offshore banks, Ghanaian private banks, and indigenous retail, savings banks and microfinance institutions. In recent years there have been many reforms for financial bodies in Ghana. In 2007 the Banking (Amendment) Act concerned awarding qualified banks with a banking licence allowing only the operation of indigenous Ghana offshore banks in the country (Heritage, 2013). The indigenous Ghana private Capital Bank was awarded the general banking licence first in Ghana and this was followed by the other Ghanaian private banks - Prudential Bank Limited, National Investment Bank and UniBank (Heritage, 2013). Ghanaian non-resident individuals, residents, foreign companies and indigenous Ghanaian companies have therefore been able to open Ghanaian offshore bank accounts in Ghana (Heritage, 2013). Retail and savings banks in Ghana include UT Bank, Home Finance Company, GCB Bank Ltd., CAL Bank, and the Agricultural Development Bank of Ghana, together with indigenous Ghana savings and loan institutions, Savings and Loans Company and ABii National (Heritage, 2013).

Enterprises in Ghana

In the economy of Ghana SMEs have previously and continue to play an important role (Akorsua and Agyapong, 2012). It is apparent that larger organisations cannot provide all the required jobs and are complemented by SMEs (Akosua and Agyapong, 2012). A World Bank Report (2006) stated that the informal sector in Ghana contributed to economic activities and considerably to employment (estimated at about 70% of the total labour force). SMEs therefore help to create many jobs and contribute to national revenue through tax revenue and improve national income (Keskin, 2006; Abor and Quartey, 2010). They also help to conserve foreign exchange, are sources of employment, contribute to exports through non-traditional commodities exports, and through innovation and creativity contribute to development and economic growth (Kayanula and Quartey, 2000; Aryeetey, 2001). These firms provide around 85% employment in manufacturing, account for 92% of business and contribute to 75% of Ghana's GDP (Abor and Quartey, 2010).

SMEs have been seen as facilitating economic growth in developing countries by making productive use of scarce resources and improving the efficiency of domestic markets (Aryeetey and Ahene, 2005). Small businesses in Ghana are the foundation of the local private sector and form the largest portion of the employment base (Kufour, 2008). SMEs, according to Buame (2004), are of importance to economies, especially those that are developing, since they have a high capacity for absorbing labour, wider presence in rural areas, wider geographic spread, lower cost per job created, are innovative, utilise dormant financial resources, are a cradle of entrepreneurship, a source of skill creation, and make efficient use of resources.

Compared to larger firms small businesses have a number of advantages (Akorsu and Agyapong, 2012). Larger firms often are an impersonal working environment, have less flexible scheduling, stricter rules and regulations, weak autonomy, and often undesirable working conditions (Brown and Medoff, 1989; Edmiston, 2007). In comparison, SMEs provide a personalised service, provide both formal and informal after sales service, fair prices, quality products and quicker services (Akorsu and Agyapong, 2012). Whereas large firms' strengths are predominantly material, small firms are mainly behavioural (Vossen, 1998), and large firms are often characterised by entrenched bureaucracy. Entrenched bureaucracy can result in a long chain of command with loss of managerial coordination, inflexibility, and communication inefficiency (Edmiston, 2007).

Small businesses can often develop contacts to reward performance (Zenger, 1994) but will face financial difficulties due to little capital when starting. In a country like Ghana, where there are fewer bureaucratic firms and with the role of job creation (Mensah, 2004), if the correct strategies are developed to solve SME problems, they can make an important contribution to the development of the economy. The advantage of SMEs to Ghana include inter and intra regional decentralisation, employment generation through the utilisation of labour intensive technologies and as a basis for entrepreneurship (Cook and Nixson, 2000).

Funding SMEs in Ghana

In Ghana only around five to six percent of people have access to finance through the banking sector (Basu, Blavy and Yulek, 2004). SMEs in Ghana have limited access to credit and tend to be marginalised (HFC Bank, 2004). Limited support exists through personal savings and business angels and this affects the ability of SMEs in the adoption of modern technology (UNIDO, 2012). Few companies are financed from informal sources, government assistance programmes or commercial bank loans (Osei, Baah-Nuakoh, Tutu and Sowa, 1993; Bani, 2003). Access to finance is a major constraint for SMEs in Ghana (Abor and Biekpe, 2006). Although access to funding is only one limiting factor to SME development (Liedholm, MacPherson and Chuta, 1994), access to funding and finance are major challenges to SME development (Bigsten et al., 2000; Buatsi, 2002).

A number of empirical studies have identified financial constraints as a major problem restricting the fast growth of small companies in emerging economies like Ghana (Arthur, 2003; Mensah, 2004; Deakins, North, Baldock and Whittam, 2008). Credit is given in the information asymmetry context on both sides (Fischer, 1995; Cook and Nixson, 2000) and can be approved through business viability and credit worthiness (Akorsu and Agyapong, 2012). In this context in order to manage risk banks require collateral (Tagoe, Nyarko and Anuwa-Amarh, 2005), and this is used by financial bodies to assess the likelihood of payment default and business failure. Here, difficulties in obtaining external finance, competition and the high cost of compliance with regulations lead to venture failure (Accounting Web, 2003).

Summary

In the three main sectors industry is characterised by larger enterprises together with SMEs in manufacturing whereas the services and agricultural sectors have many SMEs trading within them. Financial bodies operating in Ghana, which provide services to SMEs, involve indigenous Ghana offshore banks, Ghana private banks, and indigenous retail and savings banks. The advantage of SMEs to Ghana include inter and intra regional decentralisation, employment generation through the utilisation of labour intensive technologies and as a basis for entrepreneurship (Cook and Nixson, 2000). SMEs have limited access to credit and tend to be marginalised (HFC Bank, 2004). Limited support exists through personal savings and business angels and this affects the ability of SMEs in the adoption of modern technology (UNIDO, 2012). Although access to funding is only one limiting factor to SME development (Liedholm, MacPherson and Chuta, 1994), access to funding and finance are major challenges to SME development (Bigsten et al., 2000; Buatsi, 2002).

Pakistan

Background to Pakistan

With regard to financial entrepreneurship Pakistan's main sectors, which involve SME activity, are agriculture, manufacturing industry, and wholesale and retail services. GDP was $270 billion in 2015 (IMF, 2015) with GDP growth of 4.4% in 2014 (World Bank, 2014). In terms of purchasing power parity the Pakistani economy is the twenty sixth largest in the World, and for nominal GDP it is the forty first largest. With a population of more than one hundred and ninety million, which is the sixth largest in the World, GDP per capita is $1,427 with a ranking of 133. There is also an estimated undocumented economy, which is not calculated for per capita income, and is thirty six percent of the total economy (Bloomberg, 2015). As a developing country it is a member of the Next Eleven countries, and along with the BRIC (Brazil, Russia, India and China) countries has the potential to be one of the leading twenty first century economies (Grant, 2011). There is a semi industrialised economy and along the Indus River there are growth centres (Henneberry, 2000; World Bank, 2008; Pakistan Country Report, 2010). Carpets and rugs, chemicals, sports goods, leather goods, and textiles are primary export commodities (IPTU, 2016).

There are diversified economies of Karachi and important urban centres in the Punjab, and these coexist with other less developed areas in other parts of Pakistan (World Bank, 2008). The financial system has been affected by varying levels of foreign investment, a fast growing population and political instability in the past (Walsh, 2013). A process of economic liberalisation is currently taking place in Pakistan involving the privatisation of government corporations, which is aimed to reduce the budget deficit and increase foreign investment (The Express Tribune, 2014). A stable outlook on the long term rating of Standard and Poor (The Express Tribune, 2014) was achieved in 2014 with foreign currency reserves at $18.4 billion (State Bank of Pakistan, 2014).

Financial Bodies in Pakistan

Since 2000 the Pakistani government has made considerable economic reforms providing resources and finance for poverty reduction and job creation (LSE, 2007). In recent years government revenues have increased through economic growth and tax reforms together with a broadening tax base, self assessment schemes with more efficient tax collection, and the Central Board of Revenue implementing corruption controls (World Bank Group, 2006).

The finance and insurance sector was valued at Rs. 311,741 million in 2005 by the Federal Bureau of Statistics (2005) showing 166% growth over 2000, and with reduced fiscal deficit there has been greater private sector lending to consumers and businesses, interest rates lower, and a fall in government borrowing. Even though Pakistan is a federation with the Federal Government and the four provinces having a constitutional division of tax powers, the Federal Board of Revenue and the revenue department of the Federal Government collect ninety five percent of national revenue (PNS, 2016). The State Bank of Pakistan holds foreign reserves for the country and in July 2011 the reserves were $18.25 billion, an all time high, and Pakistani reserves were projected to be $23 billion by the end of 2015 (Forexpk, 2014).

The banking sector in Pakistan was strong during the financial crisis, 2008-9, resulting in considerable Foreign Direct Investment (FDI), and following this large banks were robust with small and medium sized banks in niche markets with the banking sector profitable and the credit market showing good sales and growth in mid 2005 (DAWN, 2005).

Enterprises in Pakistan

The SME sector in Pakistan constitutes ninety percent of all businesses and seventy percent of total industrial employment (Sherazi et al., 2013). The sector contributes forty percent to the annual GDP of Pakistan (SMEDA, 2010). In fact the SME sector contributes twenty four percent to manufacturing exports and accounts for the employment of twenty one million people (Sheraz et al., 2013). Around 3.2 million SMEs operate in Pakistan (SMEDA, 2010), and due to the SME sector having many constraints there is the need to improve the productivity of the sector (Sherazi et al., 2013). Since the failure rate of SMEs is higher in developing than developed countries the SME sector has not achieved growth targets (Arinaitwe, 2006). SMEs face a shortage of manpower, non-competitive products, outdated production facilities, low technological capabilities, and insufficient funds (Raouf, 1998). These suggest that SMEs can be in a low growth trap, having old products and an inability to progress on the ladder of technology (Khawaja, 2006). According to Khawaja (2006) the policy and regulatory system of Pakistan is conducive to SME growth although government effort has concentrated on large firm development (Sherazi et al., 2013).

Funding SMEs in Pakistan

According to Khawaja (2006) Pakistan government policy and regulatory environment has tended to favour the development of larger firms and has not been supportive of growing the SME sector. Contrary to this in recent years financial credit has risen for the SME and informal sector (Ali and Khan, 2005), although financial institutions in Pakistan are reluctant to provide finance to SMEs (Sherazi et al., 2013).

Due to banks being risk averse in Pakistan and avoiding the associated uncertainty with SMEs (Ali and Spira, 1998) this has resulted in difficult procedures involving collateral requirements to obtain credit (World Bank, 2001). There are also delays for small business in gaining approval from banks for credit which have arisen due to the regulations and policy of the State Bank of Pakistan (Khan, 1997), which restricts the ability of banks to lend on an unsecured basis to SMEs. The SME sector is also cautious of seeking credit from the banking system due to having difficulties in repaying loans (Hamid and Abaidullah, 2006). Other factors creating problems for the Pakistan SME sector, in terms of financing from institutions, include the opportunity cost of equity and financing from family and friends is lower than banks (Ali and Sipra, 1998), SMEs tend not to have complete business records which restricts them with bank financing (Hamid and Abaidullah, 2006), and small loans they apply for create large unit loan costs which is uneconomic for banks (Khan, 1997).

Summary

The SME sector in Pakistan constitutes ninety percent of all businesses and seventy percent of total industrial employment (Sherazi, Iqbal, Asif, Rehman and Shah, 2013). According to Khawaja (2006) the policy and regulatory system is conducive to SME growth although government effort has concentrated on large firm development (Sherazi, Iqbal, Asif, Rehman and Shah, 2013). The SME sector constitutes about ninety percent of all businesses, seventy seven percent of employment in industry, and forty percent of annual GDP (Sherazi et al., 2013). In recent years financial credit has risen for the SME and informal sector (Ali and Khan, 2005), although financial institutions are reluctant to provide finance to SMEs (Sherazi et al., 2013). Due to banks being risk averse in Pakistan and avoiding the associated uncertainty with SMEs (Ali and Spira, 1998) this has resulted in difficult procedures involving collateral requirements to obtain credit (World Bank, 2001).

Yemen

Background to Yemen

In relation to financial entrepreneurship three main sectors in the Yemen economy with SME activities are services, industry and agriculture. GDP was $75.54 billion in 2015 (est.) (World Bank, 2012) with GDP growth of -28.1% (2015 est.) (World Bank, 2014). There is a population of twenty seven million and GDP per capita is $2,700 (2015 est.). GDP by sector shows agriculture with 19.0%, industry 10.6%, and services 70.4% (2014 est.) (Table 5). Inflation was 17.2% in 2013 (World Bank, 2013), population below the poverty line was 54% (2014 est.), and the size of the labour force was 7.328 million (2015 est.) (World Bank, 2012). The labour force by occupation involves most people employed in services, industry, commerce, construction and agriculture, and unemployment was 27% (2014 est.) (World Bank, 2014). The main industries in Yemen include commercial ship repair, cement, small aluminium products, handicrafts, food processing, leather goods, small scale production of cotton textiles, petroleum refining and crude oil production (World Bank, 2012). Exports have totalled $1.426 billion (2015 est.), with export goods being liquefied natural gas, dried and salted fish, coffee and crude oil (CIA World Fact Book, 2013a), and there have been imports of $10.19 billion (2014 est.) consisting of chemicals, machinery and equipment, and food and live animals (CIA World Fact Book, 2013b).

With regard to public finances Yemen had a public debt of 42.5% of GDP in 2012 (est.), revenues of $7.83 billion in 2012 (est.), expenses $10.55 billion in 2008 (est.) and economic recipient aid of $2.3 billion from 2003 to 2007 (CIA World Facts Book, 2012). In terms of the economy in the past ten years to sustain economic activity Yemen has depended on aid from multilateral agencies (World Bank, 2014). Despite a large area of agriculturally productive land and significant gas and oil resources, Yemen is still one of the lowest income countries in the World and the population has more than forty five percent living in poverty (LCFRD, 2006).

Financial Bodies in Yemen

The financial services sector in Yemen is underdeveloped with domination by the banking system, no public stock exchange, and consisting of the Central Bank of Yemen with fifteen commercial banks (2 state owned banks, 4 private foreign banks, and 9 private domestic banks including 4 Islamic banks), and 2 state owned specialised development banks (World Bank, 2014). Monetary policy is controlled by the Central Bank of Yemen which presides over the transfer of currencies abroad, and it is lender of the last resort, banker to the government, exercising authority over the commercial banks (World Bank, 2014). The Credit and Agricultural Co-operative Bank which is state owned is the largest commercial bank, and the Yemen Bank for Reconstruction and Development is state owned on a majority basis (World Bank, 2014). Yemen's banking sector and its ability to support SMEs has been affected by the weak enforcement of regulatory standards, low capitalisation and non-performing loans (LCFRD, 2006).

Enterprises in Yemen

With regard to enterprises in Yemen there are a number of industries which are of particular interest. These include agriculture and fishing, oil and gas, industry and manufacturing, and services and tourism. Due to agriculture and fishing contributing between 15 to 20 percent of GDP and employing more than half the working population (54.2%) they are considered to be the mainstay of Yemen's economy (World Bank, 2014). The production of khat, which is a mild narcotic and heavily cultivated plant, has accounted for 5.8% of GDP (Central Bank of Yemen, 2005) playing an important role in the agricultural economy, accounting for 10% of GDP with 150,000 people employed (World Bank, 2014). Other exported agricultural products include vegetables, fruits and coffee (LCFRD, 2006).

