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Behavioural underwriting using non-traditional data sources: Evidence from stokvels

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Abstract

This study explores behavioural underwriting techniques in the context of informal markets. These markets utilise non-traditional data sources to understand financial behaviour especially savings and credit. The informal stokvel markets in South Africa are examined and found to display similar behavioural underwriting principles to those applied in developed markets which use more traditional and sophisticated data and techniques. This paper offers insight into how informal markets use unstructured behavioural data in credit decisions through behavioural underwriting.

Keywords: *credit, behavioural underwriting, informal markets, stokvels.*

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INTRODUCTION

How and why individuals make decisions and behave in certain ways, shapes economic and financial decision making. Understanding individual behaviours and success markers offers powerful models to predict future behaviour. Behavioural underwriting encompasses both traditional and untraditional sources of data to be included into a model able to predict success of a transaction like a credit agreement. Behavioural underwriting aims to use extensive data gathered from samples of datasets to come up with a description of causes. The hope is that automated techniques may be able figure out meaningful patterns in the data. While these type of models are increasingly being used to predict behaviour in sophisticated developed markets, behavioural underwriting is an area that shows great promise in the developing world. Indeed, in China, social credit scoring performed by Sesame Credit is due to score some 900 million people by 2020 (Chishti & Barberis, 2016).

This article examines the literature on credit decision making in informal markets to determine how the principles of behavioural prediction can be applied in credit decision making in these markets, using evidence from Stokvels in South Africa. The study determines that stokvels use non-traditional data to increase their behavioural knowledge of borrowers which reduces undesirable credit related concerns such as information asymmetries, high degrees of separation, adverse selection and moral hazard. The remainder of the article is structured as follows: Section 2 of this article discusses core principles in credit provision, Section 3 examines stokvels in the context of behavioural underwriting, and Section 4 concludes.

CORE PRINCIPLES IN CREDIT PROVISION

At the core of a credit business is the management of risk and the largest risk is linked to individuals and their behaviour. Risk increases when individuals act in an unpredictable manner and risk decreases when individuals act in a predictable manner. The difference then between increasing and decreasing risk is the volume of information available to predict behaviour. If we see risk through this lens, then information becomes a form of collateral for credit firms. Extending credit is concerned with the following generic areas of concern: (1) Moral Hazard: any situation in which one person makes a decision about how much risk to take while someone else bears the cost if things go badly (Krugman 2009); (2) Adverse Selection: a market process in which undesired results occur when buyers and sellers have asymmetric information (Schulmerich et al, 2015) and 3) Degrees of Separation: this refers to closeness, or the extent of the links and ties between the parties.

Provision of relevant information improves the efficient allocation of credit. Credit providers would opt for more information about a potential borrower than less (cost permitting), but more information verified by third parties than provided by the actual borrower themselves. Borrowers who opt for or consent to the gathering of additional third party data about themselves would for the most part, be those good lemons, described by Akerlof (1970). The more information borrowers consent to be collected on their behalf, the higher the informational collateral lenders would have to make informed decisions. Traditional credit bureau data are considered standard in assessing credit risk and provide a fundamental risk mitigation and necessary underwriting requirement. However, there are borrowers that are bad risks that pass the standard credit risk assessments and receive credit as well as those that are good risks but do not meet financial credit risk levels.

Not all information is created equal. Some information traditionally not used in credit granting processes may contain very powerful predictive behaviours and some not. This will depend on the bounds and success markers of the model. Behavioural underwriting incorporates the borrower's social groups, networks and endorsements from friends and family. To a large extent, this is verifiable third-party data, perhaps on a digitized, decentralized and public ledger. It includes involvement from a wider audience outside those involved in the credit transaction. Behavioural underwriting is often made up of a number of people and organisations vouching for the credibility of an individual. Underwriting based on behavioural data, using machine learning, neural networks and other advanced statistical techniques, will provide scalability for financial institutions to offer more to those still without access to credit (Chishti & Barberis, 2016).

However, the fundamental principles of behavioural underwriting are not new and have been practiced in informal lending for decades, such as in the case of stokvels which are discussed in the following section. In fact, the future of credit is attempting to recreate lending practices already observed in stokvels on a larger scale with better access to capital and technology.

INFORMAL MARKETS AND CREDIT: THE CASE OF STOKVELS

INTRODUCTION TO STOKVELS

Within informal markets where credit is granted, there is a distinct lack of traditional credit scoring data available but there is sizeable granular individualistic behavioural data available. Stokvels in South Africa are an example of an informal credit market that has existed for many years. The first stokvel was started in 1932 and stokvels traditionally functioned in lower income communities as a means of economic survival (Lukhele, 1990).

Stokvels are a type of credit union or rotating credit and savings club in which a group of people enter into an agreement to contribute a fixed amount of money to a common pool on a regular basis (Lukhele, 1990). The common pool can be seen as social capital, the connections among individuals, social networks and the norm of reciprocity and trustworthiness that arise from them (Putnam, 2000). Stokvels play an important role as economic and social instruments in smoothing consumption and in improving the living standards and increasing the utility of households (Mashigo & Schoeman, 2010). African Response (2012) estimates there are 8.6 million individuals belonging to 421 000 stokvels in South Africa who collectively save R25 billion (AUD $2.5 billion) a year, and increasing year on year.

An interesting aspect of stokvels is credit provision. Although stokvel members contribute and save towards a goal, accumulated funds allows the stokvel to provide credit to its members and earn a return. In many low income communities, it is common to approach a stokvel first for credit, then friends or employers, then banks (Oosthuizen, 2002). There are usually minimum requirements that need to be met to qualify for a loan from the stokvel, but the vetting process relies heavily on trust between members (Oosthuizen, 2002). This trust is borne out of the fact that the stokvel is made up of people from within the same social circle, including family, friends and neighbours, with a common bond. Trust serves as a means to mitigate risk (Irving 2005).

The act of credit granting within a stokvel is fascinating. An applicant applies for credit or requests funds from the stokvel and the group assesses the character of the applicant. In this process members reveal their knowledge about the credit applicant, which includes the likes of history with the stokvel, contributions, job security, family and kids' interaction, community involvement, church attendance, marriage, and social habits. Every single behaviour of the applicant is tracked to ascertain if they are a good or bad risk. It can be as singular as how they discipline their kids or if they tend to drink alcohol. A high priority in stokvel members' considerations is not money, goods or services per se, but the quality of the relationship that they can establish with the source of these goods and services (McGregor, 1989). The strong community element present within stokvels that fosters trust and a willingness to assist fellow members when the need for credit arises (Ndalana, 2014).

The unregulated nature of stokvels means that savers and borrowers have little or no legal or formal recourse against one another in the case of non-performance. This lack of regulation results in social contracts or mutual support being formed instead of formal ones, as seen in the study by Matuku and Kaseke (2014). In the event of a default, savers could be devastated by the loss of their savings, and this will most likely be felt by their immediate families and communities in varying degrees. This is why trust, loyalty and honesty are valued in stokvels (Matuku & Kaseke, 2014).

BEHAVIOURAL UNDERWRITING IN STOKVELS

In prominent literature on stokvels, namely Mashigo and Schoeman (2010), Murdoch (1999), Oosthuisen (2002), Lukehele (1990) and Verhoef (2002) to name a few, there are four themes that emerge as key differentiators of stokvel credit: behavioural underwriting, peer pressure, fairer costs and disintermediation.

For the purposes of this study, behavioural underwriting is the focus, it involves incorporating behaviour into the risk-return relationship. Behavioural underwriting is already being widely applied in the motor underwriting sector, where, for example, female drivers get better rates because they are considered to be safer drivers. Technology is emerging that makes it possible to underwrite for specific individuals rather than groups (Guardrisk, 2011). The credit paradox can be solved by granting credit only when the borrower has easy means of enforcing his contract or the lender has personal knowledge of the character of the borrower

(Akerlof, 1970). Sir Malcolm Darling (1925) said of village moneylenders: 'With his intimate knowledge of those around him he is able, without serious risk, to finance those who would otherwise get no loan at all."

Behavioural traits qualify a Stokvel member for a loan from pooled of funds. The stokvel does not perform any credit-vetting process at credit bureaus. Intimate knowledge of the borrower is obtained before the lending application process begins. Stokvel members know the borrower's children, family and friends, they know where the borrower works and lives, and they know the behaviour of the borrower, as well as the financial activities related to the Stokvel. The development of social capital is one of the benefits of participating in a stokvel, as members participate in stokvels, they establish social networks and friendships (Matuku & Kaseke, 2014). Before the loan is granted by the stokvel – perhaps even before the borrower applies for a loan – other members have already priced in the risk associated with a borrower's behaviour. Reputations of members are acquired on the basis of individual behaviour that is observed by others (Mashigo & Schoeman, 2010). All knowledge – personal, social, economic, past and present – available and stored by different informal mechanisms in the stokvel completes information on the individual member and creates preference and motive for a specific outcome that makes individual decisions and outcomes unambiguous and predictable (Mashigo & Schoeman, 2010).

Social practices and conventions in a group homogenise and create certainty about future prospects: the behaviour of the individuals contracted to the group's practices, conventions and prospects are insured by liability and loyalty to the group (Mashigo & Schoeman, 2010). Due to their role as a social ordering mechanism, groups can create an environment in which the individual can avert risk and reduce uncertainty by pooling liability and possible loss in a collective way (Mashigo & Schoeman, 2010).

MORAL HAZARD IN STOKVELS

Peer pressure exists within Stokvels to perform as agreed. Peer pressure is exerted on each member, and they are encouraged to be financially disciplined, responsible and to commit to the group to maintain their reputation (Mashigo, 2006). Even in cases where the level of household debt is overwhelming, stokvel members would find resources to perform on their stokvel commitments. Stokvels by their nature are a homogeneous, decentralised utility that caters for (insures) the specific motives and needs of its members by insuring prospects that would otherwise directly affect their consumption (Johnson & Rogaly, 1997). Stokvel members found teamwork, a sense of belonging and collective responsibility critical to ensure that borrowers repay their loans in a timely fashion and to ensure the safety of their contributions (Matuku & Kaseke, 2014). Borrowers have several incentives to repay loans, including increasing future loan sizes following good repayment behaviour (Karlan & Zinman, 2008). If a person defaults on their loan, the social knowledge of the default is well known. Borrowers would not willingly choose to ostracise themselves from the community in which they live. This corresponds positively with the idea that stokvel lending induces a higher degree of peer pressure. Consider the social reality in the context of a microfinance programme presented to villages: they consciously regard fulfilling important obligations to particular people as the very definition of behaving morally (Oxfeld, 2011).

ADVERSE SELECTION IN STOKVELS

Borrowers are subjected to very strict behavioural underwriting rules before a loan is granted within a stokvel. The underlying principle in a rotating credit society is money is only lent to people whom they know and trust (Matuku & Kaseke, 2014). The stokvel strictly vets each borrower based on their historical financial and non-financial behaviour. Stokvel membership is primarily based on the personal relationships and trust that exist among members (Theime, 2003). In understanding a person on such a granular level, the probability of lending to a defaulting borrower reduces. The probability of adverse selection decreases because of the nature of financial and non-financial behavioural data included in the credit decision. Most Stokvel members are generally risk averse with their savings and disposable income, and perceive loans to relatively unknown individuals as highly risky. Non-repayment of loans undermines the viability of stokvels (Matuku & Kaseke, 2014).

DEGREES OF SEPARATION IN STOKVELS

Compared to formal financial services, informal financial services generally incur lower transaction costs, require less formal documentation and proof, as well as no traditional collateral to secure loans (Mashigo & Schoeman, 2010). A significant difference between the formal and informal lending is found in the degree of separation between participants. This relates to the theory of the six degrees of separation – that everyone in the world is separated from everyone else by six links (Berman 2006), this theory was originally conceptualised in 1929 by Frigyes Karinthy.

The higher the degree of separation between individuals in a loan agreement, the higher the degree of abstraction and generalisation there is in the information used to make lending decisions. Stokvels have a lower degree of separation than traditional lenders. Participants, who know one another intimately, have a deeper non-financial data set when compared with participants who meet through a loan-application process.

CONCLUSIONS AND RECOMMENDATIONS

It is interesting to note that the future of credit is a ubiquitous and predictive one. The use of artificial intelligence to collect, structure and provide insights is increasing. Milanovic (2018) suggests that credit applications will soon be a thing of the past, instead artificial intelligence will track an individual's behaviours and predict future credit needs. In the future, credit (and capital) will be automatically allocated to people based off predictive artificial intelligence (Milanovic, 2018). This is an intriguing prospect but one suspects a fragmented implementation due to the challenges of consent, privacy and accessibility of online databases.

Behavioural underwriting uses data for numerous and disparate sources to form a holistic and constantly updating profile of individuals. However it is important to note that there is evidence that informal communities have been using an offline type of behavioural underwriting in their savings and credit activities for years. This study has shown how stokvels can use their detailed, informal, personal knowledge about the behaviour of the credit applicant to make lending decisions. When analysed in the context of core lending principles, the study finds that this behavioural knowledge can reduce credit related concerns such as information asymmetries, adverse selection and moral hazard.

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The effectiveness of climate change models in measuring financial risk

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Abstract

The effectiveness of models which measure the financial and economic impacts of climate change is examined through a critical review of the literature. There is disparity found as to what constitutes the financial effects of climate change and also as to how climate change should be measured. Existing models are predominantly focused on specific financial impacts of climate change rather than the impacts on the economy as a whole. The study makes recommendations for additional research which includes an economy-wide model that measures the impacts of climate change on a country's entire economic and financial system.

Keywords: *Climate change, financial risk, economy-wide model.*

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INTRODUCTION

Climate change, which started off as an environmental risk is now well perceived and documented to be a major financial risk, having implications for the growth of businesses and the economy. The subject of climate risk, therefore, occupies important public policy interest. On 17th February 2017, for instance, Mr. Geoff Summerhayes, an Executive Board member of the Australian Prudential Regulation Authority warned companies on the costs of ignoring climate change risks. His key message was that climate risks are no longer non-financial, they have economy-wide effects. Many sectors ranging from food, energy to financial sectors, in particular insurance and real estate, are concerned about extreme climatic risks. As per the 2015 Climate Institute report, the Australian banks are heavily exposed to carbon risks–a key component of climate risk. These risks, if not understood and responded to in a timely manner, can potentially hurt financial system and as a result impact the performance of the business sector.

The study commences with an examination of the literature on climate change and its potential economic and financial impacts. Thereafter a critical review and evaluation of climate change models measuring these impacts is undertaken. The study finds that there is disagreement in the literature on the potential financial and economic impacts of climate change with irregularities in data and shortcomings in modelling techniques. While there are models which measure specific economic and financial aspects of climate change, there is presently no model which comprehensively measures impacts on an economy as a whole therefore several aspects of how climate change affects an overall economic and financial system (EFS) are not well understood. The study makes recommendations for additional research which investigates the most effective ways to measure the impact of climate change and its effects on the economy at the national and sub-national levels by creating a macro-economic model. The key advantage of such a model is that it maps the effect of climate change on the entire EFS of a country. This model can be referred to as an “economy-wide” model.

CLIMATE CHANGE AND FINANCIAL RISK

In December 2015, 196 Parties, which included 195 states and the European Union, adopted the landmark Paris Agreement with the goal of limiting global warming to well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius above preindustrial levels (Batten, Sowerbutts and Tanaka, 2016). The agreement also recognized that climate change is expected to significantly impact the global economy in the coming decades (Farid, Keen, Papaioannou, Parry, Pattillo, and TerMartirosyan, 2016). The projected increase in global temperatures and associated changes in climate, such as variations in rainfall or storm characteristics, is expected to have significant market impacts; yet the nature of such effects are unknown. There are likely to be losses in output (production, employment, and incomes) through effects: (a) directly on climatesensitive sectors, such as tourism, agriculture, forestry, and coastal real estate; and (b) indirectly on sectors of the economy related to these climate-sensitive sectors.

The potential negative repercussions of climate change on the economy has led to a new strand of literature on “climate-change economy”. This includes how shocks from some climate variables, such as temperature, windstorms, and precipitation, influence the macro economy in terms of labour productivity, agricultural output, economic growth, and political stability (Dell, Jones and Olken, 2014). Some key messages emanating from the literature are summarised below.

Bansal and Ochoa (2012) used long run temperature data from 1930 – 2009 for 147 countries to measure the relationship between temperature and economic growth. They found that, on average, a 1 degree Celsius increase in global temperature reduces economic growth by about 0.9 percentage points and that countries closest to the equator were most impacted. Bansal, Kiku and Ochoa (2017) found a significant negative relationship between temperature and equity valuations, and that this has been increasing over time as temperatures have increased.

Deschenes and Greenstone (DG, 2007) find no statistically significant relationship between weather and U.S. agricultural profits. They found that increases in temperature will have almost no impact on the yields of the most important crops. However, Fisher, Hanemann, Roberts, and Schlenker (2012) point to the data errors of the DG paper and find that correcting data errors leads to a negative impact of extremely high temperatures on U.S. agriculture.

Graffzivin and Neidell (2014) show that temperature shocks negatively affect labour productivity in sectors with high exposure to weather, such as agriculture, construction and manufacturing. They see their results as implying that climate change could lead to a substantial transfer of income from mostly blue-collar sectors of the economy to more white-collar sectors. Hanslow, Gunasekera, Cullen and Newth (2014) analyse the economic implications of climatedriven pressures on the pasture-based dairy sector in Australia using an integrated assessment model and show that higher levels of warming and drier conditions have adverse impacts on the Australian dairy industry.

In the main, the literature finds a negative relationship between increasing temperatures and financial and economic output. However, shortcomings in climate modelling to date have been pointed out by several authors (for instance, Ackerman, DeCanio, Howarth and Sheeran, 2009; Pindyck, 2013; Revesz, Howard, Arrow, Goulder, Kopp, Livermore, Oppenheimer and Sterner, 2014; Dell, Jones and Olken, 2014; Stern, 2016; among others). In summary, these authors find that there exists considerable disagreement in the literature on the potential impacts of climate change. Fisher, Hanemann, Roberts, and Schlenker (2012) find that several irregularities in the weather and climate data explain a large portion of differences in findings. Further, many studies are based on national averages of climate change variables (Burke, Hsiang, and Miguel, 2015). These findings are in contrast to findings from sub-national level data (for instance, Colacito, Hoffmann, and Phan, 2016; Deryugina and Hsiang, 2014). Nordhaus (2006, p.3511) points out, ‘‘… for many countries, averages of most geographic variables (such as temperature or distance from seacoast) cover such a huge area that they are virtually meaningless’’.

EXISTING MODELS OF CLIMATE CHANGE

The existing climate change economy literature is heavily based on integrated assessment models (IAMs), which have a number of shortcomings. The IAMs typically model economic impact of climate change using a “damage function” which allows climate change variation to affect the level but not the growth rate of output (Dell, Jones and Olken, 2014), which is inconsistent with the empirical evidence in the new climate-change economy literature. These damage functions are often arbitrary. They do not account for feedback loops from climate change to the economy and finance, and for climate policy reflexivity as a result of both climate change impact and agents responses at the micro-level (Balint, Lamperti, Mandel, Napoletano, Roventini and Sapio, 2017; Batten, Sowerbutts and Tanaka, 2016). Due to this, these studies fail to identify the cash flow effects and are unlikely to provide reliable quantitative information needed for monetary policy makers. Stern (2016) argues that IAMs tend to seriously underestimate both the potential impacts of dangerous climate change and the benefits of transition to a low carbon economy. Many researchers (Stern, 2016; Dell, Jones and Olken, 2014; Batten, Sowerbutts and Tanaka, 2016) call for a new generation of models that depict a more accurate picture and help understand the mechanisms underlying the climate change shocks and growth relationship. Batten, Sowerbutts and Tanaka (2016) suggest that a more disaggregated quantitative analysis that builds on the best available climate science variables and econometric research will be highly informative for monetary policy makers.

To summarize, the literature has two concerns. First, there is disagreement on what precisely constitutes climate change (risk) effects. The current measures considered are broad and do not reflect climate risk per se. The second issue is about measuring the effects of climate change itself. The concern is that we still do not understand the full effects of climate change on the EFS. There is therefore a need for additional study which provides a response to these issues, as per the recommendations in the ensuing section.

RECOMMENDATIONS FOR AN INTEGRATED MODELLING APPROACH

Following the shortfalls of existing climate change modelling that have been identified above, recommendations are made for an additional study which focuses on three specific aims.

Firstly, the study needs to identify measures of climate change and construct a new climate change dataset. The proposed dataset should be historical, multi-country and cover sub-national (such as state-level) data. The main source of data can be from climate science research.

Secondly, a macro-economic model (specifically, a global vector autoregressive model) needs to be constructed that maps the effects of climate change onto the EFS of an economy. This model should focus on the interaction between climatic and (i) key macroeconomic variables of policy relevance such as economic growth, exchange rate, interest rate, exports and imports, and investments and (ii) firm-specific variables, such as sales, profits, dividends and other financial variables. The theoretical motivation has roots in the stock-flow consistent framework, which explicitly models financial balances and accounting identities. This approach has been applied in environmental economics (Godley and Lavoie, 2012) and more recently in climate economics literature (Dafermos, Nikolaidi and Galanis, 2016). The model should consist of two major blocks, namely the ecosystem block that will encapsulate the climate change and the financial system block that will include the balance sheet structure and accounting identities of firms and behavior of sectors in the economy.

Thirdly, it is recommended that a the stock-flow model be constructed as part of the above aim in order to incorporate the feedback effects of climate change risks on an economy’s financial system. This should include a macroeconomy block that will capture the behavior of banks, central banks, and government structure. The model will allow understanding of how the climatic change affects the central bank’s ability to meet its monetary and financial stability objectives by disentangling the channels through which climate change affects the financial stability of the macroeconomy.