Concerning oil and gas Yemen is a small oil producer and has relied on foreign oil companies through production sharing agreements by the government with income constituting ninety percent of exports and seventy to seventy five percent of government revenue (Plaut, 2008). Yemen's industrial and manufacturing sector accounts for under twenty five percent of the labour force with some 34,000 industrial establishments and nearly 115,000 workers, a majority being small businesses (1 to 4 employees) (LCFRD, 2006). The services sector involves services and tourism and accounts for 52.1% of GDP (World Bank, 2014), although the tourism industry with its restaurants and hotels is affected by serious security concerns and limited infrastructure (LCFRD, 2006).

Funding SMEs in Yemen

The funding of SMEs in Yemen has been influenced by International Financial Institutions (IFIs) which are public development and investment institutions owned by member governments which provide non-financial support, research, policy advice, technical assistance and funding to governments in emerging economies (BIC, 2007). They also provide financing to companies investing in developing countries (BIC, 2007). IFIs involved in Yemen include the Islamic Development Bank (IDB), International Monetary Fund (IMF), International Finance Corporation (IFC) and the World Bank Group (WBG) which includes the International Development Association (IDA) (BIC, 2007). The IFC which is the private sector division of the WBG provides technical services, advice, financing, equity and loans to businesses including SMEs in emerging countries including Yemen (BIC, 2007). Additionally, the IFC has focused on micro-finance, trade finance, leasing and banking, and has also focused on the financial sector (World Bank, 2007). The Multilateral Investment Guarantee Agency (MIGA) is another division of the WBG and encourages private companies through the provision of political risk insurance to help them invest in emerging economies, and supports governments through strategic advice and legal services for private investment (BIC, 2007). Finally, the IDB portfolio in Yemen has included projects involving SMEs in agriculture, energy, transportation and also education (ISDB, 2007).

Summary

Yemen's banking sector and its ability to support SMEs has been affected by the weak enforcement of regulatory standards, low capitalisation and non-performing loans (LCFRD, 2006). The funding of SMEs has been influenced by International Financial Institutions (IFIs) which are public development and investment institutions owned by member governments which provide non-financial support, research, policy advice, technical assistance and funding to governments in emerging economies (BIC, 2007). Finally, the IDB portfolio in Yemen has included projects involving SMEs in agriculture, energy, transportation and also education (ISDB, 2007).

Discussion

In this discussion we compare and discuss the findings of the comparative study of financial entrepreneurship in the three emerging economies of Ghana, Pakistan and Yemen. These economies are discussed according to their economic backgrounds, the financial bodies operating in the countries, the types of enterprises that are active, and the funding of

SMEs. In the main sectors of the countries industry tends to have larger enterprises with SMEs in manufacturing and the agricultural and services sectors have SMEs trading in them.

With the financial bodies operating in the countries these provide services to SMEs, and involve international banks, private banks, and indigenous retail and savings banks. In emerging economies there has been the need in recent years for there to be reforms for financial bodies. This is especially the case with Yemen where the banking sector and ability to support SMEs has been impacted by non-performing loans, low capitalisation and the weak enforcement of regulatory standards (LCFRD, 2006).

There are many advantages of SMEs to emerging economies and these include their activities as a basis for entrepreneurship, employment generation through utilisation of labour intensive technologies and inter and intra regional decentralisation, and this is especially the case in Ghana (Cook and Nixson, 2000). It is also evident that the SME sector forms more than ninety percent of business and around seventy percent of industrial employment in emerging economies which is evidenced in Pakistan (Sherazi, 2013). Policy and regulatory systems need to be conducive to SME growth (Khawaja, 2006), as evidenced with Pakistan, as well as there being large firm development (Sherazi, 2013).

In emerging economies SMEs have limited access to credit and tend to be marginalised (HFC Bank, 2004), and limited support exists through personal savings and business angels and this affects the ability of SMEs to adopt modern technology (UNIDO, 2012). Therefore access to finance is a major constraint for SMEs (Abor and Biekpe, 2006). Even though access to funding is a single limiting factor for SME development (Liedholm, MacPherson and Chuta, 1994), access to finance is a major challenge for SME development (Bigsten et al., 2000; Buatsi, 2002). This is found to be especially the case with Ghana. Further to this in Pakistan in recent years financial credit has risen for the SME and informal sector (Ali and Khan, 2005), although financial institutions are reluctant to provide finance to SMEs (Sherazi et al., 2013). Due to banks being risk averse and avoiding associated uncertainty (Ali and Spira, 1998) this has resulted in difficult procedures for SMEs involving collateral requirements to obtain credit (World Bank, 2001). In many emerging economies the funding of SMEs is influenced by International Financial Institutions (IFIs) (public development and investment institutions owned by member governments) which provide non-financial support, research, policy advice, technical assistance and funding to governments in emerging economies (BIC, 2007). For example the IDB portfolio in Yemen has included projects involving SMEs in agriculture, energy, transportation and also education (ISDB, 2007).

From the findings of this comparative study into Ghana, Pakistan and Yemen, taking into consideration the exploration of financial bodies, enterprises and funding of SMEs, the following model concerning financial entrepreneurship in emerging economies is posited (Figure 1).

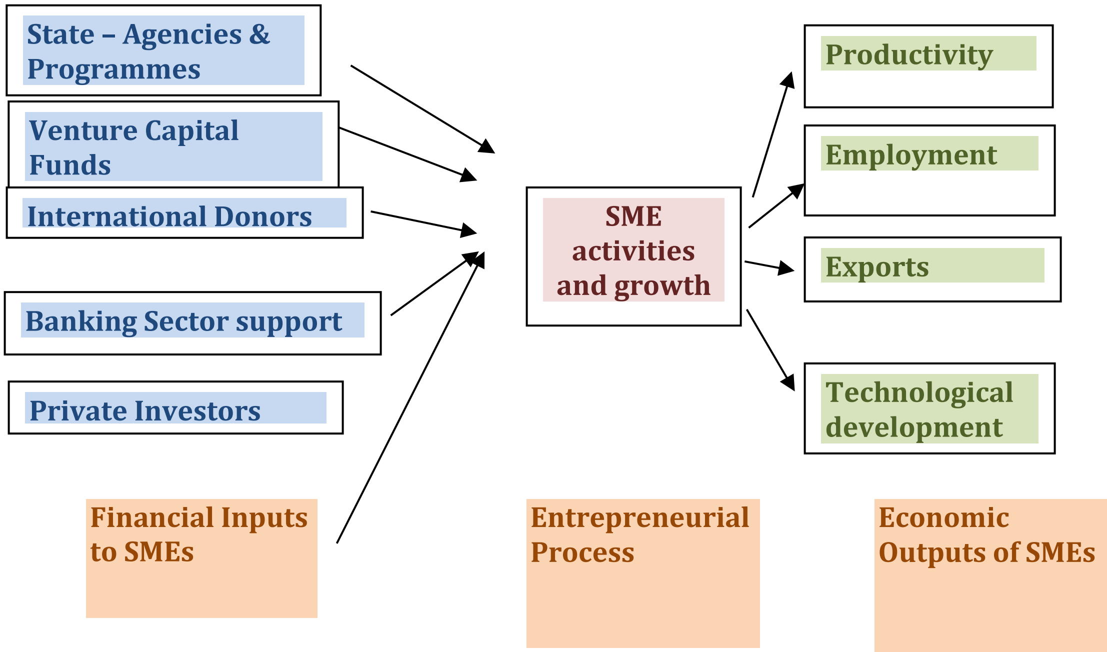

Figure 1: Financing SMEs in Emerging Economies

Important inputs to SME activities and growth in emerging economies involve state agencies and programmes, venture capital funds, international donors, banking sector support and private investors. Outputs include enhanced productivity, employment generation, increased exports and technological development especially with labour intensive technologies.

Conclusion

The paper has considered financial entrepreneurship in three emerging economies through a comparative study of Ghana, Pakistan and Yemen. It has investigated these economies in terms of their economic background, financial bodies, enterprises and funding of SMEs. The potential contribution of the paper has been to bring together findings on financial entrepreneurship which will have an impact on the academic area. This paper provides a basis for future study of financial entrepreneurship in emerging economies and further potential investigation and contexts in the area of financing small and medium sized enterprises.

The methodology involved a comparative study of the three countries to compare their economic background, financial bodies, enterprises and funding of SMEs. Using a systematic process (Umphrey, 2002) appropriate methods for each stage were used (Schumaker and McMillan, 1993). The research question addressed 'what is the nature of financial entrepreneurship in the three countries of Ghana, Pakistan and Yemen as emerging economies'. In order to answer this question, primary sources (literature) and secondary sources (government and bank reports) were investigated in the first stage to obtain an understanding of financial entrepreneurship in the three countries. Analysis of the country case studies and synthesis of information were undertaken in the second stage to determine the different factors involved concerning financial bodies, enterprises, and funding of SMEs to determine the nature of financial entrepreneurship. The third stage examined in detail the nature and importance of factors to formulate conclusions.

In response to the research question it was found that financial bodies had an important influence on enterprises especially in terms of the way SMEs were funded. This was on the basis that financial bodies operating in the countries provide services to SMEs, and involve international banks, private banks, and indigenous retail and savings banks. In emerging economies there has been the need in recent years for there to be reforms for financial bodies. Policy and regulatory systems need to be conducive to SME growth (Khawaja, 2006) as well as there being large firm development (Sherazi, 2013). In emerging economies SMEs have limited access to credit and tend to be marginalised (HFC Bank, 2004), and limited support exists through personal savings and business angels and this affects the ability of SMEs to adopt modern technology (UNIDO, 2012). Therefore access to finance is a major constraint for SMEs (Abor and Biekpe, 2006). Even though access to funding is a single limiting factor for SME development (Liedholm, MacPherson and Chuta, 1994), access to finance is a major challenge for SME development (Bigsten et al., 2000; Buatsi, 2002). Due to banks being risk averse and avoiding associated uncertainty (Ali and Spira, 1998) this has resulted in difficult procedures for SMEs involving collateral requirements to obtain credit (World Bank, 2001). In many emerging economies the funding of SMEs is influenced by International Financial Institutions (IFIs) which provide non-financial support, research, policy advice, technical assistance and funding to governments (BIC, 2007).

From the findings of the comparative study a fundamental model was developed as the main contribution to knowledge concerning the financing of SMEs in emerging economies taking into account important financial aspects, the process of entrepreneurship and the significant outputs of SME activities and growth.

Comparative study limitations arose from the analysis for each research stage which used the most suitable method, with potential downfalls through not relating some hidden underlying trends. Due to the study investigating general trends with regard to financial entrepreneurship this was not a problem. Other possible limitations were the need for further investigation preferably involving quantitative analysis, to investigate other emerging economies, and to compare developed with developing countries with emerging economies.

Future research needs to consider financial entrepreneurship in emerging economies using quantitative studies, other emerging economies and making comparisons between more established and emergent economies. By doing this it will be possible to identify policy implications of enhanced financial entrepreneurial activity in these economies.

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UNIVERSITY-INDUSTRY INTERACTION: A COMPARATIVE ANALYSIS OF THE INFLUENCE OF FORMAL AND INFORMAL KNOWLEDGE TRANSFER MECHANISMS ON FIRM-LEVEL INNOVATION IN GHANA

Abdul-Fatahi Abdulai*, Lyndon Murphy* and Brychan Thomas+

*Cardiff Metropolitan University, +University of South Wales

ABSTRACT

The paper explores dimensions of knowledge transfer mechanisms and their influence on innovation performance in firms using cross-sectional survey data collected across all industrial sectors in Ghana. Mixed results are evident across the sectors and forms of knowledge transfer mechanisms. Whereas firms in the service sector are receptacles to all forms of knowledge transfer mechanisms, the primary sector firms are not. Nonetheless, both formal and informal mechanisms are found not to directly influence innovation performance in firms in Ghana. The findings point to the significance of strengthening the internal resource capabilities of firms of struggling sectors in Ghana and those that are weak in the areas of human and financial capabilities.

Keywords: Knowledge, Transfer, Innovation, Informal Mechanism

1. INTRODUCTION

Firms learn and innovate in a variety of ways depending on their areas of specialisation, markets, technologies and disciplines although a lot of firms use similar mechanisms of university knowledge transfer to achieve innovation (Etzkowitz 2002; January and Thomas 2013). Available means of university knowledge transfer in the literature includes contract research, consultancy services and university staff taking positions in businesses (D'Este and Patel 2007). Admittedly, not all firms have the capacity to embark on major R&D projects especially small and newly formed organisations (Bekkers and Freitas 2008; Huggins et al. 2012).

Notably, firms obtain university knowledge through either formal or informal arrangements. However, their influence on the innovation landscape remains largely un-charted in the literature and specifically in the developing economies (Grimpe and Hussinger 2013). For instance, an estimated 40% of Ghana's GDP is from the informal sector; however, their main source of knowledge and innovation is still not thoroughly investigated and remains unclear (Fu et al. 2014).

Markedly, the twenty first century from the beginning seems to have ushered in a new promise to African countries to produce the fastest growing economies of the world, despite the enormous challenges facing the continent. Effectively, to take this advantage, countries such as Ghana that are recently witnessing economic progress desperately need productive university research and better innovation management scholarship and practices (IMF 2017; Yusof 2010).

Arguably, Ghana represents a modern day economic growth and development paradox that has confused the state between its early day erstwhile socialist orientation and its twenty-first century capitalist drive for economic prosperity. Sixty years after political independence from colonialism, the country is still in economic limbo, yet to answer the question of whether the ambition for industrialisation is a myth or a reality. Being described as the wealthiest nation in Africa, south of the Sahara to gain self-rule in the late 1950s (IMF 2017; Yusof 2010), the economic development of Ghana today desperately requires a direction on how economic progress can be paced with the current increase in the numbers of universities and firms which are fundamental drivers of economic progress. Admittedly, after three decades of enviably peaceful democratic transitions and steady political disposition as opposed to political turbulences in other West African countries and beyond, there have been agitations for better living standards in Ghana which cannot be casually dismissed (Herbert 1994). Debatably, incentivising public universities and other research organisations in Ghana, coupled with infrastructural developments in universities have yet to manifest evidential prosperity of the economy (IMF 2017; Yusof 2010).

Comparatively, within the same span of time from independence, similar emerging economies such as Malaysia, Singapore and South Korea have made giant strides in gross domestic product (GDP) per capita which Ghana could have equally achieved 2017). To illustrate the paradox, Ghana had a parallel GDP per capita as South Korea at independence in 1957 and also by 1960 Malaysia had US$234.81 per capita, while Ghana had a slightly lower GDP per capita of US$182.98. Ironically, sixty years down the line, the international Monetary Fund year outlook of 2015 shows a clear divergence in GDP per capital between Malaysia and Ghana as US$9,768.33 and US$1,369.70 respectively. Obviously, this presents a pretty slow development pace for Ghana (Herbert 1994; IMF 2017). Up to now, the relationship between universities and industry is still arguably poor and traditionally unproductive enough due to lack of detailed understanding of what it is all about among stakeholders. For Ghana to make any meaningful strides towards industrialisation there should be effective interactions between knowledge generation actors, interdependence, networks formed out of social interactions and multidisciplinary collaborations. In the light of the above, the paper seeks to broaden our understanding of available modes of university knowledge transfer mechanisms in Ghana and offer directions on how the mechanisms affect firms' innovation performance comparatively in all the sectors.