Aglietta and Espagne (2016) introduce the notion of climate change as an example of systemic risk for societies as well as the financial system. One of the measures to insure the economy against this systemic risk is the introduction of carbon tax that lowers carbon emissions in the long-run. However, there is a very low probability that such an approach to mitigate climate change related risks by itself will be successful. A collective approach that targets the financial sector, as well as its articulation with monetary and fiscal policies is essential. This requires identifying the financial impacts of climate change risks on various sectors of the economy. Quantitatively identifying the climate change effects on the financial sector represents a new channel that can contribute to our understanding of the cost of climate change. This will pave the way for in-depth understanding of the channels through which climate change propagates and hence affects financial stability. This information will be useful for policy makers, in particular central banks, in accounting for climate change effects to meet policy objectives. The recommended research, therefore, carries high significance for policy makers.

CONCLUSIONS

The literature survey has revealed shortcomings in the data and methodology of existing climate change models in measuring financial and economic impacts. To address these problems, a study has been recommended which constructs a new comprehensive climate change dataset and develops an integrated economy-wide model which measures impacts of climate change on the entire economic and financial systems of countries. The proposed project has benefits for empirical researchers, policy makers and the community alike. The proposed dataset, using a range of sources from developed and developing countries, will be very beneficial in laying the platform for future empirical research studies on climate economics and finance. Further, developing stock-flow consistent framework and empirically applying the model enables a thorough and more accurate analysis of climate change in the context of capital markets and the broader economy. Through the project's impact on empirical research, it will benefit central banks and other major policy institutions around the globe.

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Assurance and Integrated Reporting Quality: A research framework development

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Abstract

Quality assurance is key if integrated reporting (IR) wishes to become the corporate reporting norm. However, current assurance standards seem unsuitable for an integrated IR assurance. This paper develops and proposes a research framework to evaluate the trends in IR assurance, the nature of IR assurance, the level of IR assurance engagement and the quality of IR assurance. Additionally, the framework proposes to test the impact of quality IR assurance on the quality of IR reports.

Keywords: *Assurance, Integrated Reporting, Framework.*

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INTRODUCTION

The introduction of integrated reporting (IR) by the International Integrated Reporting Council (IIRC) is expected to improve corporate reporting quality, transparency and governance practices. In line with the concept of "integrated thinking," organisations internal decision making and quality of issued reports are expected to improve (IIRC, 2016). It is therefore anticipated that IR concept will promote sustainable business practice (Maroun, 2018). Thus, through interconnectedness as a result of integrated thinking, organisations are expected to be more responsible towards sustainable business management and transparent in their corporate reporting (de Villiers & Maroun, 2017). Nonetheless, currently, there are still questions on the practice of integrated reporting and the quality of integrated reports issued, due to lack of IR assurance (Briem & Wald, 2018; Cheng, Ioannou, & Serafeim, 2014, p. 99; Maroun, 2018). Accordingly, Rinaldi, Unerman, and de Villiers (2018) opine that for IIRC to achieve its vision of making IR the corporate reporting norm, "trust or the lack of it" is paramount. It means assurance is a key part of the IR success.

Assurance is a treasured tool for improving the credibility and transparency of reports (Zorio, García-Benau, & Sierra, 2013). However, the current state of integrated reporting makes the traditional assurance methods unsuitable (Simnett & Huggins, 2015). Sustainability assurance is also in its formative stage (Kolk & Perego, 2010), and its quality is limited. This raises a lot of questions on IR assurance, quality and credibility, knowing there is currently no suitable assurance framework for IR reports. Further questions on how exactly IR could be a subject matter for assurance have been raised (Cohen & Simnett, 2014; IIRC, 2015; Maroun, 2018; Maroun & Atkins, 2015). Others have asked questions relating to the providers of IR assurance; as evidence suggests that quality assurance is affected by the provider of the assurance (Hodge, Subramaniam, & Stewart, 2009; Moroney, Windsor, & Aw, 2012; Pflugrath, Roebuck, & Simnett, 2011).

To legitimise and improve IR quality, suitable assurance cannot be left out (Cheng, Green, Conradie, Konishi, & Romi, 2014). This paper, therefore, develops and proposes a research framework to assess the trend in IR assurance, the nature of assurance, type of assurance providers, assurance reports issued, quality of assurance and the impact of assurance on IR quality. It tries to provide contribution to the emerging IR literature, especially to the limited IR assurance literature. The framework proposed in this paper is expected to provide a tool to link and evaluate assurance within the IR context.

LITERATURE REVIEW

The need for assurance has been justified in theory and in practice. To the agency theory, assurance is required to lessen agency cost associated with information asymmetry (Chow, 1982), while in practice assurance is expected to make reports credible, deal with ethical issues and "mitigate information asymmetry with institutional creditors" (Blackwell, Noland, & Winters, 1998; Zorio et al., 2013). External assurance has been identified as a tool that enhances the confidence and credibility of reports (Hodge et al., 2009). Hence, a multi-dimensional report like IR cannot be left out in assurance. However, the nature of IR makes the traditional assurance frameworks somehow unsuitable (Maroun, 2018; Simnett & Huggins, 2015). Maroun (2018) establishes that the need to evaluate subject matters against clearly defined criteria makes the traditional assurance frameworks unsuitable for IR. Thus, a subjective and forward-looking report cannot be matched against a set of defined criteria, making IR assurance difficult (Cheng, Green, et al., 2014; Cohen & Simnett, 2014; Maroun, 2018).

Integrated reporting has gradually become an interesting research area for academics interested in corporate reporting. The literature has so far focused on the roles and objectives of IR (Brown & Dillard, 2014; Dumay, Bernardi, Guthrie, & Demartini, 2016; Stacchezzini, Melloni, & Lai, 2016), the value relevance and decision usefulness of IR (Bernardi & Stark, 2016; Pistoni, Songini, & Bavagnoli, 2018; Slack & Tsalavoutas, 2018; Zhou, Simnett, & Green, 2017), IR relations with other non-financial reports (CSR and ESG reports) (Adams, Potter, Singh, & York, 2016), the determinants of IR (Stubbs & Higgins, 2014; van Bommel, 2014), IR implementation issues and limitations (Burke & Clark, 2016), and the criticism of the IR framework (Flower, 2015; Milne & Gray, 2013).

Not so much known research is on IR assurance, notwithstanding the continuous call for studies on IR assurance (Maroun, 2018; Simnett & Huggins, 2015). The benefits of external assurance for corporate reports have been long known (Blackwell et al., 1998). External assurance is considered as an "attribute that adds confidence and credibility" to published reports (Briem & Wald, 2018, p. 1462).

The few available papers on IR assurance are mostly conceptual with less or nothing on empirical issues (Cheng, Green, et al., 2014; Simnett & Huggins, 2015; Zhou, Simnett, & Hoang, 2017). Cheng, Green, et al. (2014) and Simnett and Huggins (2015) look at the practical challenges associated with assuring IR. They mostly examine the suitability of the IR framework for assurance. Zhou, Simnett, and Hoang (2017) using a combined assurance model as a credibility-enhancing tool for IR, assess the value relevance of quality IR reports. Maroun (2018), with the unsuitability of existing assurance frameworks for IR, develops an alternative approach to IR assurance (interpretive assurance model) focusing on the more subjective and forward-looking part of IR. Reimsbach, Hahn, and Gürtürk (2018) experimentally look at how reporting format interacts with the voluntary assurance of sustainability information. They conclude that IR assurance impacts professional investors' evaluation of a firm's sustainability performance, but IR assurance has a weaker effect on professional investors' evaluation than separate reporting assurance. Ahmed Haji and Anifowose (2016a) study the role of audit committee as an internal assurance mechanism for IR quality. They conclude that audit committee function has a strong positive association with the extent of IR quality, and suggest the adoption of internal assurance mechanism for IR quality. Briem and Wald (2018) examine IR assurance from the perspective of why companies will voluntarily obtain a third-party assurance and conclude on coercive pressures as well as the need for reliable and credible reports as the main reasons.

Apart from the above studies, IR assurance literature is still overall scarce, moreover, those which are empirical. This paper, therefore, tries to assist by developing and proposing a research framework that can be used to empirically assess the trends in IR assurance, the nature of IR assurance, the quality of assurance, the type of assurance provider, the kinds of opinion expressed on IR reports if assured, and the impact of quality assurance on IR quality.

DATA AND METHODOLOGY

This paper develops the research framework based on the assertion that coordinated assurance results in quality assurance. Sustainability assurance pushes quality third-party assurance beyond accounting firms to the inclusion of specialist consultants, certification bodies, etc. (Perego & Kolk, 2012). However, a framework coordinating the assurance roles of these bodies is expected to produce suitable assurance framework and yield quality IR. Perego and Kolk (2012) assert that specialist consultants and certification bodies are more elaborate in recommendations and positive assurance while accounting firms and again certification bodies deliver higher quality assurance. Coordinating these bodies along with an excellent working relationship with internal assurance units is expected to enhance IR assurance and ensure quality IR reports.

The study, therefore, proxies' assurance quality (ASq) based on the existence and coordination among assurance players (accounting firms, specialist consultants, certification bodies and internal assurance units). In scoring assurance quality, one (1) is assigned if coordination among assurance providers can be established, otherwise, zero (0) is assigned. To ascertain the quality of IR reports (IRq), this paper adopts a scoring scheme by Pistoni et al. (2018). The scoring scheme is made up of 23 variables grouped under 4 areas: background, content, form and assurance, and reliability (see Appendix 1). Where an item in the checklist is not disclosed, zero (0) will be assigned otherwise one (1) will be assigned. However, for content and form a score of zero (0) to five (5) is adopted. 0 represents absence while 5 represents high quality. Based on the scores, a weighted score is adapted to determine the quality of IR report.

Descriptive and trend analysis will be used in ascertaining the trends in IR reports, the nature of IR assurance, the type of assurance providers and the type of opinions issued as well as the standards that guide the assurance providers in steering the assurance engagement.

The next plan for the use of the framework will be to implement it to sample firms based on the IIRC 2013 pilot program. The 2013 IIRC pilot program consist of over 100 large firms from over 25 countries operating in different industries. The IIRC posits that the pilot program provides a platform for participating firms to properly apply the principles of IR and further champion the innovativeness of IR. Data will be gleaned from the 2013 to 2017 IR reports of sampled firms and the Bloomberg database where necessary. In line with most archival studies on disclosure, a content analysis methodology will be adopted (Ahmed Haji & Anifowose, 2016b; Lee & Yeo, 2016).

Model specification

To address the effect of quality assurance on IR quality (IRq), the following regression will be adopted.

$$IRq_{it} = b_0 + b_1ASq_{it} + b_2BInd_{it} + b_3AInd_{it} + b_4ROA_{it} + b_5FSize_{it} + b_6LEV_{it} + \varepsilon_{it}$$

where IRq is IR quality measured in line with Pistoni et al., (2018) and ASq (Assurance quality) measured as the existence of coordination among all assurance providers. In line with similar disclosure studies, the following control variables are used: Board independence (BInd) measured as a percentage of non-executive members on the board, Audit committee independence (AInd) measured as a percentage of non-executive members on the audit committee of the board, ROA is firm performance measured as the return on assets, firm size (FSize) measured as the log of total assets, while leverage (LEV) is measured as the ratio of total debts to total assets.

CONCLUSIONS

Even though accounting firms are considered to provide higher quality assurance (Pflugrath et al., 2011; Zorio et al., 2013), the nature of IR assurance goes beyond accountants, to the inclusion of specialist consultants and certification bodies. The inclusion of specialist consultants and certification bodies are expected to enhance IR assurance and IR quality (Deegan, Cooper, & Shelly, 2006; Simnett, Vanstraelen, & Chua, 2009). The coordination of these bodies, as well as an excellent relationship with internal assurance units, is expected to ensure quality assurance for IR.