2. THEORETICAL BACKGROUND

2.1. University-Industry Collaboration

Innovation is a complex phenomenon, as Murphy et al. (2015) explain, citing NESTA (2007) that it engages in multiple feedbacks involving various activities of organisations that are intended to introduce new and/or significant improvement in the delivery of products and services to customers. To ensure significant progress for better economic growth and development, governments are therefore encouraged to facilitate university-industry interactions as proposed by Etzkowitz and Leydesdorff (1997) within the frame of the Triple Helix concept (Etzkowitz 2002; Abdulai et al. 2015). On its part, the government of Ghana at this crucial time launched the National Science, Technology and Innovation Policy in 2010 ushering in a policy document that is intended to drive research and innovation in universities (Iddris 2014). Currently, the government has incorporated the roles of the required institutional actors into the policy document to shape the national innovation system and fast forward the progress of the economy towards a middle-level income status (MEST 2010; UNECA 2013).

For firms to achieve successful innovation, university-industry interaction arguably becomes one of the most effective means for regional and national competitive advantage (Dooley and Kirk 2007). However, Johnston and Huggins (2016) contend it is difficult, costly and deters firms with little resources which are major characteristics of firms in developing economies. This notwithstanding, for developing economies to catch up, all channels duly recommended and are evidently productive in the advanced economies will have to be appropriated and adopted by firms in those economies. Through both formal and informal mechanisms they can build their technical capabilities and gain competitive advantage (UNU 2009; UNCTD 2011). From above premise we proposed that:

H_7: Collaborative research between universities and firms in Ghana directly leads to innovation performance in firms.

2.2. Formal Mechanism of University Knowledge Transfer

Formal mode of knowledge transfer typically encompasses a formal arrangement between a university and a firm, for example on a patent noted for its high intensity of relationship (Grimpe and Hussinger 2013; Michels 2015). On this occasion, it is usually mediated by a university through its administrative set-ups or faculties. Where there are technology transfer offices (TTOs), that task is professionally handled by the technology transfer officers (Saad et al. 2010; Thomas et al. 2009). From above we believe:

H_1: Firms in Ghana benefit directly from their formal links with technology transfer offices.

Particularly, firms have different ways to learn and innovate as well as industries as a whole and the way each of these obtains knowledge also depends on the type of knowledge and absorptive capacity of participating firms (Thomas et al. 2006; Sparrow et al. 2009). To clarify, the size of a firm and the type of knowledge or industry being dealt with at each time are influential factors when it comes to knowledge transfer. These guide the mode of transfer of knowledge from the source to the learning structures of the firms (Bekkers and Freitas 2008; Pertuze et al. 2010). To further illustrate this, in Chile, Giuliani and Rabellotti (2012) report of a formal mode of arrangement between the wine industry and two main national universities for wine research. As an external knowledge source however, this form of transfer is highly criticised, for higher chance of failing to offer the needed core competence to the buyer or satisfy market needs (Kraaijenbrink et al. 2007; Clancy and Moschini 2013) an attribute of university research that entrepreneurs do not really like undertaking (Goldhor and Lund 1983; Bradley et al. 2013).

In short, formal links with universities and university academics remains a critical factor in determining the competitiveness of firms, regions and nations in innovation systems (Grimpe and Hussinger 2013; Michels 2015). Despite how critical it is in knowledge generation and transfer, very little is known of how it affects innovation performance at firms' level in developing nations and especially Ghana in the West African sub-region (Amankwah-Amoah 2016; Islam et al. 2013). Given the evidence discussed above, this study seeks to investigate as below:

H_8: Formal mechanisms of knowledge transfer between universities and firms in Ghana directly influence innovation performance in firms.

2.3. Informal Mechanism of University Knowledge Transfer

The informal mode of knowledge transfer on the other hand is the personal relations between university researchers and individual or groups of firms and mostly facilitated by interaction within social networks (Huggins et al. 2012). The informal mode of knowledge transfer is known for its extensive tacit characteristics in its mode of diffusion and low intensity in relationships. It is defined as '*facilitating the flow of technological knowledge through informal communication process*' (Link et al. 2007; Bailey et al. 2011). For instance, informal communication agreement to offer consultancy or technical assistance, or any form of arrangement between a researcher and a firm that leads to a single stage or a continuous share of knowledge (Winkelbach and Walter 2015). Other areas where knowledge is obtained informally are conferences and freely disseminated channels like academic publications. Of course, these are usually small firms and medium-size enterprises (SMEs). Also, freely obtained knowledge from sponsored research by governments, international bodies and other benevolent organisations all come under the informal mode of knowledge transfer (Fu et al. 2014; Mosey et al. 2012).

To bring to light, in their study into open innovation, which is a recent development in innovation circles, de Wit et al. (2007) also concur that this 'grey market' is not widely researched and warn that firms cannot rely totally on informal mechanism, for competence. To add to the above, evidence from the US manufacturing sector shows that 90% of formal research partnerships within firms that are active in corporate research are created initially through informal contacts (Hagedoorn et al. 2000). However, Rossi and Rosli (2013) also elucidate that open disseminated sources of knowledge have no evidence of impact on firms' intellectual property nor economic growth and development. To investigate the positive testimonies of the link between informal and formal modes of knowledge transfer this study hypothesises as below:

H_2: Informal mechanism of knowledge transfer between universities and firms directly influences collaborative research.

H_9: Informal mechanisms of knowledge transfer between universities and firms in Ghana directly influence innovation performance in firms.

2.4. Social Capital and Innovation

Innovation in the public domain, especially as portrayed in the media, is seen to be a brand new and advanced solution designed to satisfy sophisticated needs of well-off customers with the exploitation of most of the recent advanced technologies (Thomas et al. 2011; UNU 2009). Unfortunately, definitions of innovation in such a context, without doubt, limit the concept to only technological innovation of the product type. Such types are commonly from leading centres of excellence conducted by world-class researchers with research and development (R&D) intense companies (Bozeman 2000; Bradley et al. 2013). Consequently, this narrow definition of innovation also confines the process only to the technological inventions of the industrialised economies that is far from the rich of lugging economies and dissociates itself from all changes and improvement taking place in economic activities in the developing world. Invariably, innovation embodies changes that may be novel to the local context and argued to be progressively relevant in developing economies as in other parts of the world (Edquist and Hommen 2008; OECD 2005). Also, innovation is apparently widely assumed to equate economic growth and development in theory and in practice, and therefore essential for developing economies to catch-up.

In another aspect of the scholarly literature, innovation is associated with social capital and the mainstream paradigm of the concept is shifting from being a ‘classical technical tool’ towards a ‘novel working whole’ where human practices are considered a vital ingredient for its occurrence (Leeuwis and Ban 2004). Actually, the recent debate emphasises on the significance of the human context within which it occurs. For example, it is evident that social capital evidently impacts on innovation and thereby enhances economic growth (Huggins and Johnston 2012). Additionally, different ideas and skills also result in a ‘synergy effect,’ in networks, especially in developing countries where social ties are relatively strong (Cadger et al. 2016).

To illustrate this in the developing world, in a quantitative study conducted between mid-2008 and 2009 in seven Sub-Saharan African countries and designed to capture the diversity in the Sub-region, van Rijn et al. (2012) found a significant relation between aggregate social capital and innovation adoption, and subsequent effective economic performance across the seven countries (Nigeria, Niger, Rwanda, Uganda, Democratic Republic of Congo (DRC), Mozambique and Malawi). Nonetheless, a negative association was also found in intra-community norms in terms of cooperation and trust. With these findings, van Rijn et al. (2012) conclude with what they term as the ‘a dark side’ of social capital. They further contend however that high intensity of cognitive social capital might have the tendency to breed selfishness in attitude in communities.

2.5. Technology Transfer Offices (TTOs)

Commercialisation of university research through technology transfer offices (TTOs) has been given a lot of attention in the literature lately (Landry and Amara 2012; Guimon 2013). For this reason, much has now been seen of such bureaus, at local and international levels (Junior et al. 2014) where they take the role of assessing the market potential of research findings from universities (Autio et al. 2004). Actually, administrators in TTOs search for prospective investors for all sorts of agreements and licensing for university research outcomes (Siegel et al. 2003; Siegel et al. 2004). In some countries, for example: the US and France, breakthroughs and inventions in a university setting are by law mandatory to be disclosed to the university TTO, principally those funded by governments (Bradley et al. 2013). All of these have been procedures towards encouraging universities’ effective involvement in innovative activities with industry to influence firm’s competence and boost regional and national innovation systems (Bradley et al. 2013; Lundvall 1992). By this we contend that:

H_3: Firms in Ghana benefits directly from their formal links with technology transfer offices.

H_5: Technology transfer offices in Ghana directly influence innovation performance in firms.

Alas, these attempts by policy makers have however since suffered some frustrations for years in the sense that some faculty members still circumvent the necessary guidelines and find their inventions in the market through the informal route due to deficiencies in the TTOs' administrative set ups (Bekkers and Freitas 2008; Siegel and Phan 2005). Mostly, some of these are because of lack of proper structures to streamline or supervise the work of university scientists (Siegel et al. 2004). In developing nations for instance, such rules have not been aligned to the general administrative objectives of universities and therefore difficult to check and take advantage of (Necoechea-Mondragon et al. 2013).

2.6. Knowledge Networks

External knowledge-based networking with individual universities and other firms are crucial for organisational competence which sometimes depends on the competitiveness of their locations. Also, the willingness and capability of those firms to absorb knowledge generated add more to the advantages of their knowledge networks (Bozeman 2000; Huggins et al. 2012). For instance, Thomas et al. (2006, 434) define networks as 'associations of companies and employees committed to innovation'. Stated clearer, Smith (2007, 3) explains that: *'…Networking directly determines the innovative potential of firms – and entire economies. In turn, this drives our prospects for sustainable development and wealth…'* Obviously, some regions tend to be more competitive than others in terms of the level of economic activities, available human capital, the presence of innovation-intense universities and other research institutions. This may imply that firms will have the propensity to network if they are located in regions where there are opportunities available and attractive to other, experts and organisations (Huggins et al. 2008; Kim and Lui 2015). For this purpose, the tendency to network to a large extent is influenced by certain characteristics of firms and therefore varies between organisations as the objectives and benefits of networking are not uniform (Metcalfe 2010; Pickernell et al. 2006). In most cases, small organisations concentrate on gaining access to knowledge networks within their regions that will help them solve some technical problems bordering their business operations (Lee 2011; Pickernell et al. 2006). In effect, this can be within or outside their regions if they are large firms with a great resource base, high capacity in terms of human, capital and materials. Put into context, it is clear that small organisations will want to join networks because they cannot unilaterally bear the high cost as opposed to larger firms (Huggins et al. 2012). On this we postulate that:

H_4: Informal mechanisms of knowledge transfer between universities and firms directly influence the formation and use of network for innovation performance in firms in Ghana.

Moreover, it is apparent that no individual organisation holds the credit of having all expertise and resources to exclusively develop successful innovation, given the diverse nature of skills and knowledge required to achieve innovation (Chesbrough 2003). Clearly, this is in concordance with the Wilson (2012) report on business-university interactions in UK that emphasises that no university has all the expertise in all the domains to deliver the needs of industries. Indeed, businesses need to link with networks of organisations to access the appropriate knowledge for business development and core competence that will lead to wealth creation. We therefore add that:

H_6: Networks of firms in Ghana directly bring about innovation performance in firms.

3. RESEARCH CONCEPTUAL MODEL

Grounded in the background literature and the associated hypotheses proposed, the conceptual model in Figure 1 is presented to critically examine the data comparatively across three sectors in Ghana. To do that, partial least squares structural equation modelling is used to investigate how different knowledge transfer mechanisms actually empirically influences innovation performance.

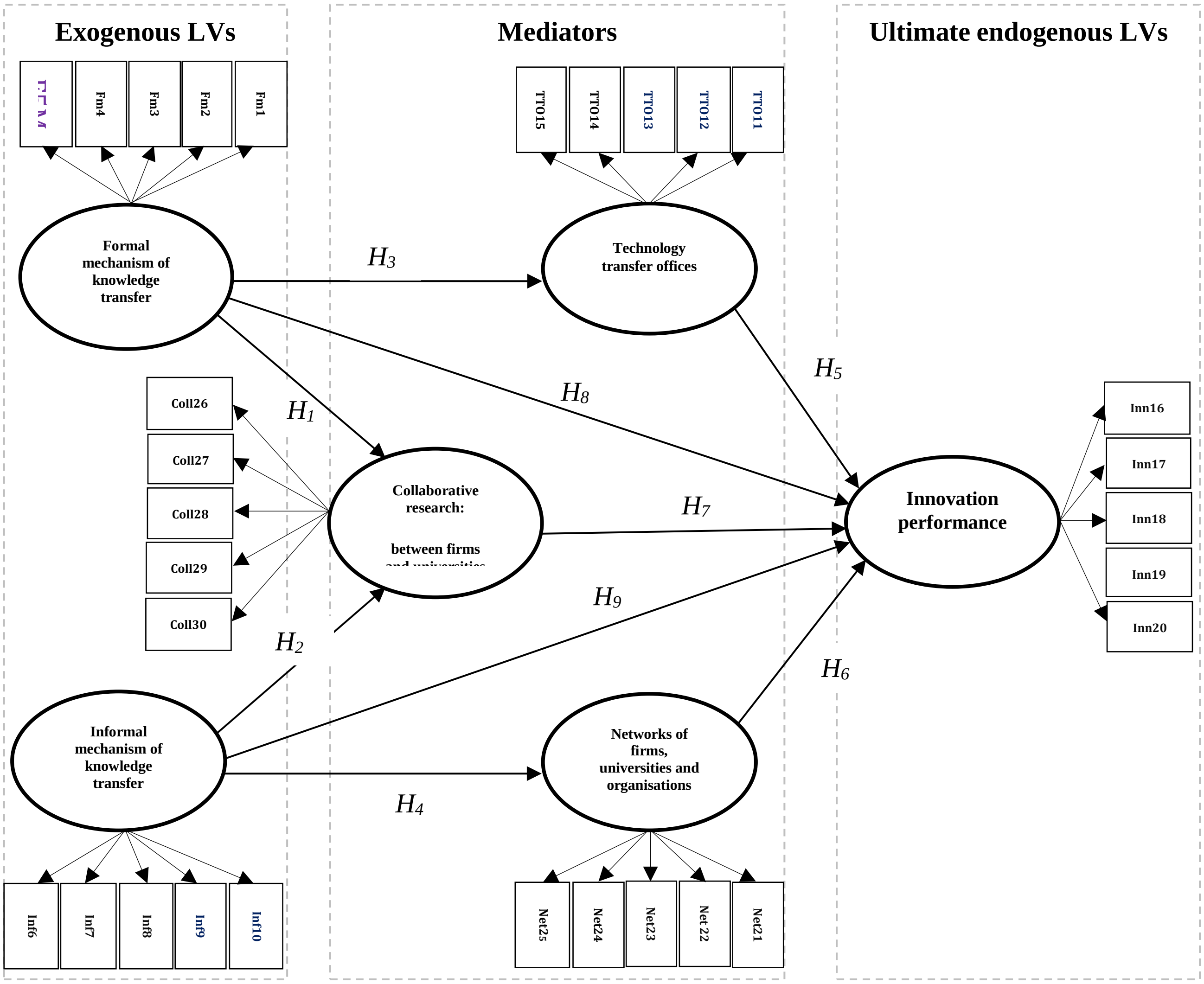

Figure 1: Research Conceptual Model

4. METHODOLOGY

The study is designed to use a quantitative approach to compare three sectors of the Ghanaian economy using two statistical techniques to compare the sectors in respect of their mode of knowledge sources and innovation performance. After exploratory data analysis, the first section compares the sectors along the lines of their sources of knowledge and innovation activities with multivariate data analysis while the second section does so with the conceptual model using partial least squares structural equation modelling.