As indicated in Simnett and Huggins (2015) a key technical challenge in IR assurance is the issue of the level of assurance engagement; limited or reasonable assurance. Thus, the absence of agreed-upon standards for assuring IR or sustainability reports affects the comparability of assurance, and hence the assurance procedure as well as the level of assurance engagement. Park and Brorson (2005) add that the assurance process of such reports is often company specific, and hence the levels of assurance are often affected. From literature, it is expected that higher quality assurance impacts the quality of IR. However, due to the unavailability of suitable standards for IR, the case of IR assurance may be a different story.

The discussions above show that the need for an empirical study on IR assurance is timely and essential. The use of the research framework proposed in this paper on the IIRC 2013 pilot firms will empirically contribute to the IR assurance literature. These pilot firms are geographically scattered across 25 countries and are therefore in an excellent position to furnish literature with the current situation in IR assurance.

Following the continuous call for IR assurance (Cohen & Simnett, 2014; Maroun, 2018), there is an expected improvement in IR assurance among the firms included in the IIRC pilot program. However, due to the unavailability of a suitable assurance framework (Simnett & Huggins, 2015), firms desiring IR assurance will have to assure the reports in its separate parts. Thus, the trends in IR assurance are expected to be affected by the unavailability of a suitable assurance framework for IR. This implies there will be small numbers in IR assurance among the pilot firms sampled in this study.

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Appendix: IR quality scoring scheme

Areas of the Integrated Reporting Scoreboard	Variables of the Integrated Reporting Scoreboard	Score
Background	1. Motivations underlying the choice of adopting IR 2. Objectives pursued by the IR 3. Beneficiaries of the document 4. Manager in charge of IR process 5. CEO's commitment 6. Title of the report 7. Consistency of IR with generally applied 8. Disclosure standards	Present (1), Absent (0)
Assurance and reliability	1. Internal audit 2. Third-party verification 3. Acknowledgements and awards for IR	Present (1), Absent (0)
Content	1. Organizational overview & external environment 2. Business model 3. Risks & opportunities 4. Strategy & resource allocation 5. Governance 6. Performance 7. Outlook 8. Basis of presentation 9. Capitals 10. Value creation process	0 to 5 where; 0 - Content element absent, 1 - Content element present, but poor description and scarce reference to the IR guiding principles 2 - Content element present; description based on some quantitative information and on a few IR guiding principles 3 - Content element present; balanced description of contents; average quantity of information that refer to IR guiding principles 4 - Content element present; good and detailed description of contents; many IR guiding principles considered 5 - Content element present; excellent description of contents; quite all IR guiding principles used
Form	1. Readability and clarity	0 to 5 where; 0-Report quite not clear; absence of any element that can facilitate reading and comprehension of the document (i.e. graphs, tables, etc.) 1-Description mainly qualitative; scarce use of graphs and tables, that are not connected; absence of an index of the document, a glossary or a table with abbreviations 2-Adequate presence of graphs and tables; index with only few details 3-Graphs and tables facilitate the comprehension of the document; equilibrium between narrative flow and graphs/tables; references to other sections of the document avoid information redundancy 4-Very good use of graphs and tables; detailed index with hyperlinks; hyperlinks to external sources, to firm website or the other documents 5-Very good layout; index, graphs and tables clearly connected with the narrative qualitative flow
	2. Conciseness	0 to 5 where; 0-Not applicable 1-More than 200 pages 2-From 151 to 200 pages 3-From 101 to 150 pages 4-From 51 to 100 pages 5-Up to 50 pages
	3. Accessibility	0 to 5 where; 0-Not applicable 1-Only hard copy document 2-Report available on the firm web site only as a pdf file 3-Report available on the firm web site, but not only as a pdf file: it is possible to access the contents directly from the firm web site 4-The report can be browsed on line, by surfing the firm web site, thanks to a highly interactive platform 5-Report contents highly accessible; the user can select issues and create a personalized report; highly interactive web platform; possibility to access the report by LinkedIn, Twitter, Facebook

Pistoni et al. (2018)

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When did the Global Financial Crisis start and end?

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Abstracts

This article challenges the common wisdom, and provides new insights, about the starting and ending time of the GFC. Using a Bai-Perron (1998) multiple break test, three break points were identified in the U.S. daily returns, including July 20, 2007, October 3, 2009 and August 12, 2011. The study argues that while the peak of the GFC eased off somewhere in October 2009, the last break in August 2011 reveals that there might have been an extended crisis period. These break points are also supported by the gold price and the continuing negative growth in many countries.

Keywords: *global financial crisis, GFC, unknown structural break.*

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INTRODUCTION

There is a great deal of research on the Global Financial Crisis, commonly known as the GFC 20072008. Crotty (2009) argued that the structural flaws in the current US financial system is one of the main causes of the GFC. Chor and Manova (2012) discussed the deterioration of the international trade volume during the GFC through adverse credit conditions and the impact of the GFC on the cost of capital in many countries. Fratzscher (2012) studied the impact of the GFC on global liquidity and capital flows in many countries. Bekaert, Ehrmann, Fratzscher, and Mehl (2014) explained the cause of risk transmission and an increased probability of co-crashes during the GFC as the positive association between domestic and international systematic risks.

Although there are many studies on the mechanisms and the impact of the GFC, the period of GFC is still open for debate. This paper aims to re-examine the question of how long the GFC was. The significance of this paper is that it highlights an area that has not received enough attention from academics and researchers and contributes a new perspective to the debate surrounding the period of the GFC. And when a crisis starts and ends. This study uses Bai & Perron (1998) multiple breaks test to determine unknown break dates on the U.S. stock daily returns from April 1, 2006 to April 30, 2016 and discusses various common arguments for the GFC period that have been used in related studies. In contrast to the common wisdom, the findings suggest that the GFC might have had two phases, including an extended crisis period for at least another 2 years after many studies deemed it to have ended.

The remainder of this paper will be divided as follows. The following section examines some common arguments for the period of the GFC. Then the methodology, results and conclusions will be presented..

COMMON ARGUMENTS FOR THE LENGTH OF THE GFC

There is no universal date or method for determining a crisis period in existing literature. A common approach is to measure "extreme" returns, however there is no common benchmark for defining extreme values (Mierau & Mink, 2013; Xu & Hamori, 2012). Another common approach is based on critical event dates, and if possible cross checking these using structural break tests (Forbes & Rigobon, 2002). Liow and Ye (2017) argued that the GFC started around July-August 2008 based on a structural break test, while Chang, Chou, and Fung (2012) look to regulatory and policy actions such as ECB interventions on August 9, 2007 for the start date. Other studies use September 15, 2008 marked by the collapse of Lehman Brothers as the starting date of the GFC (Bekaert et al., 2014; Mierau & Mink, 2013). Federal Reserve Bank of St Louis (2018) proposed that the commencement date of the GFC is February 27, 2007 because this is one day before Freddie Mac's official announcement of cutting off the most risky subprime mortgage and mortgage-backed securities from their portfolios. This is by far most conservative but is well accepted among academics (Devos, Ong, Spieler, & Tsang, 2012; Teng & Liu, 2014).

The ending date for the GFC is also open to an on-going debate. Some studies referred to March 2009, which was marked by the relaunch of the Term Asset-Backed Securities Loan Facility in U.S. financial markets (Aloui, Aïssa, & Nguyen, 2011). Others used mid-2009, pointing out an increase in GDP and based on positive results from stress tests and capital raising for the US and on the LIBOR rate (Dungey & Gajurel, 2014; Dungey, Milunovich, Thorp, & Yang, 2015). Some studies extended the date to March 2010 after an increase in the credit rate and minimum bid rate for primary credit loans, given the continued improvement in the financial markets that was announced by the Federal Reserve Board (Nieh, Yang, & Kao, 2012; Xu & Hamori, 2012).

METHODOLOGY

To further examine the beginning and end date of the GFC, a Bai and Perron (1998) multiple unknown break test is conducted on a linear autoregressive model for the US S&P 500 index daily returns. The data is from April 1, 2006 to April 30, 2016, yielding 2686 observations. The stock return is the first difference of two consecutive log-prices. The S&P 500 consists of 233 companies and covers almost 80% of the total market capitalisation of U.S. equities in major industries such as information technology, health care, financials, consumer products and services, industrials and so on. Thereofre, it is widely recognised as a reliable indicator of the U.S. economy. Following the collapse of the Lehman Brothers in September 2008, the index experienced the strongest fall of more 49% reaching the lowest point on March 6, 2009 in over 40 years of trading history. We also further examine these results against the movement of the gold prices over the same period since gold is a well-known safe haven and hedging security during "extreme" high volatility period, especially for U.S. equities (Beckmann, Berger, & Czudaj, 2015; Nguyen, Bhatti, Komorníková, & Komorník, 2016). If these breaks associate with the transition of the GFC period, the gold prices are expected to reflect these changes i.e. the gold prices increase in accordance with the first break and reduces after the last break.

RESULTS

Table 1 presents the descriptive statistics for the U.S. daily stock returns, including Jarque-Bera and unit root tests. The annualised mean return is approximately 7.30% during the studied period with annualised standard deviation is 20.25%. The maximum is 0.11 and the minimum is -0.09. Negative skewness of -0.33 indicates that the return distribution is slightly skewed to the left. The kurtosis of 13.65 shows that the distribution has fat tails. The non-normal distribution of the U.S. stock returns are further confirmed by the Jarque-Bera test that is significant at 1% level. Both ADF and PP unit root tests have p-values that are lower than 0.01 indicating that the null hypothesis of unit root is rejected at 1% level, implying the U.S. return series are stationary at first difference.

Table 1: Descriptive statistics and unit roots tests for the U.S. daily returns.

Panel A: Descriptive Statistics	*Results*
Daily Mean Return (DMR)	0.00
Annualised Mean Return (AMR)	0.07
Median	0.00
Maximum	0.11
Minimum	-0.09
Daily Standard Deviation (DSD)	0.01
Annualised Standard Deviation (ASD)	0.20
Skewness	-0.33
Kurtosis	13.65
Jarque-Bera	127525.75 (0.0000)
Panel B: Unit root tests	
Augmented Dickey-Fuller (ADF)	-40.80 (0.0000)
Phillips-Perron (PP)	-58.23 (0.0001)

Note: p-values are reported in the brackets. The AMR is calculated from the DMR using the formula $\text{AMR}=(1+\text{DMR})^{365}-1$. The ASD is calculated from the DSD using the formula $\text{ASD}=\text{DMR}\times\sqrt{250}$.

Table 2 presents the results from the Bai-Perron (1998) multiple breaks test on the U.S. time series. It shows three breakpoints over this period from April 1, 2006 to April 30, 2016. The first and the second break points are July 20, 2007 and October 3, 2009, which generally concurs with commonly held views on the starting and ending period of the GFC aforementioned. The second break point is also close to the structural break point that was found by Dungey & Gajurel (2014) in the volatility of the U.S. equity market which was May 29, 2009.

Table 2: Breakpoint specification of Bai-Perron (1998) multiple breaks test.