4.1. Data and Sample

The data used for the study was obtained in a cross-sectional survey (de Vaus 1996) using two databases belonging to the National Board for Small Scale Industries (NBSSI) and the Association of Ghana Industries (AGI) made of small, medium-size and large firms in Ghana and across all sectors. Firms of all sorts were sampled in two stages; first stratified into primary, manufacturing and service sectors and randomly sampled from each sector using random numbers in MS Excel (Nulty 2008; Punch, 2005). In a 5-point Likert Scale type questionnaire, respondents were asked to rate their experience and perception on university knowledge transfer activities they have been involved in as corporate bodies. Largely, this covered personal and social interactions, involvement with knowledge networks up to formal collaborations. Even all internal knowledge generations activities made with the intention of achieving innovation were comprehensively presented for rating. Eventually, a sample frame of 800 firms was obtained (Burns 2000) (senior managers). Probability sampling technique was chosen to increase the chances of achieving a true representative sample of the entire productive sector (Rowntree 2004). Overall, the questionnaires were self-administered and to achieve the required sample size and a good effect size as advised (Cohen 1988; Cohen 1992), the sample size was determined by the 10 times rule. In fact, the largest number of structural paths directed at a single construct is 5 giving a minimum of 50 (Hair et al. 2016). Consequently, a total sample of 533 usable questionnaires was retrieved with 91 from the primary sector, 72 from the manufacturing and 370 from the service sector and a response rate of 66.63%.

4.2. Exploratory Data Analysis

Table 1 presents the proportions of the major sectors of the corporate environment identified in Ghana out of which the service sector is found to be the largest (69.42%) in the economy. Thus, a sector that is reported to be the leading contributor to gross domestic product (GDP) and also employs the majority of the workforce (Oppong et al. 2014). The manufacturing sector is the second in size, and represents 17.07% of the population of firms and takes almost one-quarter of the service sector while the primary sector is shown to be the smallest (13.51%) and almost one-fifth of the service sector.

Table 1: Data summary

	Statistics	
Sectors	**Frequency**	**Percentages**
Primary	91	69.42
Manufacturing	72	13.51
Service	370	17.07
N	533	100.00

Given the multivariate nature of the data set and the need to conduct a statistical significance test for comparison, the most suitable technique by far used in social science for this is the multivariate data analysis of variance (MANOVA). Generally, the distributional precondition for MANOVA is that the dependent variables need to be normally distributed within the groups. In any case, the F-test with large data is robust to cope with non-normality and there have not been outliers.

Table 2 gives the summary statistics of the sectors. Evidently, firms in the manufacturing sector appear numerically to use the formal mechanism of knowledge transfer (FORM: $M = 2.81$, $SD = 0.12$) slightly more than firms in the primary sector (FORM: $M = 2.54$, $SD = 0.09$) and firms in the service sector (FORM: $M = 2.51$, $SD = 0.05$). Clearly, on informal mechanism of knowledge transfer, the table shows that firms in the primary sector (INFO: $M = 3.26$, $SD = 0.09$) use it more than those in the manufacturing (INFO: $M = 3.08$, $SD = 0.11$) and the service sector (INFO: $M = 2.97$, $SD = 0.04$) for innovation performance. Comparatively, there seems to be not much difference between the primary and the manufacturing sectors' firms.

Table 2: Summary statistics

	Primary		Manufacturing		Service	
Variables	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
FORM	2.54	0.09	2.81	0.12	2.51	0.05
INFO	3.26	0.09	3.08	0.11	2.97	0.04
TTOs	3.02	0.09	3.16	0.11	3.18	0.05
INNO	3.52	0.07	3.59	0.10	3.52	0.04
NET	3.42	0.07	3.37	0.09	3.56	0.04
COLL	2.94	0.11	2.81	0.13	3.02	0.05
N	91.00		72.00		370.00	

Further, with the use and benefits obtained from technology transfer offices, there seem to be similarities among all sectors; the primary (TTOs: $M = 3.02$, $SD = 0.09$), the manufacturing sectors' firms (TTOs: $M = 3.16$, $SD = 0.11$) and the service sector (TTOs: $M = 3.18$, $SD = 0.05$) in the way firms within them use TTOs for knowledge and innovation. With innovation performance in firms, all the three sectors have a closely parallel mean innovation attainment (INNO: $M = 3.52$, $SD = 0.07$), ($M = 3.59$, $SD = 0.10$) and ($M = 3.52$, $SD = 0.04$) respectively. Also, knowledge networks put all the three sectors at different levels and therefore show no similarities between them. Thus, the manufacturing sector firms are seen to have the least mean perception among them (NET: $M = 3.37$, $SD = 0.09$) for knowledge obtained from networks. The primary sector firms are next in ascending order with the means perception of (NET: $M = 3.42$, $SD = 0.07$) and the highest is the service sector ($M = 3.56$, $SD = 0.04$). The final comparison is on collaborative research mechanism which shows that, the mean perception of firms in the service sector (COLL: $M = 3.02$, $SD = 0.05$) on the use of the mechanism is above the primary (COLL: $M = 2.81$, $SD = 0.13$) and pretty close to the manufacturing sector firms (COLL: $M = 2.94$, $SD = 0.11$).

4.3. Inferential Statistics

In a complex study design as in this current one and where the aim is to compare groups using more than two variables, multivariate data analysis technique such as MANOVA is better suited to deal with the multiple variables across all groups under consideration in the study. To clarify, to control Type 1 error rate from going above 0.05 with several *t*-tests, MANOVA is used in an omnibus test with the null hypothesis that 'the population means of the groups do not differ across'. With this, there is a significant result of the test with Pillais' Trace = 0.086, $F(12, 1052) = 3.948$, $p < 0.001$. Then, partial eta square (η^2) is 0.94 for the multivariate effect size which according to Cohen (1988) critical criteria for effect size is moderate showing that 94% of the variance in the dependent variable is accounted for by the sector effect. Table 3 shows correlations among all dependent variables without multicollinearity (Meyers et al. (2006). Crucially, Box's M test of equality of covariance matrices between the groups is significant (Box's M = 140.52, p > .001) indicating significant differences between the covariance matrices.

Table 3: Correlations among all Latent Variables in the Study

L.Vs	1	2	3	4	5	6	Mean	SD
1. FORM	1.000						2.55	0.96
2. INFO	0.627***	1.000					3.05	0.92
3. TTOs	0.390***	0.478***	1.000				3.15	0.91
4. INNO	0.249**	0.262**	0.496***	1.000			3.53	0.80
5. NET	0.286**	0.362***	0.541***	0.528***	1.000		3.51	0.78
6. COLL	0.511***	0.528***	0.508***	0.538***	0.506***	1.000	2.98	0.78

Note: Sig.: *, p<0.01; **, p<0.05; ***, p<0.001.

A follow-up analysis of variances (ANOVAs) test in Table 4 then reveals the independent variables that are responsible for the significant difference (Andy, 2009, Bryman and Cramer, 2011). Notably Levene's F-tests show no statistically significant differences between the covariances across the variables. Incidentally, three mechanisms of knowledge transfer are found to be statistically significant, thus; INFO, $F(2, 530) = 3.49$, $p = 0.03$, FORM, $F(2, 530) = 2.91$, $p = 0.05$ and NET: $F(2, 530) = 47$, $p = 0.08$ though the latter two are both significant at 0.10 level. It is clear that the three sectors statistically differ significantly in three mechanisms, thus; formal and informal mechanisms and knowledge networks.

Table 4: One-way ANOVAs Test Results

	Levene's test		ANOVAs			Primary		Manufacturing		Service	
	$F_{(2,530)}$	**P**	**$F_{(2,530)}$**	**P**	**η^2**	**M**	**S.D.**	**M**	**S.D.**	**M**	**S.D.**
FORM	0.04	0.95	2.91	0.05	0.01	2.54	0.95	2.81	0.99	2.55	0.96
INFO	0.07	0.92	3.49	0.03	0.01	3.26	0.91	3.07	0.93	2.97	0.94
TTOs	0.01	0.98	1.14	0.31	0.01	3.01	0.88	3.15	0.95	3.18	0.91
INNO	0.97	0.37	0.26	0.77	0.04	3.51	0.71	3.59	0.89	3.52	0.81
NET	0.03	0.97	2.47	0.08	0.09	3.42	0.74	3.36	0.80	3.56	0.80
COLL	2.03	0.13	1.47	0.23	0.06	2.94	1.00	2.80	1.10	3.02	0.97

Note: N=533, η^2= Partial eta square

Table 5 presents the results of a pairwise comparison test for only the variables that have been found to be statistically significant in the ANOVA test results above. Significantly, it is worth reporting that normality assessments of the data with Shapiro-Wilk test results for the variables are fine (Andy 2009; Bryman and Cramer 2011). The results are based on Bonferroni correction error rate correction and Tukey HSD (Andy 2009). First, the table further reveals the difference in formal mechanism of knowledge transfer, FORM: $M = 0.299$, $p = 0.049$) which is between the manufacturing sector and the service sector firms. For informal mechanism of knowledge transfer (INFO: $M = -0.287$, $p = 0.027$), the difference is between the primary and the service sector's firms. Knowledge networks (NET) has not manifested any difference between the sectors in this test.

Table 5: Multiple Comparisons with Bonferroni Adjustment and Tukey HSD

	Sectors		
Dependent Variable	**(I)**	**(J)**	**Mean Difference (I-J)**
FORM	Primary	Manufacturing	-0.268
			(0.15)
		Service	0.031
			(0.11)
	Manufacturing	Primary	0.268
			(0.15)
		Service	0.299**
			(0.12)
INFO	Primary	Manufacturing	0.188
			(0.14)
		Service	0.287**
			(0.10)
NET	Primary	Manufacturing	0.059
			(0.12)
		Service	-0.135
			(0.09)

*p<0.10, **p<0.05, **p<0.001

4.4. Partial Least Square Structural Equation Modelling (PLS-SEM)

PLS-SEM has been adopted in this current study with WarpPLS v5.0 statistical package and PLS regression algorithms to further explore the conceptual relationships between the knowledge transfer mechanisms and innovation performance. Missing data were managed with multiple regression imputation (Osborne 2012). As a second generation modelling technique

(Urbach and Ahlemann, 2010), PLS-SEM is a component-based data modelling technique with a lot of advantages over for example ordinary least squares (OLS). Crucially, it combines multiple exogenous and endogenous latent variables in a single technique (Gefen et al. 2000a; Gefen et al. 2000b) and handles small data with minimal distributional requirement (Kock 2011; Kock 2014). Actually, all the measurement models have been theoretically constituted as reflective indicators in each construct and the ultimate dependent latent variable is innovation performance (INNO) as demonstrated in Figure 1 (Hair et al. 2016; Urbach and Ahlemann 2010). The endogenous latent variables are technology transfer offices (TTOs), collaborative research (COLL) and knowledge networks (NET). Formal (FORM) and informal (INFO) mechanisms of knowledge transfer are the exogenous latent variables. Therefore Figure 1 is used to examine three sets of data for the sectors and all the models are evaluated below.

4.5. Model Evaluations

For PLS-SEM, there are no single global goodness of fit indices to assess a whole models; nonetheless fit measures for the outer and inner model apply and for which Hair et al. (2016) contend rather gives it an advantage over covariance-based techniques. To ensure the validity of the findings, the measures determine relationships between variables and whether the models fit the data as predicted (Lei and Wu 2007). Thus, the research model is therefore assessed accordingly in the coming sections. In fact, a bootstrapping algorithm has been used to estimate the model parameters and standard errors with 900 resamples in 5 iterations (Kock 2015).

Appendix 1 presents an absolute assessment of all the outer models which appears good for all. For internal reliability, composite reliability values are all well above 0.80 for reflective constructs (Hair et al. 2016). With the factor loadings, it can be seen that all indicator items scores load high on their respective constructs for discriminant validity and unidimensionality (Urbach and Ahlemann 2010). Also, Table 6 shows strong correlations and AVEs for all the constructs indicating the substantial amount of the variances explained by the constructs of their indicator variables in the models. More so, the AVEs are greater than the highest squared correlation coefficients of other variables in the model (Fornell and Larcker 1981).

Table 6: Correlations among Latent Variables with Square Roots of AVEs

Constructs	FORM	INFO	TTOS	INNO	NETW	COLL
			Primary Sector			
FORM	**0.754**					
INFO	0.574***	**0.731**				
TTOs	0.481***	0.547***	**0.770**			
INNO	0.248***	0.354***	0.286**	**0.807**		
NET	0.510***	0.411***	0.540***	0.572***	**0.773**	
COLL	0.420***	0.601***	0.547***	0.369***	0.360***	**0.763**
AVEs	0.568	0.534	0.594	0.651	0.598	0.582
			Manufacturing Sector			
FORM	**0.771**					
INFO	0.487***	**0.742**				
TTOs	0.497***	0.710***	**0.774**			
INNO	0.584***	0.546***	0.699***	**0.752**		
NET	0.120*	0.364***	0.440***	0.479***	**0.768**	
COLL	0.495***	0.653***	0.628***	0.541***	0.483***	**0.813**
AVEs	0.568	0.534	0.594	0.651	0.598	0.582
			Service Sector			
FORM	**0.754**					
INFO	0.658***	**0.716**				
TTOs	0.314***	0.415***	**0.746**			
INNO	0.124***	0.139***	0.471***	**0.696**		
NET	0.253***	0.351***	0.546***	0.498***	**0.698**	
COLL	0.517***	0.479***	0.451***	0.532***	0.517***	**0.757**
AVEs	0.569	0.512	0.556	0.485	0.487	0.573

Note: Square roots of average variances extracted (AVEs) shown on diagonals

Sign. (0.05): *, p<0.01; **, p<0.05; ***, p<0.001.

The inner models are equally evaluated first for coefficient of determinations (R^2). Table 7 provides these and worth noting that all relationships are expressed as hypotheses and designated by *H*. Further to this, the hypotheses are labelled numerically from 1 up to 9 and also with a, b and c to represent the primary, manufacturing and the service sectors respectively. The coefficients of determinations (R^2s) are on average reasonable to guarantee some level of explanatory power in all relationships. The effect sizes are exhibited in correspondingly for all the three sectors' models though a few are low. Finally, the predictive relevance (Q^2s) values are above zero (0) (Fornell and Cha 1994).

Table 7: Outer Model Evaluation Measures

			Primary sector			Manufacturing sector			Service Sector		
Estimates	**Description**	**Threshold**	**Path *(Hypothesis)***	**Values achieved**	**Outcome**	**Path *(Hypothesis)***	**Values achieved**	**Outcome**	**Path *(Hypothesis)***	**Values achieved**	**Outcome**
R^2	This is a measure of the variance explained by the exogenous latent variable of the total variance in the endogenous;	Substantial = 0.670,	H_{1a}	0.04	Too weak	H_{1b}	0.16	Low	H_{1c}	0.21	Low
		Average = 0.333 and low = 0.190	H_{2a}	0.34	Average	H_{2b}	0.34	Average	H_{2c}	0.16	Weak
			H_{3a}	0.23	Low	H_{3b}	0.26	Low	H_{3c}	0.11	Low
		(Chin, 1998)	H_{4a}	0.21	Low	H_{4b}	0.15	Low	H_{4c}	0.15	Low
			H_{5a}	0.02	Too weak	H_{5b}	0.24	Low	H_{5c}	0.10	Low
	$(0 \geq R^2 \leq 1)$	Substantial=0.75, Moderate=0.50	H_{6a}	0.28	Low	H_{6b}	0.22	Low	H_{6c}	0.12	Low
		Weak=0.25	H_{7a}	0.03	Too weak	H_{7b}	-0.02	Too weak	H_{7c}	0.20	Low
		(Hair et al., 2014)	H_{8a}	0.00	No power	H_{8b}	0.22	Low	H_{8c}	0.02	Too Weak
			H_{9a}	0.11	Low	H_{9b}	-0.02	Too weak	H_{9c}	0.00	No power
f^2	This measures the impact of the exogenous latent variable on the endogenous latent variable;	Low=0.020, Medium=0.150 Large=0.350,	H_{1a}	0.04	Low	H_{1b}	0.16	Medium	H_{1c}	0.21	Medium
			H_{2a}	0.34	Large	H_{2b}	0.45	Large	H_{2c}	0.29	Medium
			H_{3a}	0.23	Medium	H_{3b}	0.26	Medium	H_{3c}	0.10	Medium
		(Cohen, 1988)	H_{4a}	0.21	Medium	H_{4b}	0.15	Medium	H_{4c}	0.11	Medium
	$(0 \geq f^2 \leq 1)$		H_{5a}	0.02	Low	H_{5b}	0.24	Medium	H_{5c}	0.10	Medium
			H_{6a}	0.28	Medium	H_{6b}	0.22	Medium	H_{6c}	0.12	Medium

			H_{7a}	0.03	Low	H_{7b}	0.02	Low	H_{7c}	0.20	Medium
			H_{8a}	0.00	Non-existent	H_{8b}	0.33	Large	H_{8c}	0.06	Too low
			H_{9a}	0.11	Medium	H_{9b}	0.22	Low	H_{9c}	0.11	No effect
Q^2	This measures the predictive relevance of the endogenous latent variable to the endogenous latent variable	Q^2>0.00 (Fornell and Larcker, 1981)	H_{1a}	0.39	Relevant	H_{1b}	0.50	Relevant	H_{1c}	0.37	Relevant
			H_{2a}			H_{2b}			H_{2c}		
			H_{3a}	0.24	Relevant	H_{3b}	0.26	Relevant	H_{3c}	0.11	Relevant
			H_{4a}	0.21	Relevant	H_{4b}	0.16	Relevant	H_{4c}	0.15	
			H_{5a}			H_{5b}			H_{5c}		
			H_{6a}			H_{6b}			H_{6c}		
			H_{7a}	0.40	Relevant	H_{7b}	0.72	Relevant	H_{7c}	0.40	Relevant
			H_{8a}			H_{8b}			H_{8c}		
			H_{9a}			H_{9b}			H_{9c}		

Note: Primary Sector (H_{1a} and H_{2a}): R^2 = 0.39; (H_{5a}, H_{6a}, H_{7a}, H_{8a}, H_{9a}): R^2 = 0.43

Manufacturing Sector (H_{1b} and H_{2b}): R^2 = 0.49; (H_{5b}, H_{6b}, H_{7b}, H_{8b}, H_{9b}): R^2 = 0.65
Service Sector (H_{1c} and H_{2c}): R^2 = 0.39; (H_{5c}, H_{6c}, H_{7c}, H_{8c}, H_{9c}): R^2 = 0.43

5. RESULTS

From Table 8 it is only in the manufacturing sector firms that formal mechanisms of knowledge transfer (H_{8b}) significantly and directly lead to innovation in firms (FORM; *β=0.345, P<0.001*), on the other hand, informal mechanisms do not lead to innovation in all the sectors (H_{8a}, H_{8b}, *and* H_{8c}). However, in the multiple comparisons, firms in the primary and service sectors show some differences in the informal mechanisms (*D*=0.287, *p*>0.05). Technology transfer offices have been found to directly benefit firms significantly in manufacturing (TTOs; *β=0.343, P<0.001*) and service sectors (*β=0.202, P<0.001*) but not in the primary sector firms. For knowledge networks, firms in all the sectors have innovation directly through them. Considerably, despite formal mechanisms do not significantly and directly influence innovation in the primary and service sector firms; they do innovate indirectly through technology transfer offices with formal arrangements including those in the manufacturing sector. Formal mechanism also appears to significantly and directly influence innovation in firms in the manufacturing and service sectors through collaborative research but not in the primary sector (FORM^COLL_H_1; *β=0.093, p=0.222*). Evidently, informal mechanisms influence innovation in firms indirectly through both collaboration and knowledge networks in all the sectors. Appendix 2 gives clearer differences between the sectors.

Table 8: Path coefficients (*βs)* showing effects on innovation

	Sectors		
Exogenous L.Vs	**Primary (*βs*)**	**Manufacturing (*βs*)**	**Service (*βs*)**
FORM_H_8	0.003 (0.124)	0.345 *** (0.073)	0.101 (0.093)
INFO_H_9	0.232 (0.171)	-0.032 (0.147)	0.003 (0.069)
TTOs_H_5	0.055 (0.107)	0.343*** (0.104)	0.202*** (0.053)
COLL_H_7	0.074 (0.152)	-0.031 (0.158)	0.376*** (0.063)
NET_H_6	0.479*** (0.096)	0.362*** (0.094)	0.233*** (0.070)
FORM^TTO_H_3	0.484*** (0.107)	0.508*** (0.088)	0.329*** (0.051)
FORM^COLL_H_1	0.093 (0.119)	0.291*** (0.002)	0.382*** (0.057)
INFO^COLL_H_2	0.558*** (0.119)	0.513*** (0.098)	0.294*** (0.058)
INFO^NET_H_4	0.458*** (0.111)	0.384*** (0.124)	0.383*** (0.058)

Standard errors in parentheses
***p<0.10, **p<0.05, **p<0.001**

6. DISCUSSION AND CONCLUSION

The findings of the study indicate that both formal and informal mechanisms of knowledge transfer do not automatically influence innovation performance in firms in Ghana, except and perhaps firms in the manufacturing sector, which represents only 14% of the population and high in innovation achievement use formal mechanisms. It is also found that comparatively, firms in the primary sector are not approached at all by technology transfer officers with new ideas which therefore limit their innovation performance. Meanwhile, their counterparts in the manufacturing and service sectors do get invitations and engagements with them for innovative ideas. The problem with the primary sector could be attributed to actual inadequate researchers and new development in the sector. In another direction, when technology transfer officers' contacts are the initiatives of firms, a lot of innovation performances are found to take place in all sectors. Similarly, when formal mechanisms lead to collaborative research projects and largely are the initiative of firms, it is again found that innovation is generated and this is only in the manufacturing and service sectors. For this, the primary producers do not collaborate perhaps due to the fact that most of them are small and financially weak. Also, most of them are managed by staff with little skills or those without technical capabilities. In spite these discrepancies, knowledge networks seem to be very useful to all firms in all sectors as knowledge sources and for innovation performance. Notably, informal mechanisms of knowledge transfer seem to be very productive in influencing innovation performance in all sectors when it leads to collaborative research and is consistent with available literature (Andrew and Huggins 2016). In this case, the initiatives are nurtured by interpersonal and social interactions leading to productive collaborative research projects. Likewise, through social networks, all forms of informal means to knowledge and innovation in Ghana turned beneficial when knowledge networks are formed. With these, all firms in all the sectors gain a lot of ideas and subsequent innovation performance.

The findings call for policy makers in Ghana to direct government support to the primary sector to increase firms' technical capabilities and also equip technology transfer offices with skilful staff to research out to firms with university research outcomes. Further to this, university researchers should be encouraged with incentives to venture into demand-driven research. The findings also demand for judicious use of the benefit of social capital through knowledge networks and collaborations among knowledge generation players. In addition, senior management of firms needs to engage universities through all possible means to increase innovation. The study suggests a further investigation into the informal sector of the Ghanaian economy.

APPENDICES

Appendix 1: Factor Loadings and Composite Reliability Values across the Sectors

Primary sector				Manufacturing sector				Services sector			
Ind.	**FORM**	**S.E.**	**P-value**	**Ind.**	**FORM**	**S.E.**	**P value**	**Ind.**	**FORM**	**S.E.**	**P value**
	(CR=0.867)				**(CR=0.852)**				**(CR=0.866)**		
Fm1	**0.810**	.068	.001	**Fm1**	0.830	.073	.001	**Fm1**	**0.764**	.040	.001
Fm2	**0.838**	.060	.001	**Fm2**	0.879	.074	.001	**Fm2**	**0.801**	.042	.001
Fm3	**0.791**	.088	.001	**Fm3**	0.693	.094	.001	**Fm3**	**0.845**	.031	.001
Fm4	**0.587**	.112	.001	**Fm4**	0.658	.125	.001	**Fm4**	**0.649**	.056	.001
Fm5	**0.716**	.094	.001		**INFO**			**Fm5**	**0.696**	.050	.001
					(CR=0.859)						
	INFO			**Inf6**	0.770	.089	.001		**INFO**		
	(CR=0.839)								**(CR=0.851)**		
Inf6	0.767	.071	.001	**Inf7**	0.633	.109	.001	**Inf6**	0.758	.041	.001
Inf7	0.713	.079	.001	**Inf8**	0.732	.102	.001	**Inf7**	0.752	.047	.001
Inf8	0.725	.112	.001	**Inf9**	0.798	.093	.001	**Inf8**	0.685	.052	.001
Inf9	0.694	.096	.001	**Inf10**	0.767	.115	.001	**Inf9**	0.748	.043	.001
Inf10	0.753	.103	.001		**TTOs**			**Inf10**	0.626	.052	.001
					(CR=0.882)						
	TTOs			**TTO11**	0.777	.079	.001		**TTOs**		
	(CR=0.861								**(CR=0.879)**		
TTO11	0.707	.103	.001	**TTO12**	0.755	.098	.001	**TTO11**	0.621	.055	.001
TTO12	0.809	.077	.001	**TTO13**	0.823	.094	.001	**TTO12**	0.756	.038	.001
TTO13	0.758	.090	.001	**TTO14**	0.742	.104	.001	**TTO13**	0.784	.045	.001
TTO14	0.821	.069	.001	**TTO15**	0.769	.100	.001	**TTO14**	0.799	.038	.001
TTO15	0.752	.087	.001		**INNO**			**TTO15**	0.754	.050	.001
					(CR=0.885)						

	INN (CR=0.832)			**Inn16**	0.631	.155	.001		**INNO** (CR=0.880)		
Inn17	0.638	.115	.001	**Inn17**	0.841	.089	.001	**Inn16**	0.689	.056	.001
Inn18	0.910	.089	.001	**Inn18**	0.812	.100	.001	**Inn17**	0.732	.046	.001
Inn19	0.898	.096	.001	**Inn19**	0.798	.126	.001	**Inn18**	0.757	.047	.001
Net25	0.749	.108	.001	**Inn20**	0.682	.093	.001	**Inn19**	0.561	.076	.001
	NET (CR=0.826)			**Net21**	0.725	.110	.001	**Inn20**	0.725	.046	.001
Net21	0.854	.083	.001		**NET** (CR=0.851)				**NET** (CR=0.855)		
Net22	0.816	.086	.001	**Net22**	0.666	.109	.001	**Net21**	0.676	.050	.001
Net23	0.740	.089	.001	**Net23**	0.833	.102	.001	**Net22**	0.660	.057	.001
Net24	0.670	.127	.001	**Net24**	0.845	.092	.001	**Net23**	0.707	.039	.001
Inn16	0.736	.082	.001	**Net25**	0.713	.140	.001	**Net24**	0.713	.054	.001
	COLL (CR=0.870)				**COLL** (CR=0.921)			**Net25**	0.729	.050	.001
Coll26	0.778	.084	.001	**Fm5**	0.728	.087	.001		**COLL** (CR=0.892)		
Coll27	0.730	.082	.001	**Coll26**	0.873	.080	.001	**Coll26**	0.736	.046	.001
Coll28	0.602	.091	.001	**Coll27**	0.890	.077	.001	**Coll27**	0.727	.030	.001
Coll29	0.896	.052	.001	**Coll28**	0.886	.077	.001	**Coll28**	0.780	.035	.001
Coll30	0.805	.087	.001	**Coll29**	0.812	.068	.001	**Coll29**	0.844	.029	.001
				Coll30	0.666	.104	.001	**Coll30**	0.687	.055	.001

Notes: Loadings are unrotated and cross-loadings are oblique-rotated. SEs and P values are for loadings. P values < 0.05 are desirable for reflective indicators.

CR=Composite reliability

Appendix 2: 1 Summary of the Hypotheses Results

Primary		Manufacturing		Service	
Hypotheses	**Results**	**Hypotheses**	**Results**	**Hypotheses**	**Results**
H_{1a}	✘	H_{1b}	✓	H_{1c}	✓
H_{2a}	✓	H_{2b}	✓	H_{2c}	✓
H_{3a}	✓	H_{3b}	✓	H_{3c}	✓
H_{4a}	✓	H_{4b}	✓	H_{4c}	✓
H_{5a}	✘	H_{5b}	✓	H_{5c}	✓
H_{6a}	✓	H_{6b}	✘	H_{6c}	✓
H_{7a}	✘	H_{7b}	✓	H_{7c}	✓
H_{8a}	✘	H_{8b}	✓	H_{8c}	✘
H_{9a}	✘	H_{9b}	✘	H_{9c}	✘

Note: ✓; Hypothesis is supported empirically

✘; Hypothesis is not supported empirically

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ADVANCES IN MANAGEMENT AND INFORMATICS: working papers journal

Cultural influences on nostalgic branding: A case study: Romania.