Breaks	*July 20, 2007*	*October 3, 2009*	*August 12, 2011*
Scaled F-stats	12.83*	12.60*	10.64*
Weighted F-stats	12.83	14.82	14.60
Critical value	11.47	14.60	8.36
UDMax stats	12.83*		
WDMax stats	14.82*		

Note: * Significance at the 0.05 level. Bai-Perron (2003) critical values for UDMax and WDMax are 11.70 and 12.81 respectively. Bai-Perron tests of 1 to M globally determined breaks, trimming 0.15, max breaks 3, no d.f. adjustment for covariances.

However, the last break on August 12, 2011 that is found in the U.S. stock returns indicates that there might have beeen an extended crisis period that followed the GFC. The confidence indicator for the United States remained very low until June 2012 (OECD, 2015). The Dow S&P / Case-Shiller U.S. National Home Price Index, a leading measure of U.S. residential real estate price, shows that the U.S. market was on a continuing downward trend from pre-GFC levels until February 2012 (United Nations, 2015).

Moreover, examining the relative performance of gold versus stock prices gives further insights into economic performance, particularly regarding some "extreme" movements. The reliability of gold as an indicator of market swings, especially in the long-run and is widely used by central banks and investors as a hedging asset, and as a cushion against market crisis, is well documented in existing literature. (Cai, Cheung, & Wong, 2001; Pullen, Benson, & Faff, 2014). Therefore, all major recessions in the world are well captured in the gold price due to a strong relationship between the movement in the gold price and the volatility of the world's economy (Baur & Lucey, 2010). Since the onset of the GFC, the gold price increased sharply and reached a peak of USD $1896.5 on September 5, 2011, then maintained the downward trend, after fluctuating in late 2012, which could be an indicator that market confidence had been restored as shown in Figure 1**.** This point matches with the last break point that this study found in the U.S. time series on August 12, 2011. The combination of the macroeconomic factors from the U.S. economy and other major economies (GDP growth, unemployment, house prices, and business confidence), plus the gold price, indicate that there may be some justification in extending the crisis period to August/September 2011. These evidences point out that the GFC, which is commonly deemed to have ended in late 2009, may have been followed by an extended crisis period to 2011.

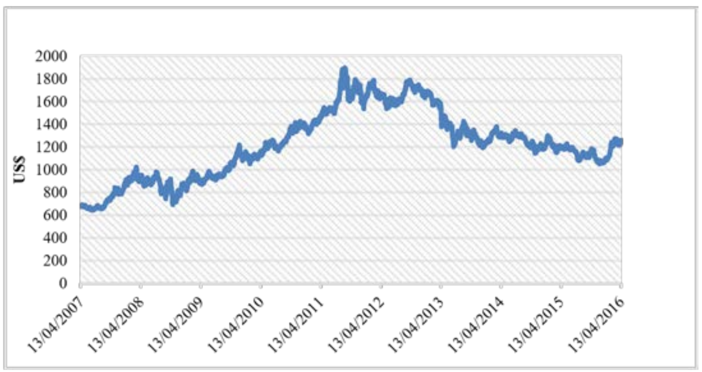

Figure 1: Daily gold price from April 2007 to April 2016.

CONCLUSIONS

This article re-examined commonly held perceptions relating to the length of the GFC. Bai-Perron (1998) multiple break tests identified three break points in U.S. stock returns, with the last of these occurring on August 12, 2011. The study therefore argues that, while the peak of the GFC eased off in 2009, the last break point indicates that there might have been an extended crisis period. This argument is supported by trends in the gold price and the negative growth that continued to be experienced by many countries.

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Analysis of approaches to the relationship between risk and bank diversification

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Abstract

This study explores the relationship between bank diversification and risk in order to synthesize different approaches to this research issue. The study develops a three-way classification approach to the analysis of the impact of bank diversification on risk. This includes the impact of bank-level diversification on bank-level risk, the impact of bank-level risk on systemic risk, and a syndicated approach to systemic risk. By comparing these approaches, a research gap is identified and a future empirical study on the relationship between bank diversification and risk, which takes into account systemic and contagion effects, is proposed.

Keywords**:** *Diversification, banking, risk, systemic risk.*

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INTRODUCTION

Diversification is one of the prominent strategies that many commercial banks have used to expand their business. Accordingly, the banks undertake new activities in order to add new assets or new sources of income to their existing portfolio (functional diversification) and/or expand their operations into different countries or regions (geographical diversification). In this paper, we only analyse the aspect of banks' functional diversification.

Over many decades, deregulation processes and financial innovation have boosted the trend towards diversification in banking (Geyfman & Yeager, 2009). Many universal banks or financial conglomerates have been established as the result of diversification strategies. This diversification trend generated a long period of banking business. However, the global financial crisis (GFC) which commenced in 2007 caused many researchers and policymakers to rethink the systemically important role of individual financial institutions for the whole financial system. New legal bodies and standards, for example, the Financial Stability Board, were set up as an attempt to change from a micro-prudential approach to a macro-prudential approach to regulate and supervise financial institutions.

In the finance literature, traditional portfolio theory (Markowitz, 1952) highlights that a diversified portfolio may reduce total risk as the portfolio reaches the optimal level. Many studies also analyse the relationship between diversification and bank risk (DeYoung & Rice, 2004; Stiroh & Rumble, 2006; Williams, 2016). However, the theoretical study of Wagner (2010) argues that diversification not only affects a bank's risk, it also leads to systemic risk, as it may increase the similarities in portfolio structure between diversified banks. As a result, it might place the financial system at risk by increasing the likelihood of these banks failing at the same time in crisis periods. The increased interconnectedness between diversified banks may expand these failures, and thus increase the systemic risk of the financial system. In the banking literature, although the empirical studies of Brunnermeier, Dong, and Palia (2012) and De Jonghe, Diepstraten, and Schepens (2015) focus on the relationship between bank diversification and systemic risk, the authors do not take into account interconnectedness or contagion effects.

In this paper, we review the literature on bank diversification and risk in order to synthesize the different approaches to this topic. The study classifies the impact of bank diversification on risk into three main approaches. The first is a bank-level approach to the relationship between diversification and individual bank risk. The second is a bank-level approach to analyse the relationship between bank diversification and systemic risk. And the third is a syndicated approach to examine the relationship between bank diversification and systemic risk.

The following section discusses each of the three different approaches. This is followed by conclusions and suggestions for future research.

THREE APPROACHES TO THE RELATIONSHIP BETWEEN BANK DIVERSIFICATION AND RISK

Bank-level approach to the relationship between diversification and individual bank risk

There is a large body of literature which examines the relationship between diversification and risk. A pioneering work related to this research issue is the portfolio theory of Markowitz (1952). In regards to bank risk, empirical studies have examined developed countries such as the U.S. (DeYoung & Rice, 2004; Stiroh, 2004; Stiroh & Rumble, 2006), Europe (Saunders, Schmid, & Walter, 2014), Japan (Sawada, 2013), Australia (Williams, 2016) or emerging countries such as India (Pennathur, Subrahmanyam, & Vishwasrao, 2012), Philippines (Meslier, Tacneng, & Tarazi, 2014) or Vietnam (Batten & Vo, 2016).

However, there is no consensus on the impact of diversification on bank risk. While many papers conclude that diversification may reduce bank risk, other studies argue that noninterest income-generating activities which generate a higher return may lead to higher risk for banks because of their uncertain nature (Stiroh, 2006a; Stiroh & Rumble, 2006). These diversification strategies can expose banks to new types of risk, for example, market risk, liquidity risk or operational risk (Moudud-Ul-Huq, Ashraf, Gupta, & Zheng, 2018). Besides, several studies point out that there is no linear relationship between diversification and bank risk. According to traditional portfolio theory (Markowitz, 1952), the idiosyncratic risk may increase if a bank's portfolio is diversified beyond optimal risk levels and in return, it may distort the true relationship between diversification and risk (Sanya & Wolfe, 2011).

On the methodological side, there are various specific methods that are used to address the research question of the impact of diversification on bank risk. Most of the studies use quantitative research methods, for example, non-parametric frontier technique (Ferrier, Grosskopf, Hayes, & Yaisawarng, 1993), stochastic frontier approach (Doan, Lin, & Doong, 2018), or portfolio approach (Stiroh, 2006b). Bank diversification is often measured in terms of income diversification (Sawada, 2013), asset diversification (Nguyen, 2018), or geographic diversification (Goetz, Laeven, & Levine, 2016; Meslier, Morgan, Samolyk, & Tarazi, 2016).

To measure the aspects of bank-level risk, research papers have used accounting datasets (Doan et al., 2018) or market-based datasets (Stiroh, 2006b; Vo, 2017).

Although numerous papers which follow this approach address the relationship between diversification and bank risk, many tend to ignore the potential externalities of diversification that banks may impose on the whole financial system (systemic risk). This is covered in the next section.

Bank-level approach to the relationship between diversification and systemic risk

The GFC caused many researchers and regulators pay a great deal of attention to the role that individual financial institutions have in impacting on the risk of the financial system. Theoretically, diversification, as an aspect of a bank's business model, may have potential externalities for the financial system. According to Wagner (2010), banks' diversification may make systemic crises more likely.

In the existing banking literature, the pioneering working of Brunnermeier et al. (2012) may be considered as one of the first empirical studies which refers directly to the impact of bank diversification on systemic risk after the GFC. The authors investigate the effect of noninterest income-generating activities, as a common indicator of diversification, on banks' systemic risk contribution. Whereas, De Jonghe et al. (2015) analyses the relationship between diversification and banks' systemic risk exposure with respect to bank size and countries' institutional characteristics. In addition, De Jonghe (2010) estimates the effect of banks' strategies toward specialization or diversification of financial activities on their ability to withstand extremely adverse conditions. Although both of these empirical studies highlight the relationship between bank diversification and systemic risk in different ways, they ignore the impact of interconnectedness between diversified banks in this relationship.

On the methodological side, one of the most challenging tasks in this approach is to identify and measure systemic risk. According to IIF (2010), the nature of systemic risk is dynamic, interconnected, relates to multiple parts of the financial system and rarely happens again in the same form. Therefore, it is not a straightforward matter to identify and measure systemic risk correctly. Bisias, Flood, Lo, and Valavanis (2012) investigate 31 measures of systemic risk. There are various measures of systemic risk that are used in most studies. Holdings-based analysis is often employed to bilateral credit exposures between banks, for example, estimating the expected loss of other banks conditional on the default probabilities of one bank (Memmel, Sachs, & Stein, 2011). Whereas, market-based measures of systemic risk are often based on market information such as systemic expected shortfall (SES) (Acharya, Pedersen, Philippon, & Richardson, 2017) or CoVaR (Tobias & Brunnermeier, 2016). However, there is no single comprehensive method of measuring for the relationship between bank diversification and systemic risk.

In general, the above discussion identified several studies on the impact of bank diversification on systemic risk. However, with this approach, it is difficult to know how interconnectedness between banks' diversification (a syndicated approach) may lead to systemic risk of the financial system. This is core issue addressed in the third approach below.

Syndicated approach to the relationship between diversification and systemic risk

In most studies, the impact of bank diversification on bank risk or systemic risk is usually examined in isolation. However, is there a relationship between diversification, interconnected bank risk and systemic risk? It seems that both of the two approaches above fail to address this research issue as they only focus on either the impact of diversification individual banks on bank risk or on systemic risk. The third approach in this paper synthesizes several studies that examine the relationship between bank diversification, bank risk and systemic risk with respect to interconnectedness or contagion effects.

According to traditional portfolio theory (Markowitz, 1952), diversification may lower the idiosyncratic risk. However, it seems that this idiosyncratic risk does not disappear. Instead, it possibly transfers from one bank to other banks. The theoretical study of Wagner (2010) also supports this conclusion, as it argues that although a bank can benefit from diversification through cross-holding assets or liabilities with other banks, bank-level risk will not disappear. It is reallocated through sharing the risks with the other banks. Therefore, it is possible to reduce the individual risk of diversified banks through risk-sharing, but the same risks among banks may lead systemic risk. In other words, diversification may increase the interconnectedness between diversified banks and this may lead to systemic crises. A similar conclusion may be found in the empirical study of Slijkerman, Schoenmaker, and de Vries (2013), which shows the existence of the downside risk interdependencies within and across banks and insurers in European countries. The theoretical study of Ibragimov, Jaffee, and Walden (2011) also agreed with Wagner (2010) that diversification may create a risk-sharing mechanism between individual institutions' diversification and systemic risk. However, according to Ibragimov et al. (2011), risk-sharing depends on the distributional properties of the risks that individual institutions take on. Specifically, if the distribution of these risks are thin-tailed, risk-sharing is always optimal for both individual institutions and society. Whereas, the risk-sharing is suboptimal for moderately heavy-tailed or extremely heavy-tailed risks. Ahnert and Georg (2018) also agreed with this conclusion as they examine the information contagion between two banks and highlight the contagion effect of diversification on systemic risk.

Accordingly, contagion effect may happen when banks keep the same asset class and thus both of these banks may have common exposure to the asset class (Acharya & Yorulmazer, 2008; Wagner, 2010). Contagion effect is also raised by counterparty risk between banks, such as when a bank lends to another bank to share liquidity risk (Ahnert & Georg, 2018; Allen & Gale, 2000). The mechanisms of common exposure or counterparty risk increase contagion between banks and eventually they may raise systemic risk.

In general, the central point of this approach is related to taking into account interconnectedness or contagion effects. It helps us to understand the mechanism whereby bank diversification can lead to systemic risk. However, in the existing banking literature, it seems that most of the papers following this approach are theoretical or simulation studies. Therefore, it is recommended to do empirical research in the future that concentrates on the relationship between diversification, bank risk and systemic risk with respect to interconnectedness or contagion effects.

CONCLUSION

This study takes a three-way approach to the examination of the relationship between bank diversification and risk. This includes the impact of bank-level diversification on banklevel risk, the impact of bank-level risk on systemic risk, and a syndicated approach to systemic risk. The third approach helps us to examine the simultaneous effects of bank diversification on both bank risk and systemic risk with respect to interconnectedness or contagion effects. Based on a comparison of the three approaches, the authors have identified a research gap in relation to empirical studies, and propose a future empirical study which analyses the impact of diversification on systemic risk.

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The Integrated Reporting Journey: Describing the South African Experience

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Abstract

Integrated Reporting (IR) has gained momentum as major companies in the world have adopted the framework for their corporate report on a voluntary basis. South Africa remains the only country in the world to require the application of IR on a large scale by mandating firms on the Johannesburg Stock Exchange (JSE). Thus, the South African context presents an opportunity to study the developments in the quality of integrated reporting over a longer period. In a longitudinal study, this paper provides a description of the trends in the quality of integrated reporting since its introduction on the JSE. This could be useful to other countries that are considering a mandatory regime of IR for their capital markets.

Keywords: *Integrated Reporting, Mandatory, JSE, Descriptive, Longitudinal.*

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INTRODUCTION

In response to stakeholders increased interest in non-financial information, firms included sustainability information in the annual reports. However, this later developed into a practice of separate sustainability and financial reporting by firms (De Villiers, Rinaldi, & Unerman, 2014). The lack of coordination between these separate reports attracted criticism and attention from both practitioners and academics (Robertson & Samy, 2015). Integrated Reporting (IR) has been developed to address the concerns in these traditional standalone reporting approaches. Thus, IR is a reporting framework that aims to promote integrated thinking for organisations to understand the connection between their strategic goals and value drivers (Simnett & Huggins, 2015). In addition, it is expected to integrate sustainability and financial information in one report (Reuter & Messner, 2015).

Proponents of IR have associated the practice with some advantages, which should encourage its adoption. Apart from improving the information environment to investors for better share valuation (Eccles & Krzus, 2010), it is also beneficial to stakeholders who are interested in firms' value creation (Eccles & Serafeim, 2014). Moreover, IR is claimed to have emerged at a time that the relevance of financial accounting figures is diminishing (Eccles & Serafeim, 2014) while interest in environmental, social and governance information is heightening (Ioannou &

Serafeim, 2017). Thus, financial information could increase in relevance as sustainability information is linked and combined with it in one report.

South Africa remains the only country in the world to mandate IR on its capital market. IR research within the mandatory South African context have focused on the nature and type of disclosure, market effects of the mandatory requirement and perception of stakeholders. This paper adds to the literature by describing the trend in IR quality on the Johannesburg Stock Exchange (JSE) over the mandatory implementation period. Specifically, through a longitudinal analysis, we provide a description of the trends and patterns in the quality of IR from 2011 to 2016. We further investigate whether there are significant changes in the quality of reporting over the period. We found that the quality of IR on the JSE has been improving and the changes were statistically significant. The mining, construction, and the transportation and storage industry appeared to have higher quality integrated reports. The remainder of the paper is organised as follows. The next section presents a brief review of relevant literature on IR, followed by the methods adopted to analyse the data. We then discuss the results and draw our conclusions in the last section.

LITERATURE REVIEW

Corporate Reporting Initiatives

The traditional corporate reporting framework has been criticised for its inability to meet the evolving needs of users (Flower, 2015). To meet the demands of stakeholders, there have been innovations in the reporting environment in an attempt to make corporate reporting useful and relevant (Dumay, Bernardi, Guthrie, & Demartini, 2016). Beginning with the incorporation of nonfinancial information in the annual report, the idea of sustainability reporting emerged and developed to assume the role of an important separate corporate report (Dumay et al., 2016). However, the inability of the sustainability report to link sustainability information to financial information in the financial report, raised concerns about its ability to completely resolve the limitations of the traditional corporate financial report (Dumay et al., 2016). Thus, IR has emerged as the current innovation in corporate reporting expected to replace the existing standalone financial and sustainability reporting frameworks. Rather than being a mere combination of the financial and sustainability reports, IR aims to bridge the gap in the link between sustainability reporting and the traditional corporate financial report (Reuter & Messner, 2015).

Legitimacy Theory

Legitimacy theory posits that a social contract exists between organisations and the society within which they operate. According to Suchman (1995), legitimacy is an assumption that the activities of an organisation conforms to the socially constructed norms, beliefs and value systems within the operating environment. The development of innovations in corporate reporting, from the traditional financial reporting framework to separate sustainability and financial reports, and the emergence of IR can be ascribed to the pursuit of legitimacy. Suchman (1995) identifies two approaches to organisational legitimacy: strategic and institutional. While the drivers of strategic legitimacy emanates from the organisation, that of institutional legitimacy emanates from the external environment (Beck, Dumay, & Frost, 2017). Thus, by merely complying with the mandatory adoption of IR on the JSE, firms can be considered to be engaged in institutional legitimacy. In addition, any changes in the quality of disclosure by firms within the mandatory IR regime could be a legitimacy seeking activity.

Prior Literature

Analysing the content of reports by firms on the JSE, Setia et al. (2015), and Ahmed Haji and Anifowose (2016) found an increase in disclosure following the mandatory requirement for IR.

However, they assert that this increase in disclosures is rather symbolic rather than substantive. Thus, the strategies of firms on the JSE in relation to disclosures in the integrated reports is ceremonial. Examining the effects of IR on the market, Lee and Yeo (2016) found a positive association between IR and firm value. They posit that IR improves the information environment by reducing information asymmetry between managers and stakeholders. Similarly, Baboukardos and Rimmel (2016) found that the value relevance of accounting information increased after the mandatory application of IR. This suggests that by integrating sustainability and financial information, accounting earnings become more value relevant to investors. In their study of the usefulness of IR to stakeholders as a source of information, Rensburg and Botha (2014) found that although IR increased the amount of information communicated by firms, the annual report continued to be a major information source for stakeholders.

DATA AND METHODOLOGY

Sample and Data Source

This study focused on the South African context where IR has been mandated for publicly listed firms on the JSE. The first 100 firms based on market capitalisation was our initial sample. Unavailability of data for some firms in some years and the occurrence of panel attrition due to the longitudinal nature of the study reduced the final sample to 69. The source of data for this descriptive study was the integrated reports of the firms, which we obtained from their corporate websites.

Data Collection and Analysis

The content analysis methodology was used in collecting data to determine the quality of the integrated reports. We adopted the coding instrument of Zhou, Simnett, and Green (2017). The instrument has been validated with the 2011 EY rankings of integrated reports for top 50 firms on the JSE. Two qualified research students were used for the coding. The two coders discussed the coding scheme adopted thoroughly before coding three integrated reports. Based on the individual scores, the coders discussed any significant differences that were observed before starting the data collection. To determine the quality of the reports, we used a weighted scoring scheme that ranges from 0 to 3 for each item in the coding instrument. For each firm and year, an undisclosed item in the report was assigned 0. Where there was a general disclosure for an item, 1 was assigned. However, where the disclosure included specific information, we assigned 2 and a maximum of 3 for a detailed discussion. To determine the final scores for each firm and year, we computed Integrated Reporting Quality (IRQ) as the ratio of actual score to maximum score.

RESULTS

Descriptive Statistics

Table 1 below provides the descriptive statistics of the IRQ scores over the six-year period. The minimum level of IRQ increased from year to year. From a low of 0.05 in 2011, there was a significant improvement in the minimum score in 2012 to 0.23. Beyond 2013, the minimum IRQ score increased marginally each year. The maximum reported IRQ scores also increased marginally from 0.73 in 2011 to 0.74 in 2012. However, there was a significant increase in 2013 where the maximum score reported is 0.80.

Table 1: Descriptive Statistics

Year	N	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
2011	69	.05	.73	.50	.13	-.97	1.37
2012	69	.23	.74	.54	.12	-.52	-.09
2013	69	.28	.80	.57	.12	-.45	-.42
2014	69	.29	.84	.61	.13	-.51	-.29
2015	69	.30	.82	.65	.12	-.87	.30
2016	69	.31	.82	.66	.12	-.92	.24

Examining the mean IRQ scores over the years, we observed an increase in the quality of integrated reports from year to year. This trend was consistent throughout the six-year period (Figure 1). From 2011 where the mandatory reporting regime took effect, we observed that, although the quality of IR reporting on the JSE was low, it experienced improvements over the period. This suggests that firms on the JSE learn from their experiences either with their previous reports or from each other to improve the quality of their reports. In our content analysis, we identified that there are stakeholder engagements by firms on how their report could be improved. Specifically, most integrated reports included a link or form for feedback. Moreover, given that there are recognised bodies such as EY and Nkonki

Inc., that rank the reports each year, it is probable firms on the JSE are motivated to improve on the quality of the reports for legitimacy purposes.