Dr John Follett

Abstract

With recent views being promulgated in the west of a return to a situation similar to the depths of a cold war with Russia, it is both relevant and pertinent to identify a socio-cultural activity to marketers and business managers, which is occurring throughout the states of the former Soviet Bloc. Namely the nostalgic marketization of communist era imagery, brands, and products (Andreea, Kuada and Lawson, 2014; Pohrib, 2016). This socio-cultural movement is found throughout the former eastern bloc states i.e. the former Soviet Union, its former satellite states (e.g. the GDR/DDR, Romania, etc.) (Lankauskas, 2014; Sierp, 2009). This movement has been created by and exists within the particular set of experiences which are transferred into the use and dissemination of specific products, brands and images (Iacob, Kuada & Lawson, 2014).

While this socio-cultural movement in itself is a valid area of study, the Romanian example raises not only moral questions about the marketization of such historical socio-cultural symbols. It also raises a question in relation to what is 'nostalgia', namely, is it an ethno-centric construct? A study of this area identified both the rise of 'national' brands from the communist period, which alongside the usage of communist aesthetics, images and symbols in relation to the marketing of such brands, but also led to the identification of an emotive utilised and projected via this branding and aesthetic movement, namely 'Dor'. This non-Anglo-Saxon emotion has no direct parallel in English and as such, its incorrect, but habitually used identifier is that of 'nostalgia.' This however is both incorrect and inadequate, and 'Dor' alongside other similar non-Anglo-Saxon emotions incorrectly identified as nostalgia raises the point that nostalgia, as a term may be ethnocentric.

Key Words: Marketing, Branding, Romania, Nostalgia, Dor, Ethnocentrism

1. INTRODUCTION

Throughout the states of the former soviet bloc where there is an on-going activity of the nostalgic marketization of communist imagery, both within the cultural sphere, and in relation to products and their branding. While this socio-cultural movement is found throughout the former eastern bloc states i.e. the former Soviet Union, its former satellite states (the GDR/DDR, Polish Peoples' Republic, etc.), that of Ceausescu's' Romania raises specific question surrounding of what is nostalgia, and can be seen through another matter which is identifiable in the following commentary by Anne Applebaum:

"I first became aware of this problem several years ago, when walking across the Charles Bridge, a major tourist attraction in what was then newly democratic Prague. There were buskers and hustlers along the bridge, and, every fifteen feet or so someone was selling precisely what one would expect to find for sale in such a postcard-perfect spot. Paintings of appropriately pretty streets were on display, along with bargain jewellery and "Prague" key chains. Among the bric-a-brac, one could buy Soviet military paraphernalia: caps, badges, belt buckles, and little pins, the tin Lenin and Brezhnev images that Soviet schoolchildren once pinned to their uniforms. The sight struck me as odd. Most of the people buying the Soviet paraphernalia were Americans and West Europeans. All would be sickened by the thought of wearing a swastika. None objected, however, to wearing the hammer and sickle on a T-shirt or a hat. It was a minor observation, but sometimes, it is through just such minor observations that a cultural mood is best observed. For here, the lesson could not have been clearer: while the symbol of one mass murder fills us with horror, the symbol of another mass murder makes us laugh." (Applebaum 2004 p.5)

Thus, the linages of emblems, logos, symbols and material are not just illustrative of the regimes which they originated from, but also their crimes, furthermore, as nostalgia is supposed to be remembrance of a time, place or event which you have positive memories of, thus why are these symbols, products and brands still relevant and popular? While identifying the use of these aesthetics and imagery. The initial aims of this research was based on the author's own experiences in Romania, where he has been visiting since the early 2000's, and as such, awareness of Romanian products and the communist origin of them was known to the author. While due to the authors' specialism in Eastern Europe the term Ostalgia was also known, but as the term was directed towards nostalgia for the DDR (East Germany) the initial aim was to investigate through desk research whether there was a Romanian version of 'Ostalgia' and if so then how it was espoused through products, branding and cultural expression. This led to the unexpected discovery of a Romanian emotion called 'Dor', which has connotations beyond nostalgic positivity and questions the use of nostalgia in non-Anglo-Saxon situations.

2. (N)OSTALGIA

The term nostalgia derives etymologically from the Greek nostos, meaning to return home, and algia, meaning a painful condition (El-Ziab, 2016, p.120). By the last quarter of the 20th century, nostalgia had metamorphosed into solely a positive emotion representing 'cheerful memories of the past' (El-Ziab 2016 p.121).

Angé and Berliner (2014 p.5) identify nostalgia in relation to the following, affect, discourse and practice, which in turn mediate collective identities, these can be social, ethnic or national. While Ekman and Linde (2005 p.356) identified a fourfold dimension of nostalgia, which relate to the political-ideological dimension, socio-economic dimension (general), socio-economic dimension (personal), and a life biography dimension. While Hepper, *et al*. 2012 identifies 35 concepts within the Anglo-Saxon model of nostalgia which individuals' identify as representative of, and ideal exemplars of nostalgia.

Thus, nostalgia can be found at the intersection of the public/private life, group/personal identities, and histories, which involve both ideological and economic aspects. Within the economic sphere Niemeyer (2014 p.1), identifies the use of, and strength of nostalgia in relation to the marketing of goods and services.

"a simple observation of the current nostalgia boom, which is infiltrating various aspects of our lives. On social media sites like Facebook, groups and forums with titles like 'nostalgia', 'vintage' or retronaut' have emerged, videos and pictures with nostalgic statements are posted and the vintage fashion collection of the television series Mad Men (AMC, 2007–) is celebrated. Not to mention editing digital photographs on mobile phones to resemble Polaroids; retro design has become digitised. Indeed, part of the web could be seen as a huge attic or bric-a-brac market where individual and collective nostalgias converge and spread."

While nostalgia is an established concept in marketing (Belk, 1990; Hirschmann, 1992; Holak & Havlena, 1992; Holbrook, 1993), it is thought of in relation to consumer behaviour as "a preference (general liking, positive attitude, or favourable affect) toward objects (people, places, or things)" (Holbrook & Schindler 1991 p.330). In both respects, it is represented as a positive emotion and is linked to an individual's view of the past (Holbrook and Schindler 1991).

In relation to the historical and ideological aspects of nostalgia, group identity is important as:

"A national past is constructed from a collection of myths, traditions and legends. These typically include myths of origins, ancestry, migration, liberation, a golden age, decline and rebirth. Central to a national past is the idea of an idealised and glorious 'golden age'…...Belief in such a golden age serves to anchor the nation in the past, and is frequently used as an exemplar towards which the nation can strive in the future." (Light & Dumbraveanu-Andone 1997 p.28) This idea of a Golden Age is important as it is overtly identifiable within the remit of this paper.

This form of nostalgia as found in terms of a socio-economic and ideological expression can be found within the nostalgic identification of a post-communist state with its communist past. This can be seen in the following. Ostalgie: being the nostalgic expression towards life in the former German Democratic Republic, also known as East Germany (Bach 2015). Yugonostalgia: an expression of nostalgia towards the former Yugoslav federal republic (Volčič 2007). While Soviet nostalgia is the phenomenon of nostalgia for the Soviet era in the confines of the former USSR (Lankauskas 2015).

This ideological nostalgia can be seen and is projected by the fetishisation of both the aesthetics and the material culture of these Communist regimes as identified by Niemeyer (2014 p.1) with "objects from the former German Democratic Republic (GDR) and Soviet Union that are sold in Berlin in the streets are one example, be they headwear, military decorations or gadgets." While Ekman and Linde (2005 p.49) state that this ideological nostalgia expresses itself not just an interest in such material objects as the Eastern German Ampelmännchen (the pedestrian traffic sign). But also, emblems of everyday life in the east with "Trabant automobile clubs, parties with a GDR dress code, stores selling typical Eastern products, former GDR radio transmissions and music enjoyed high popularity."

In terms of Romanian centric communist era nostalgia Turcus (2013 pp.64-65) identifies a three-part aspect of Romanian communist 'Ostalgie'. The first part can be described as "the black book of communism. Or the negative aspects of Communism, the second grouping can be viewed as entitled the "pink book of communism." Which he describes as: "Representing a sort of bitter idealization of life under communism, childhood games amongst the derelict socialist blocks of flats and adolescent love requited in the context of absurd educational constraints are evoked as fragments of diminished normality" (Turcus 2013 p.65).

While the third category or "grey book" – one of which is a surreal comedy but also linked with a recognition of, but lack of true comprehension of such times due to its distance in the past. Which he views as "an illustration of Marx's remark whereby "man separates from the past with a loud and irreverent laughter" (Turcus 2013 p.65). All three of these categories can be plainly seen within both the cultural sphere of present day Romania, but also within the economic sphere, particularly marketing and branding.

The cultural sphere is important to note as the intangible products such as experiences, and television shows and films are related to other visual expressions such as adverts which occur in the economic sphere. These show aesthetic and narrative linkages to adverts using the same themes, but also are representative of the typology of Romanian nostalgia as discussed by Turcus. For example Tales from the Golden Age (2009) {Amintiri din epoca de aur} which alongside 12:08 East of Bucharest (2006) {A fost sau n-a fost?}; relate to the 'pink' and 'grey' books respectfully with black surreal humour and discussing the changes in Romanian society since 1989. While the Portrait of the Fighter as a Young Man (2010) {Portretul luptatorului la tinerete}, which deals with the doomed armed anti-communist resistance, and 4 Months, 3 Weeks and 2 Days (2007){4 luni, 3 săptămâni și 2 zile} which deals with arranging an illegal abortion in 1980s Romania are both situated in the 'black book' category.

This leads to three questions, first why this considered 'nostalgia' is as there is not a total positive view of the past due to the nature of the regime. Secondly, how are they utilised, and thirdly what (if any) other issues does this utilisation of nostalgia raise.

3. COMMUNISM, THE ROMANIAN EXPERIENCE

Modern day Romania came into existence after World War 1, however, Romania's security was based on interwar alliances which collapsed in the late 1930's with the rise of Hitler. The application of the Molotov-Ribbentrop pact of August 23, 1939 led to severe territorial losses of one third of the territory of the state and population (Roberts 1951). This brought about the creation of dictatorship of Ion Antonescu, who become becomes known as the "Conducător" (Deletant 2006).

With the threat from Soviet Russia amplified by the loss of territory, and to halt further Hungarian revanchism in relation to Transylvania Romania reluctantly joined the Axis powers, and latterly the war against the Soviet Union in 1941. Initially successful, Romania regained (1941-44) the area she had lost to the USSR, but also became enmeshed into the Axis war aims beyond the Dniester, and the subsequent disaster at Stalingrad (Axworthy *et al.*1995). Romania as a communist state in all intents and purposes began on August 23rd 1944 when Romania extricated itself from the Axis and changed sides in the war, from being the third largest axis power to becoming the fourth largest allied power (Axworthy *et al.* 1995). While the coup which officially brought the communists to power was in 1948 the country was occupied by the Red army and all power came from them from 1944 (Kay *et al*. 2015).

The importance of terror and the secret police (Securitate), to the regime from the outset of the communist period (Deletante 1994, 2008; Kaplan 2016) can be seen in that even by 1948:

"the budget of the Security contained funds for 4.641 employment positions, of which 3.549 were already occupied by February 11, 1949. The number of job positions within the Security organs increased gradually, reaching over 20.000 employees in 1989, which were coordinating an apparatus of 400.000 informers. Other data indicates that in 1965, in the general archives of the State Security organs there were about 7 million citizens registered (under the category of "watched"), which represented one third of the country's population. (Deletante 1994 p.8)

The red 'terror' which the RCP (Romanian Communist Party) unleashed on Romania was so severe that it led to anti-communist resistance, both as an armed form and in organised groups throughout the late 1940's, and early 50's, and lasted till the 1970's (Kligman & Verdery 2011; Kaplan, 2005, 2016). However, the Communist reaction was exceedingly bloody with peasants, the middle class, technocrats, bureaucrats, students, and former members of the Iron Guard, the Royal armed forces, democratic governments and parties being targeted for ideological reasons. These victims "were not docile and large numbers were extremely violent in opposing the collectivisation activities" (Kligman & Verdery 2011 pp.146-47) Figures running to 89,000 peasants arrested alone in anti-peasant actions over 2 years alone, while the Sighet Prison became synonymous with communist terror and the bestial activities associated with it (Blandiana & Rusan 2016). In fact, the terror had its own aim, in that arrests provided slave labour for large scale activities such as the creation of Black Sea Canal from the Danube, mortality rates were such it was nicknamed the "canal of death" (Canalul Morții) (King 2004 p.231), with deaths here conservatively approximated at 100,000 (Kaplan 2005 p.102) to 200,000 (Applebaum 2004 p.xx).

The abject fate of Romanian's under communism had a short interlude after the death of the dictator Gheorghe Gheorghiu-Dej, which led to de-Stalinisation and economic advances under Nicolae Ceausescu. This led to the 1970's being described as the 'golden era' or 'golden age' (epoca de aur). Romanian economic development avoided full-scale Soviet economic control and diverged from Soviet ideology into a national communist state, which led it gaining West-European credit, investment and technology (Marcin´Czak *et al* 2013). This was undertaken through an increasingly brutal Stalinist regime based upon the North Korean ideology of self-sufficiency or Juche (Lee & Chen 2007). Increasingly aggrandising megalomaniac schemes for the industrialisation of Romania, including the redevelopment of Bucharest and the repayment of foreign loans directed Ceausescu to export everything, making all citizens exist on low calorie diet. Limiting electrical usage by only allowing one 40-watt bulb per room, reducing heating in public buildings to 57 degrees Fahrenheit, while television programs were only running two hours a day (Shleifer & Treisman 2014 p.92).

Geopolitical movements of Perestroika and Glasnost signalled the fate of the Ceausescu regime, which was overthrown in what was all intents and purposes an internal palace coup alongside an armed revolution (Kaplan 2005, 2016). However, the insidious nature of the regime raises the question, how can individuals be nostalgic about this period and associated products/brands.

4. ROMANIAN VIEWS TODAY

Iacob *et al* (2014 p.86) comment that recent research illustrates that an increasing number of citizens in the post-communist societies of Eastern Europe long for a return to the communist period, and this can be seen in nationalistic tendencies within consumer preferences.

Reasoning behind such nostalgia can be identified by the economic realities of capitalism, the lack of employment or political stability, the lack of a perceived better future. A 2014 INSCOP research poll found that 44.4 percent of 1,055 respondents believed that living conditions were better under communism, 15.6% said that they had remained the same, while 33.6% claimed that life was worse back then. Relating to their feelings of the dictator Nicolae Ceausescu, 47.5% of the respondents thought that he had a positive role in Romania's historiography, while 46.9% thought that he was a negative influence (Besliu 2014).

Studies by the European Bank for Reconstruction and Development (EBRD) undertaken in association with the World Bank, have carried out surveys in the post-soviet area, in 2006, 2010, and most recently 2016 (EBRD 2016). Finding that:

"People across the region on average see themselves as worse off than before the transition, but they are generally more satisfied than unsatisfied with their lives as a whole" (EBRD 2016 p.4). Their data showed that Romania had a fall of satisfaction from 2006 to 2010 followed by an increase in satisfaction in 2010 to 2016 (EBRD 2016 p.5).