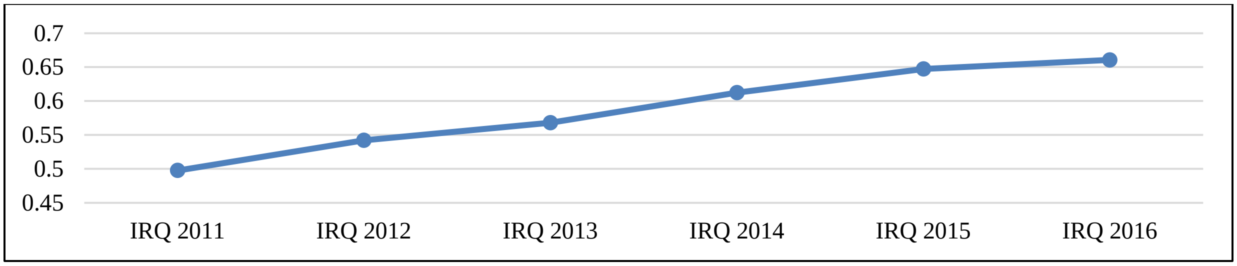

Figure 1: Trend Average IRQ 2011-2016

Using the mean IRQ scores as a benchmark, we categorised the firms in our sample into high or low IRQ firms. We found that in 2011, we could classify 55.07% of the firms included in our sample as high IRQ firms since their IRQ scores were above the mean. Overall, we observed that with the exception of 2014, more than half of the sampled firms had their IRQ scores above the average scores, thus adjudged as high quality reporting firms.

Industry Analysis

8 industries were represented in our sample based on the Standard Industrial Classification of all Economic Activities (SIC) fifth edition . We found that the quality of IR on the JSE was led by the mining industry except in 2014 where the construction industry had the highest average IRQ score (Figure *2*). We do not find it surprising that the mining industry has higher average IRQ scores. Due to the effects of the industry's activities on society and the environment, it has always attracted the attention of stakeholders. Prior to IR, the industry has been developing good sustainability reports in an attempt to legitimise their operations and convince stakeholders. We observed from our sample that the mining, construction, and the transport and storage industry have been producing higher quality integrated reports on the JSE.

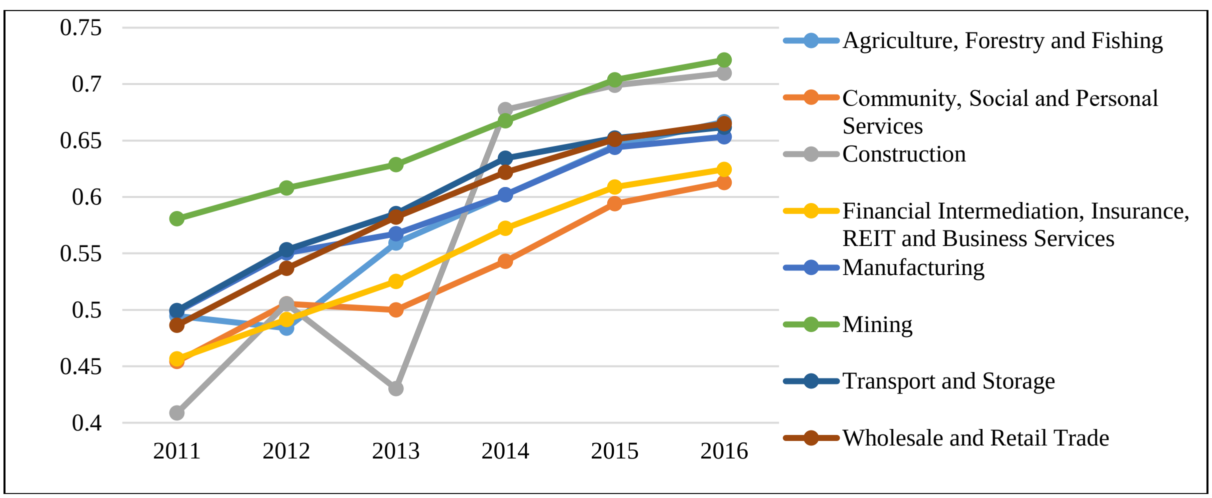

Figure 2: Average IRQ Scores by Industry

Differences in IRQ Scores from Year to Year

Using the Shapiro-Wilk and the Kolmogorov-Smirnov test for normality, we found that the IRQ scores for some years were not normally distributed. Thus, we used non-parametric statistical tests for our analysis of the differences in IRQ scores from year to year.

Table 2: Test of Differences in IRQ Scores

		Friedman Test	
	N	*Chi-square*	*p-value*
	69	235.13	.00
		Wilcoxon Signed Rank Test	
		Z	*p-value*
IRQ 2011-2012	69	-5.81	.00
IRQ 2012-2013	69	-4.70	.00
IRQ 2013-2014	69	-6.15	.00
IRQ 2014-2015	69	-4.96	.00
IRQ 2015-2016	69	-3.74	.00

Firstly, the Friedman test indicated that there was a significant difference in the IRQ scores within the six-year period (Table 2). To determine where the differences actually occurred in the data set, we ran the Wilcoxon Signed Rank Test for the different combinations of the consecutive years. Results from the test indicated that the changes in IRQ scores for all the consecutive years were significant (Table 2).

CONCLUSIONS AND RECOMMENDATIONS

Mandating IR on an "apply or explain" basis for firms on the JSE seem to have been well received. We analysed the content of the integrated reports for 69 firms from 2011-2016. Using a weighted scoring scheme for our longitudinal study, we found the quality of IR on the JSE to be improving since its inception and this is likely to continue. The annual changes in IR quality is also found to be significant for each consecutive year. This suggests that firms on the JSE learn from their previous experiences or from other firms to improve their reporting. Evidence from the South African context suggests that mandating IR does not negatively affect the quality of the disclosures rather it encourages firms to improve. Thus, other countries and capital markets may find this useful in their decision on the mandatory adoption of IR.

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Unravelling online brand discussions: Comparison and contrast of two online communities.

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Abstract

Online brand discussions between consumers have been shown to influence purchase decisions. Resulting from the uptake in digital communication technologies offering better global consumer connectivity, is the rise in active consumers – the 'prosumers'- considered as creators of brands in the digital age. Researchers and practitioners alike are increasingly interested in understanding consumer-driven brand discussions, in particular those which give online brand advocacy (OBA). Through an exploratory study of 1,796 online posts from 200 online discussions on forums within two different online communities, this paper seeks to illustrate what consumers talk about in their online posts advocating for brands, and how this differs between a brand-managed online community and a consumer-managed online community. Further, the paper also provides insights into consumer-brand relationships evidenced within such discussions. Brief implications for practitioners and academic researchers are offered at the conclusion of this paper.

Keywords**:** *online brand discussions, online community, netnography, NVivo, Leximancer.*

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INTRODUCTION

There are more than 5 billion unique mobile device users worldwide and the use of digital devices and, hence, digital communication, is increasing (Global Digital Report, 2018). Consumers around the world are empowered by their digital connectivity, which offers them a means to connect, share their enthusiasm for and co-create brands in digital space, particularly in online community forum discussions (Cheung and Lee, 2012; Trusov, *et al*., 2009). Consumers engage in online communities by participating in online discussions with fellow online community members; by providing comments on content such as videos and pictures posted by their online friends; and by sharing content, to name a few examples (Zheng *et al*., 2015). Despite online communication being primarily textual (e.g.

typed text in online posts), it has evolved to include visual cues that support textual meanings, such as emojis, emoticons, photos and videos (Lo, 2008; Derks *et al*., 2008). However, these have not been widely researched. Brand information given by consumers online as user-generated content (UGC) is much more powerful and influential than brand-driven content, as it is seen as originating from a less biased source (Lee, Park and Han, 2008). This has increased consumer power and has clear implications for the success of brands in this digital age.

The ever-evolving digital communication landscape has enabled consumers to co-create brands through consumer-to-consumer (C2C) online communication. C2C online discussions arising through UGC are *"created outside of professional routines and practices"* (Kaplan and Haenlein, 2010, p. 61), as consumers take on an extra role or undertake relational worth behaviours on their own initiative that reflect their relationship with a brand (Melancon et al., 2011). UGC has the potential to shape brand perceptions (Cheong and Morrison, 2008; Smith, Fischer et al., 2012; Boyland, Thorsson et al., 2013; Goh, Heng et al., 2013). Further, online discussions about brands can lead to online and offline purchase (Godes and Mayzlin, 2004; Keylock and Faulds, 2012). Some have argued online discussions about brands are effective at influencing sales, regardless of whether these reside on company-owned or independentlyowned communities (Adjei, Noble et al., 2010). Consequently, online brand discussions in online communities should be investigated further to ensure managers know what consumers are saying about their brands online and whether this differs across online community types.

Online communications are underpinned by the social exchange of knowledge and support, and can be explained by Social Exchange Theory (Yan et al., 2016; Zheng et al., 2015). This theory suggests social behaviour involves an exchange where *"a resource will continue to flow only if there is a valued return contingent upon it"* (Emerson, 1976, p. 359). In the case of C2C online communication, the resource is the brand-related information communicated in a post by its author (e.g., a customer of a brand advocating for the brand and identifying its key 'selling' points) and the valued return may take several forms (e.g., responses to an online post by its recipients, such as members of an online community, the forwarding or sharing of information online and purchase behaviour). Social Exchange Theory suggests there are benefits (e.g. recognition, value-creation) and costs (e.g. time, cognition) (Zheng, *et al.*, 2015) to an exchange-based situation such as C2C online communication involving the brand-related knowledge and support that occurs between consumers, often in the form of online brand advocacy (OBA) (Wilk, *et al*., 2018).

Despite the evident importance of online brand discussions and, specifically, OBA, researchers have only recently attempted to understand this topic (e.g. Parrott, Danbury and Kanthavanich, 2015; Wallace, Buil and De Chernatony, 2012). This research builds on previous work by Wilk, Harrigan and Soutar (2018) to increase our understanding of OBA, specifically what consumers talk about in their online posts advocating for brands, and how this differs between a brandmanaged online community and a consumer-managed online community.

DATA AND METHODOLOGY

The sample

A total of 1,796 online posts were taken from 200 discussion threads on two online consumer communities. The two online communities were chosen based on criteria recommended by Kozinets (2002) in that they had: 1. A focused topic; 2. High posting traffic; 3. A high number of discrete message posters; 4. Detailed or descriptively rich data; and 5. A high level of between-member interactions of the type required by the research question. One community was an online brand community (OBC) (established and managed by a brand) and the other an online open community (OOC) (established and managed by consumers). One hundred discussion threads (1,060 posts from 437 unique usernames) were obtained from the OOC, while 100 discussion threads (736 posts from 430 unique usernames) were obtained from the OBC. These communities were defined as:

- An **Online Brand Community (OBC)**, which is owned, managed and sponsored by a brand, although the community's discussion forum interactions are driven by members. The community's aim is to engage customers with the owner's brand without restricting the discussions, which are brand and non-brand related and focused on topics of common interest.
- An **Online Open Community (OOC)**, which is independent of any brand affiliation. It is owned and managed by consumers and may be financially supported by advertising revenue. It brings together consumers with a

common product category or interest and tries to provide a forum for information and support on topics of common interest that can include brand-related discussion.