What can be stated is that while there may be an economic argument for such communist nostalgia, it can also be seen within the national brand, both projected from within (Bardan & Imre 2011) and envisaged from without (Kaneva 2014). This can occur in a 'positive idyllic folk pre-modern past' (Bardan & Imre 2011 p.198) or "cold war stereotypes of a backward eastern Europe" (Kaneva 2011 p.171). While nostalgia for prior times can be seen in the nostalgia tourism to Romania from Hungarian and German minority exiles and émigrés (Iorio & Corsale 2010). Or the usage of Vlad Țepeș (Dracula) in terms of dark tourism, branding wine and a tabloid newspaper (Kaneva 2014; Light & Dumbraveanu-Andone 1997). Communist heritage can also be seen within visual and material culture, the visual culture encompasses films about the era, and through an intersection with material culture (the products) the branding and advertising of said products. There is an irony that through consumer culture and the adjunct of branding and advertising that communist heritage can be plainly and most easily seen within Romanian culture: As Schiau (2011 p.285) notes:

"Consumer culture is, perhaps, a defining characteristic of the democratic and capitalistic world. Consumer culture implies the entry of consumer goods in the lives of individuals from all social strata, and it is supported by a system that revolves around shopping, advertising, and marketing. However, one may ask oneself: how do people in post-communist states regard their former consumer options? And how do they relate to consumer culture in the present?"

However, pure nostalgia for such a period is looked down upon in general terms, and are little visited by academics. As Pohrib (2016 p.275) states: "Romanian vernacular heritage practices are still brushed aside as 'mere nostalgia'." This also leads on to the identification that, what is being utilised in Romania may not actually be nostalgia as identified through the marketing practices of the Romanian brands.

5. ROMANIAN OSTALGIA

Articles discussing communist era brands are commonplace with title such as “Top 10 Communist brands” (Romania Libera Online 2009) and; “Do you remember the key soap mattress relax cigarettes Guban cloth or shoes? How they were invented and what happened to Ceausescu's brands” (Truth 2016). These brands can be split into two categories. The first main category are brands which began prior to Communist (pre-1944), the second category are those brands started under communism. Within both these two categories there are two subcategories of brands, those which disappeared and then have been resurrected to the market and those brands which have a continual existence from the communist period till today. Of interest to this paper in relation to their nature (communist brands), and their utilisation of ‘nostalgic’ imagery, are the Rom chocolate bar, and Pegas bikes.

5.1 **Rom**

Rom Chocolate bar is produced by Kandia Dulce (sweet candies), it was created in 1964, and is noticeable packaged in the colours of the Romanian tricolour and perceived as the ‘national’ sweet (Kandia Dulce 2017a). It has utilised various levels of nostalgic symbolism within its marketing strategies. In the early 2000’s ROM created several adverts which took a tongue in cheek utilisation of communist activities within the context of contrast to modern day Romania with a slight surreal air to them. Their campaign was described as such:

“Rom has focused its communication strategy on consistency. The chocolate’s packaging, logo and taste have not changed significantly over the years. In 2005, Rom Tricolor took its communication to the next level. McCann Erickson Romania, the brand’s advertising agency, started a campaign under the slogan “Strong sensations since 1964”, in which communist realities like propaganda and censorship were presented ironically, as a bittersweet ingredient that one might associate with the chocolate bar and acknowledge as part of his or her past and identity.” (Business Review 2010)

Screen shot of Rom advert from 2010. (Kandia Dulce 2017b).

For example, the subject matter in the adverts could be construed as offensive in relation to the crimes undertaken by the communist state against its own people. The first advert shows a longhaired student type in modern day Romania eating a Rom chocolate bar, who is seized by two securitatae thugs; who is interrogated, forcibly sheared and then thrown back onto the street with a shaved head (Kandia Dulce 2017b).

The second advert has a female student, coming into interaction with a Ceausescu type character, his Securitate minders and an entourage of children dressed as young pioneers (Organizaţia Pionierilor) (Mocioalcă no date). She is forced to dress appropriately and then is thrown back out into the modern world (Kandia Dulce, 2017b). While the third is a surreal kaleidoscope of socialist imagery alongside martial music with the face of Nicolae Ceausescu. Red stars, hammers, and sickles psychedelically dancing around the screen in ways reminiscent of the huge moving pictures that the communists undertook using real people in their vast sport arenas to display their control over, and physical prowess of their people.

The reported controversy over Ceausescu's use in these adverts was not as you might consider because of his faulty record of accomplishment as father of his nation, but that him being used to advertise chocolates etc. was negative to the Ceausescu brand itself (Mutler 2010), and that its use violated free market regulation concerning brand ownership. An associated press article (2010) reported that: "With the surviving members of the Ceausescu clan are trying to limit use of the name, saying it violates their official registration of "Ceausescu" as a brand at the State Office for Makes and Brands."

Attacking the cultural use (in a play) of the Ceausescu name Nicolae's son stated ""We just want to stop people exploiting the name," the son, Valentin Ceausescu, told the Associated Press. He acknowledged that the play was artistic expression, however, rather than a commercial use of the name, and they were not likely to win the case" (Mutler 2010).

This usage of secret police images alongside 'humorous' usage of such a dark subject while may seem strange but as noted prior, one aspect of this cultural usage of communist heritage is that it is used in a humorous way as seen in the films, Tales of the Golden Era (2009), and 12:08 East of Bucharest (2006). Some view this comedic irony as a continuation of the use of humour as part of a coping and resistance mechanism against the party (Bogdan, 2015a). One example of such dark humour being the joke: those Romanians who did not die from cold during the winter and those who did not die of starvation during the past summer are to be hanged soon for on suspicion of membership of the Resistance movement (Bogdan, 2015b), to put this joke into context, 15,000 Romanians died yearly due to starvation, cold and other shortages (Besliu 2014).

This is indicative of the cultural linkages of Rom and Ceausescu and the golden era is overtly stated by some commentators "If we'd set ourselves to recur to fiction movies as a parallel, the most adequate term of comparison for the Rom chocolate bar would be the much acclaimed ""Tales from the Golden Age"" (Velicu & Mitarca, no date).

The nostalgic view (in its Anglo-Saxon sense), for the Ceausescu regime is experienced by some of those who lived by it as sociologist Vasile Dancu intimated: "Ceausescu is the icon of a glorious past, of a Romania where the memory of cold and the hunger have been erased" (AFP, 2018). While historian Armand Gosu stated that: "Ceausescu stills haunts the minds of those who grew up before 1989. The nationalist-communist discourse is still very present in political debate, while the former leader seems to have become acceptable, worthy of respect, a great patriot" (Ibid). This nostalgic element within a certain demographic has been on the increase due to dissatisfaction with the political elite, but this is not to say that it is universal as those who were victims of the regime's repression are more intolerant. With Radu Filipescu describing the regime as "a personal dictatorship" with the regime being "based on terror" (Ibid).

5.2 **Pegas**

The other specific brand which unabashedly uses (n)ostalgia as an integral part of their marketing is Pegas, which is a communist era bike brand which started in 1972 initially producing bikes for adults, and later diversifying into children's' bikes. However, by the 1990's they had stopped producing bikes, an entrepreneur Andrei Botescu was searching for parts to maintain his own Pegas bicycle, unable to source parts realised that there was a market for parts and the bikes themselves, he quit his job and set up his Workshop Pegas, registering the trademark and investing 70,000 euros ($77,000; £55,000) to do so (Mihala 2016).

The link with nostalgia and the product is simple to Botescu, "For many Romanians, a Pegas bicycle is a symbol of their childhood…during the communist period Pegas was the only type of bike in stores. At the time, every child had a Pegas or wanted one" (Mihala 2016).

This nostalgic aspect can be seen in their marketing activities, utilising a retro styled advert, which has more in common with a scene from the film the Titanic, it sits well with their retro styled and original 1970's designed bikes. However, their summer 2016 campaign utilised a Romanian word called 'dor', which is like nostalgia, but is not nostalgia. "Pegas Romania is one of the most devoted brands to its country and our intention is to get closer to the Romanian families that live abroad. We want to bring them joy through our initiative and to create for them a community united by this unique word – "dor" – an important trademark for Romania and one of the most beautiful feelings that one can have," also added Andrei Botescu, founder – Pegas Workshops." (Newsroom 2016)

6. DOR

As stated earlier nostalgia, in terms of its Greek pedigree has positive and negative aspects, (El-Ziab 2016). However, as also noted is that by the later part of the 20th century it had lost its negative aspects. If nostalgia lacks negative aspects, then it cannot be nostalgia that it is being used within Romanian version of 'Ostalgia' as it revels in the negative connotations, whimsically manipulating them and subverting them through humour.

As identified through the Pegas campaign within Romanian culture there is an emotional concept named 'Dor', which is inaccurately translated as nostalgia. It is not nostalgia and is described as "untranslatable" into English (Leal 2000 p.275; Vacarescu 2004 p.4). Whereas there is the positivity of nostalgia, the example of 'Dor' also encompasses <u>all</u> aspects of the emotional attachments to the person/place/thing/activity not just the positive elements (Borca 2015).

An academic definition was given as "melancholy (expressed by the unique Romanian word "dor"), sadness" (Catana & Catana 1999 p.254). But it also has within it the idea of pain, not just a painful memory but pain caused by the lack or missing of a time, place, person, thing or event, but also an entire panoply of emotions that can be linked with this:

"the word dorî has a special resonance, the resonance of love and pain because of love and missing (!). The word durere (pain) has the same etymological root as dor, and the verb a durea (to hurt, to be in pain), when conjugated at the third person plural, becomes dor, like in ìma dor ochiiî (my eyes hurt). Thus, the only way of intelligibly translating into English the Romanian ìMi-e dor de tineî is ìI miss you.î But this is not what it literally means, for in English, as well as in French, ìI miss youî and ìTu me manquesî involve a feeling of missing something or someone, but no pain is conveyed in it, you can as well miss a book because you do not find it. ìMi-e dor de tineî means ìI am (in) pain of you" (Vacarescu 2004 p.4). Thus, due to the integral aspect of pain within Dor it can be construed that it is Dor rather than nostalgia being utilised in Romanian 'Ostalgia' of the symbols, products and brands and period.

7. CONCLUSION

While the initial aim of this paper was, to identify whether a Romanian form of Ostalgia existed and how it was expressed in terms of products, branding and in the cultural sphere, which it has done. The concept of Dor and its application within marketing was identified; this led to the identification of other similar non-English emotional concepts such as the Portuguese saudade (Leal 2000 p.275) or Welsh Hiraeth (Gerlach 2016 p.333) which have 'no direct cognate' in English (Gerlach 2016; Petro 2012). These emotive descriptors have not adequately been investigated and in fact the entire area of cross-cultural effects on nostalgia is one which has not been adequately investigated, while psychological aspects have been touched upon (Hepper et al., 2014), this interest has not been expanded into other areas such as marketing or its application within branding or advertising. Furthermore, the concepts such as 'Dor', which were involved in this study, were not investigated, either in relation to the idea of 'nostalgia' or as an alternative concept on its own right (Hepper *et al.*, 2014). Thus, the development of academic studies into nostalgia need to widen their remit into emotives like Nostalgia is required. It also raises the question of cultural bias and ethnocentrism in relation to the identification and use of 'nostalgia' in general and specifically in relation to marketing and consumer behaviour. That it opens areas of future research into:

a) What of the 35 concepts identified within the Anglo-Saxon model of nostalgia (Hepper, *et al*. 2012; Hepper *et al.*, 2014), are applicable to other culturally specific emotions which are like nostalgia such as Dor, Hiraeth, Saudade.

b) What concepts, (if any) do these concepts encompass which do not relate to nostalgia, and what (if any) effects does this have in the use of 'nostalgia' as a concept within marketing

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SECURITY POLICY: WHAT IT IS, WHY AND CHALLENGES"

Annureet Bajwa, Chaminda Hewage

ABSTRACT

This research paper provides an overview of IT security policies, as the author delves into detail of what it is and why should we enforce. With major concerns, of breaches of cyber security happening currently all over the world it is tough for businesses to keep their sensitive data safe. It all comes down to how users implement it because the greatest flaw of data breaches are human factors related issues. It can be a daunting task to consider, given the vast number of issues and considerations needed to be taken into account when creating the perfect Information Security Policy Framework. This paper investigates vital key facts in understanding the benefits and drawbacks of a policy. This will all be backed up with evidence and discussions shown about major concepts, techniques that can be implemented and enforced for businesses to have a successful security policy. This is a great starting point for novice users trying to understand the general concept of security policies.

Keywords: Information, Security, Policy, Implementation.

1 INTRODUCTION

Over the recent years, organisations of all shapes and sizes are having to embrace information systems and technologies to survive and be able to compete in a highly competitive environment (Fulford & Doherty, 2003). Organisations are increasingly becoming dependent upon the availability and exploitation of high quality information within their systems. The highly sensitive information, has not escaped the attention of hackers, cyber criminals and rouge employees who seek to damage the organisation's reputation by stealing the data (Gupta, 2004). Information systems are frequently updating and developing throughout organisations globally, so it is vital that adequate security and control procedures are introduced to ensure that all sensitive information is secure within their information systems to protect its integrity and confidentiality (Dhillon & Backhouse, 2001). This has made organisations aware to recognise their responsibilities to secure their physical and information assets (Disterer, 2013) because there is extensive evidence to suggest that threats, to security of data are increasing every year and most importantly, the severity of the impact it has caused the organisation (Angell, 1996). Individuals have a wide array of attack options, such as erasing a customer data base, unauthorised access, human error (Lock et al, 1992), planting viruses, sending a Trojan Horse (Post & Kagan, 2000), copying personal records, whilst the current threat includes hacking and cyber terrorism (Gupta, 2004) (Furnell & Warren, 1999). Hence, effective IS security requires understanding and implementation of IS security policies and guidelines that will ensure organisations of their valuable assets. In the present day, there are many different types of security standards, polices and guidelines that organisations can adhere too, in order to develop and maintain their stance against cybercrime which is a major threat in today's world.

2 WHAT IS A SECURITY POLICY AND WHY?

2.1 What is a Security Policy?

The security policy is basically a plan, outlining what the organisation's critical assets are and how they must be protected (Danchev, 2003). The security policy provides staff with information of the 'acceptable use' of any of their assets, with an explanation of what is allowable and what is not. This gives the employees an insight and engages them in securing the organisations information systems.

Danchev (2003) explains that the policy acts as a must read source of information for every employee using the systems and resources within the organisation that could see their information assets as potential targets for cyber criminals. An organisation having a well written policy should demonstrate certain areas such as risk assessments, password policies, administrative and user responsibilities, e-mail policies, internet policies, disaster recovery and intrusion detection. This will allow employees to be able to react and recover from most situations in minimal time (Bowden, 2003). Organisations will need to address the elements above by discussing how their sensitive information must be handled, how to maintain the IDs and passwords, how to respond to a breach, intrusion or other security incidents, how to use systems and the internet in a secure manner and how to properly use the organisation's e-mail system.

Basically organisations, tend to create security policies because it lays a foundation of information security basics to explain to employees how their actions are responsible for the protection of sensitive information assets throughout the company and being able to complete business online as communications will be secured (Danchev, 2003). In order to protect sensitive information data, organisations need to implement controls and rules. To ensure this is successful, standards, guidelines and procedures need to be achieved for the overall implementation of the information security policy in any organisation.

2.2 What are Standards, Procedures and Guidelines?

Standards specify how to configure devices, how to install and configure devices, install and configure software and how to use information systems and other organisational assets, to be compliant with the intentions of the policy. Standards consist of low level controls to help enforce the security policy, as it ensures security consistency throughout the business and those controls help with the implementation of specific technology, software and hardware. For example, the organisation may implement a password standard for its employees, as it will set out certain rules for password complexity and also Windows may implement a standard for hardening Window Clients (PJ, 2009).

Procedures identify the step-by-step instructions to preform various tasks in accordance with polices and standards. Procedures explains how to implement these controls in an easy and affordable manner for any employee to use in a step-by-step guide. An employee maybe given the task to install Windows operating system securely, so with the help of a written guide of procedures in how to install it, detailed steps will encourage the employee to ensure the operating system is secure to satisfy the policy, standards and guidelines (PJ, 2009).

Guidelines are advice about how to achieve the goals of the security policy, but they are only suggestions, not rules. It is an important communication tool to let people know how to follow policy, as it conveys best practices for using technology systems. For example, a standard may implement that passwords should be 8 characters or more, so the guideline may state that there must be a best practice to ensure that the expires after 30 days. Another standard may set out control for accessing the internet securely but a guideline could be sent out to all employees in the form of a newsletter outlining the best practices for using the internet (PJ, 2009).

Organisations, who wish to implement these rules should introduce an Information Security Policy Framework, as a policy should never be combined into one document, instead should contain several for different document as they will target different audiences within the organisation. For organisations, these simple rules and steps benefit from securing their sensitive data or assets from any cyber threat. All these steps create the foundation of a successful security policy which the author will explain in depth within the sections below.

2.3 Why have a Security Policy?

Organisations building a good security policy, provides successful implementation of security related projects currently and in the future. The first step towards enhancing security for an organisation is by introducing the policy to all members of staff on their different responsibilities, the use of resources, explaining how sensitive information should be handled and listing all the prohibited activities. During the development, it will be beneficial as it will turn all the employees into contributors as the organisation tries to secure its security and reduce the risk of potential security breaches through human errors or rouge employees (Danchev, 2003). This may involve such issues of loss of data, revealing information to unknown sources, improper uses of resources within the organisation and countless other dangerous activities.

There is serious amount of threats in the world today for any organisation holding highly sensitive assets it is essential to have a security policy. For example, a small company as an advantage to move quickly but it comes with a risk as it is easy to get derailed by a competitor or the funding as run out before you start to become stable (Colson, 2011). They say small organisations have nothing to lose because physically there is not any assets but it does not matter if you work from your phone or tablet, storing the information you have in the cloud and encryption is non-existent between servers when sending vital documents. That is why most organisations need a policy to secure their assets, as they cannot afford to take risks (Colson, 2011). So by having security policies and procedures in place, it will protect the organisation through a proactive policy stance, establishes the rules for user behaviour and any other IT personnel, defines and authorises consequences of violation, demonstrates a stance on security to reduce risk and ensures proper compliance with regulations and legislation (Garrett, 2012). Many people may argue that it may not be so important but policy matters.

3 BENEFITS AND DRAWBACKS OF A SECURITY POLICIES

Garrett (2012) explains, implementing a security policy within the organisation has many benefits as it minimises risk of highly sensitive data leak or loss. It protects the organisation from malicious external and internal users. It gives employees a set of guidelines, best practices of use and ensures proper compliance. The policy describes that internally and externally information is an asset, the property of the organisation and is protected from unauthorised access, modification, disclosure and destruction. It finally promotes a proactive stance for any organisation when legal issues arise (Garrett, 2012). It also provides new and updated information to keep employee’s knowledge up to date with new risks and what to do about them (Native Intelligence INC, 2016). It protects the organisations reputation and reassures to clients that their information is secure. There will be a cost savings through reduction incidents because sooner the breach is identified; the cost will be lowered when addressing the problem (BSI Group, 2016). There would be an improved awareness regards to information security and if enforced properly, commitment to this cause would been shown at all levels throughout the organisation. Finally, it would reduce employee related breaches because staff would be made more aware of the information they are dealing within what the policy states but are employees still the reason why breaches occur?

Effective IS security requires that all employees are aware of their company’s policy but also to comply with the policies and guidelines. However, staff members occasionally or rarely comply with these IS security procedures and techniques which places the organisation’s assets in danger (Pahnila et al, 2007).

There have be numerous cases over the past decade throughout the world about thefts of data lost but this real life example back in 2005 has an interesting twist. An employee at SafeNet's Inc. is one of the world's top information security companies (Baltimore Sun, 2005), wanted to get some extra work done and printed out payroll information of about hundreds of SafeNet employees. The employee stored the information into his briefcase and placed it into his car. The car was broken into and the briefcase was stolen (employee names, bank account numbers and social security numbers) (Schneier, 2005). The most interesting point here is the bad security practices shown by the company. Social security and bank account numbers should not be kept with the payroll data. The use of employee numbers would have been better and keep sensitive data separate from the processed payroll data. Secondly, any hard copies of sensitive information should never go home with employees. However, SafeNet stated that no policy was violated and no new policies are being written because of the incident (Schneier, 2005). Clearly the company had no guidance how to manage and handle their sensitive data which may come down to the implementation of the policy or the nature of employee's effectiveness of complying with the policy.

A former employee of the US Government, whom is now a technology consultant at Taos provides and insight why organisations and people do not follow security policies (Garcia, 2015). Firstly, the policy exists just to protect the organisation's legal standing if an incident has occurred. Employees tend not to understand it, except the person who wrote usually an IT member of staff and has since left the company. They also may have not seen it before or do not remember reading the policy. Senior management employees are aware of the policy but they do not prioritise or reward their employees for implementing a security posture. On the other hand, employees may be aware that they have violated the policy but believe that it does not adhere to them due to their intelligence or they think that policy is simply stupid and worthless. Staff members may argue that following the policy may get in the way of getting other work done and also forget what is and is not allowed by the security policy. Finally, the organisation may have no security policy in place or it might be out of date as it does not match with the current environment (Garcia, 2015).

So can organisations implement security policies within the workplace, to understand what employees need to do to secure sensitive assets throughout the company. This is where businesses look for help in terms of international standards, awareness programs or any other techniques which can push the company into the right direction to secure their information security.

4 IMPLEMENTATION OF POLICIES

4.1 Security Awareness Program

A security awareness program is very noticeable approach for organisations to usually promote security awareness with initiatives to educate employees. There are many topics the awareness program may include such as privacy of personal information, incidents, how to manage attacks, software and hardware vulnerabilities etc. The idea is for security staff to teach employees to be vary in how to deal with sensitive information and completing business online (Bejtlich, 2012). These security awareness programs can remove human errors but all organisations will have some sort of risk that cannot be avoided even with the help of training. Organisations that have security awareness programs demonstrates strong human-centric controls and countermeasures to deal with breaches (Bejtlich, 2012). A plan for an effective security awareness program should include; a statement of measureable goals for the program, identification and categorization of the audience, specification of the information to be included in the program and the description of how the employees will benefit from the program. Overall this approach will help organisations maintain its stability against information security (Deertech, 2013).

4.2 Enforcement of Policies

There are numerous of ways that management could enforce policies within the workplace. By firstly incorporating a Policy Enforcement for Vendors which states a security enforcement for business partners and other non-corporate entities, that would cause a breach of service level agreements (SLAs). Another technique could be a policy enforcement for employees, where a positive and negative enforcement can be introduced. A software-based enforcement can suggest software can be used to enforce policy compliance, preventing actions that are not allowed by the policy e.g. blocking social media sites. These are just some of the different techniques of enforcing policies into the organisation.

4.3 Mechanisms

There is a clear distinction between a policy and a mechanism, as these are two terms we often come across when discussing policies in depth. A security mechanism is often displayed as a method, tool, procedure, technique or a particular system achieving a result for enforcing a security policy within the workplace (Bishop, 2005). Mechanisms can suggest, how a policy is completed in the terms of enforcement. For example, an organisation has a policy which clearly states that employees of different levels have to authenticated before they enter certain building and offices. It is suggested that the policy has given information on what needs to be done, without how it can be achieved. Arguably, organisations find the enforcement of the policy the most difficult as they do understand what is expected from management all the way to the employees. However, the policy can be enforced by one or more different mechanisms; employees using their identification cards to gain access, valid cards will unlock the door, using a retina or fingerprint scanner will authenticate all employees when entering the building/office (Sravan, 2016). Mechanisms will have its advantages and disadvantages because we can use universities as an example because they allow access for employees such as bar staff etc. to be able get in anywhere within the campus but have no rights to be in the management building where all lecturers are based.

Mechanism can also be non-technical, as employees will need to show their proof of identify for such things as accessing sensitive data, changing passwords and even policies require procedural mechanisms that technology cannot enforce (Bishop, 2005). For example, the accounts department in an organisation has a policy that prohibits any employee from copying sensitive data. That department could of implemented mechanisms the computer system could have used from reading/copying. The department failed to use these mechanisms and a breach of security has occurred. The department's failure to protect their files does not authorise anybody to copy them. There are simple mechanisms that could have easily protected the data by passwords, algorithms placed on the system to deny access to employees, whom are not authorised to use it. However, as previously mentioned there are flaws in using mechanism because organisations and departments only provide basic security mechanism, which are not adequate to protect information sent over the organisation's network. Also passwords are easy to be obtained if they recorded or copied by an employee which in its self is a violation of the policy (Bishop, 2005).

4.4 Separation of Mechanism and Policy

Another mechanism technique is to separate the techniques enforced from the policy, as it would be difficult to for the same mechanism to be used in different policies. Meaning that these mechanisms are likely to better meet the need of wide range of users, for a long period of time. Hardwiring the policy and mechanism together could lead to some bad affects as it will be harder to change and could be destabilise the mechanism. So that could mean by separating them, organisations will be able to create new polices without breaking (Sravan, 2016) (Wiki, 2016). We go back to our example of accessing the accounts department with mechanism of RFID readers or fingerprint scanners as it does not impose any limitations on the policy but if access times needed to be changed, the server will update its access rule for current users or new users. By having strict policy by separating the two will bring vast improvements to the information system in terms of flexibility, reusability and stability (Sravan, 2016).

4.5 ISO 27001 & 27002 Standards

ISO 27001 and 27002 are the two most recognised standards all over the world and they are two complimentary standards for information systems and processes. ISO 27001 focuses on management, whereas ISO 27002 provides the necessary controls to make ISO 27001 achievable (Mortman, 2016). Both standards when achieving certification, will focus mainly on performing risk assessments and then decide on what appropriate changes to policies, processes and controls.

BSI Group (2016), are one of the many organisations that offer security compliance for businesses that need help to ensure their security on their assets are safe and secure. Firstly, they want to ensure that all employees are aware of what is changing with the company and what will be required of them. This includes the commitment from senior management. Be able to compare existing information security policy with the standard's requirements, with the use of feedback from clients and suppliers also. Finally, senior staff members will have to motivate staff with training and awards and make sure there is continual improvement by completing a regular annual or monthly review of the standard (BSI Group, 2016). If implemented correctly, the business is capable of gaining certification of the standards.

5 CASE STUDIES

Many different organisations have benefited from implementing the standards, methods, mechanisms and techniques, and have seen huge success by identifying security risks and secure controls in place to manage their systems that complies with the policy.

A leading London based cloud and networking company (Exponential-e) providing innovative technology services. The company have gained multiple international standards including the ones above help them focus on information security. This demonstrates that they have best practice controls in place to help identify threats to information (BSI Group, 2016). A business IT and communications provider company (Alternative) has also gained multiple standards to increase business efficiency and enable them to address security incidents more fluently.

The NHS have an information governance toolkit which sets their service levels and it's based on the ISO 27001 standard. Their major focus is information security assurance (Scott, 2016). Google Apps for businesses has earned ISO 27001 certification which demonstrates they are committed to continual improvement and development of their information security systems (Feigenbaum, 2012). BSI Group (2016), helped Fredrickson International a leading debt collection agency now has a greater security awareness and provided the agency with better confidence of its information security practices in their market. Our last case study, Legal Ombudsman resolves complaints about lawyers and by implementing the standards they were able to manage their risks appropriately, improved their brand reputation and their clients felt more at ease as the data is secure.

A private sector company, Northrop Grumman Corporation a company which is a major provider of technology products to private companies and governments (Johnson, 2010). The company already has extensive technology controls in place to implement their policies. They believed in protecting their systems by improving their human factor issues. The creation of a security awareness program was designed to address those issues. It led to a series of small steps, which included by obtaining a leadership sponsorship, training for creating a policy and strategy, assembling a team which they dedicated their time to promoting the awareness program, communications plan was introduced to keep all the employees aware of changes with the policy, management briefing and many more implementation techniques. This case study displays how for any organisation to build a structured approach to security awareness, by using effective training and communication techniques can eliminate human factor issues and bring success to securing information data (Johnson, 2010).

The case study emphasises that by not enforcing a policy, could lead to a major of loss of money. In South Carolina, the Department of Revenue had a massive data breach, which resulted in a loss of around 4 million taxpayers' personal information.

This had cost the state a record of $350 million, whereas the main cause was the lack of mandatory security policies across the entire state. There was some sort of security policy in place but it was inconsistent, their sharing of best practices did not really exist and if data breaches occurred, there were no protocols in place to respond to breaches (Johnson, 2010).
All these case studies have taken necessary steps to ensure they enforce policies in a suitable manner for all employees to use, understand and implement. However, with all the extra advice and guidance given to organisations, does it still help employees enforce their security policy in the workplace?

6 CONCLUSION AND RECOMMENDATIONS

To conclude this research paper, we would like to highlight our personal view on the current state of Security Policies. We personally believe with all the information currently available, that our own actions as humans are answers to the demise of policies. It may look at great on paper, but most clients may assume that the business takes security very seriously. The security policy is usually in the control of an IT staff member and he's been given the role of enforcing the policy to the entire company and its staff. Most organisations do not realise that their employees are violating the policy because firstly they have not read the document, believe they are doing nothing wrong, or the policy is just sitting in a cabinet to keep legal representatives happy. We are definitely entering an age when cyber threats are the greatest threats to our organisations, where our personal information is no longer private. Organisations are trying to take huge strides also by implementing standards to ensure they are able to control security. The ISO 27000 series provide management and controls to set in place to secure security of their systems. The standards are quite popular throughout Europe and Asia where large organisations have implemented the standard but again, issues relating to the costing and maintenance of the standard could dis-interest large organisations. We as a nation need to take small steps to assure that our information is safe in the work place. The section below will provide a few tips to create a good policy for any organisation.

For any person who is in senior management or planning to begin a career in management of Information systems, their number one priority is to get everybody involved in the development of the polices. Security is not just IT issue but the entire organisation is at stake. There needs to be executives, HR directors, legal counsel and even stakeholders. With all the current threats and risks in the current age, security policies need to be well written and implemented as any other major document within the organisation. Organisations need to continue to create or use similar mechanisms to ensure the security policy is followed and all members of staff understands the implications and consequences of non-compliance (Cobb, 2008). Implementing this approach will help employees/users to think twice before taking the shortcuts that lead to major incidents. With the help of standards, enforcement techniques and just following simple steps, any staff should be able to create an excellent information security policy because all it needs is just a little motivation by everyone. As it will engage the employees looking after the organisation's major assets.

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