Both communities are Australian-based, parent support online communities and function in a similar manner. They were seen as suitable for this study, as they met Kozinets' netnography criteria and contained consumer-to-consumer discussion about international and local brands, ranging from hygiene products through to electronics and car brands.

The Method

The netnography procedure was adopted in this online textual discourse study. Netnography *"is a way to understand the discourse and interactions of people engaging in computermediated communication about market-oriented topics"* Kozinets (2002, p. 64) and had been successfully used in prior research in various contexts (e.g. Rageh, Melewar and Woodside, 2013; Belz and Baumbach, 2010).

Two computer aided qualitative data analysis software (CAQDAS) programs, namely the researcher-driven QSR NVivo and the computer-driven Leximancer program, were used to support the netnography procedure, expediting data storage and the analysis of the big and unstructured text-based datasets (Crofts and Bisman, 2010; Hutchison *et al*., 2010; Jones and Diment, 2010; Sotiriadou *et al*., 2014). The coupling of netnography with two CAQDAS programs was designed to reveal the patterns, trends and associations in consumers' online communication. Leximancer, in particular, offered 'visual data mining' and provided insights into the data's 'patterns of relevance' (Angus *et al*., 2013; Risch *et al*., 2008). The use of netnography coupled with QSR NVivo and Leximancer, enabled this research to delve and detangle the unique characteristics of online brand discussions and of the consumer-brand relationship insights evident in such discussions. Had this research only used one program, findings from only one side of the analysis would have been found.

FINDINGS

Positively-valenced online brand discussions between consumers revealed themselves in elaborate, multi-faceted, digital expression. The QSR NVivo analysis found these discussions were laden with virtual visual cues (e.g. emoticons, emojis, capital and bold lettering), as well as brand-rich, supporting information, such as web links, photos, information on price and availability (Table 1). These online brand discussion also provided insights into consumerbrand relationships, such as a consumer's involvement in a product category, brand warmth, brand commitment, brand distinctiveness and brand loyalty (Table 2).

Table 1: QSR NVivo Matrix Coding Query Results: Characteristics of positively valenced online brand discussions – Comparison between the two community types.

Characteristic	**Frequency (OBC)**	**Frequency (OOC)**
Brand experience	515	495
Brand ownership	411	464
Reasons for advocating	344	341
Recommendation outlining brand features	148	234
Problem support	208	145
Virtual visual cues	167	138
Recommendation based on brand comparison	155	135
Extra supporting brand information (web link, photos, price, availability)	76	109
Technical brand language	62	122

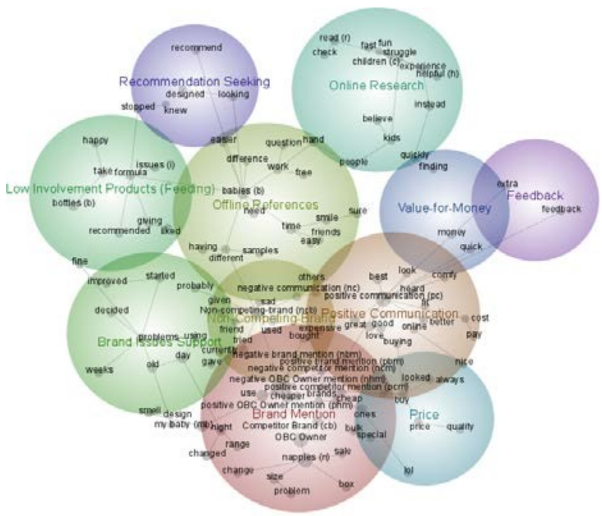
Of particular interest were the differences in which consumers advocated for brands in online discussions. As shown in Table 1, consumers advocating for brands in OOC were more likely to highlight that they own or had owned the brand. They recommended the brand by outlining its key features, provided extra supporting information about the brand and used technical language specific to the brand and/or the product category. While consumers advocating for brands in OBCs were more likely to provide problem support for the brand to others in the community forum, they also used many more affective type virtual visual cues (e.g. emoticons, emojis and lettering) and provided recommendations based on brand comparison.

Table 2: QSR NVivo Matrix Coding Query Results: Consumer-brand relationship (brand-related constructs) evident in online brand discussions – Comparison between the two community types.

Construct	Frequency (OBC)	Frequency (OOC)
Product Category Involvement	192	105
Brand Warmth	57	192
Brand Commitment (explicit)	170	29
Brand Distinctiveness	111	41
Memorable Brand Experience	39	71
Brand Loyalty	76	13
Brand Prestige	54	25
Brand Defence	35	33
Purchase Intent (in response to OBA post)	19	21
Enquiry Intent (in response to OBA post)	12	26
Actual Purchase (in response to OBA post)	11	13

Insights into the consumer-brand relationships expressed in online brand discussions suggested differences between the two online communities. Consumers discussing brands in the OBC expressed their product category involvement more than those on the OOC. They also highlighted brand distinctiveness, brand loyalty, brand prestige in their posts. On the other hand, consumers discussing brands on the OOC expressed brand warmth and memorable brand experiences more than those on the OBC.

The QSR NVivo findings were extended by the Leximancer analysis (Figures 1 and 2). A key difference was in the types of products more prominently (although not exclusively) advocated on each of the two online communities. The Leximancer analysis suggests there was a wider variety of products discussed in the OOC, as 'High Involvement Products (HIPs)' featured more prominently on the OOC Concept Map (Figure 2), suggesting posts on the OOC site were advocating for products in this category more than on the OBC site. On the other hand, the Low Involvement Products (LIPs) themes were more closely associated with the OBC. This suggested LIPs were advocated on the OBC site more than on the OOC site, further highlighting that OBA posts on the OBC site were more about the community owner's brand, its immediate competitors and closely related, but non-competing, product categories. However, on the OOC forum, OBA was provided for a wider variety of products and significantly more OBA posts seem to be about HIPs.



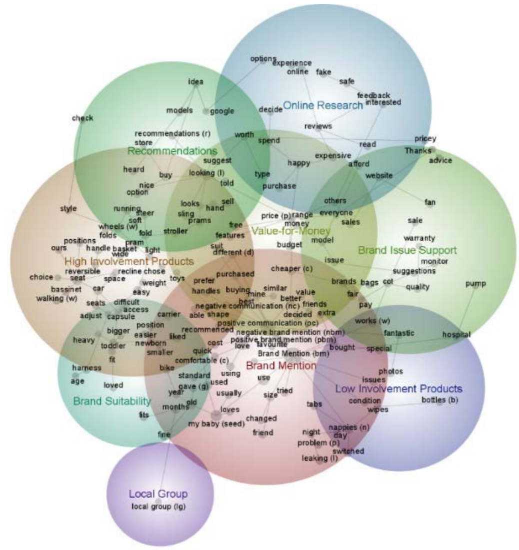


Figure 1: Leximancer-produced Concept Map: Characteristics of online brand discussions within the Online Brand Community (OBC).

Figure 2: Leximancer-produced Concept Map: Characteristics of online brand discussions within the Online Open Community (OOC).

OBA related to HIPs originated from and was a part of ‘recommendation seeking’ discussion thread starters. Given the greater financial outlay and higher risk associated with this type of purchase, it is understandable that potential consumers might require more in-depth research to make an informed purchase decision. This is consistent with previous research that suggested consumers who perceived higher risk associated with purchasing a product were more involved in the purchase decision and were also more likely to seek word-of-mouth (Lutz, 1974; Chaudhuri, 2000). Further, the OBA posts featured on the OBC originated from discussion starters related to brand suitability. Brand advocates for LIPs presented an informed positivenegative brand comparison insight in their OBA posts, as these types of products can be purchased easily, are not expensive and can be trialled to enable an informed decision to be made. Brand related problem support and aversion behaviour were more prominent in OBA posts in the OBC than in the OOC. This was supported by the NVivo analysis, which suggested OBC brand advocates displayed their brand commitment and loyalty through more brandprotective type behaviour in their OBA posts. This is consistent with the relational worth behaviours outlined by Melancon *et al*. (2011).

The seeding of two compound concepts in Leximancer (‘Positive brand mentions’ and ‘Negative brand mentions’) enabled this research to further explore emerging relationships of interest and pinpoint instances of positive and negative brand mentions (Figure 1 and Figure 2). The analysis suggested consumers advocating for brands in online discussions frequently included positive-negative brand comparison, either by stating the positive and negative aspects of the advocated brand, or of brands to which the advocated brand was compared.

Table 3 further highlights the differences in the brand discussions on the two online communities. Notably, within the OOC discussions, there seemed to be more focus on valuefor-money, price and brand suitability. Whereas, on the OBC, brand discussions tended to involve mentions of offline references, such as brand support groups and authority figureheads or endorsers. This further highlighted that the QSR NVivo and Leximancer analyses complement each other. Had this study used only the one program, we would only have understood only a certain aspect of the online brand discussions and the relationships between consumers and brands as portrayed in those discussions.

Table 3: Comparison of the characteristics of online brand discussions between the two online community types (OBC and OOC).

Theme Ranking	OBC Themes	OOC Themes
1	Brand Mention	Brand Mention
2	Positive Communication	High Involvement Products
3	Non-Competing Brands	Value-for-Money/Price
4	Offline References	Brand Issue Support
5	Brand Issues Support	Recommendations
6	Low Involvement Products	Brand Suitability
7	Online Research	Online Research
8	Price/ Value-for-Money	Low Involvement Products
9	Recommendation Seeking	Local Group
10	Feedback	-

IMPLICATIONS AND CONCLUSIONS

This study provided insights into the nature of online brand discussions and the consumerbrand relationships evidenced within these groups. Contrary to Kozinets suggestion that researchers work with *"social cues-impoverished online context of netnography"* (2002, p. 62), the nature of the online C2C communication about brands found in the online forums in different online communities seemed to be rich in information and in virtual visual cues, resonant of social-cues online. The findings provide a foundation for further research into OBA and into online brand discussions generally, offering researchers and practitioners markers about what such discussions entail. Practitioners can use these markers as indicators of their organisation's general brand health. Further, this study offers insights for researchers wishing to understand the motivators and the pro-brand outcomes of consumer driven online brand discussions. Findings about the consumer-brand relationships evident in online discussions, may be used in future research into online brand communication-related phenomena.

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SUPPLEMENTARTY INFORMATION ABOUT LEXIMANCER

Leximancer

The Leximancer program enabled an automated, program-driven analysis of the data. Leximancer uses blocks of text to identify concepts and themes that are identified through an iterative process of seeding word definitions from frequencies and co-occurrences (Sotiriadou et al., 2014; Angus et al., 2013). ‘Concepts’ are words that form clusters or groups called ‘themes’. Concept grouping or ‘themes’ emerge through a contextual similarity function which identifies concepts (words) that have contextual similarity and appear close to each other in a Concept Maps. The most frequently co-occurring concepts are clustered together and grouped by theme circles that represent the main ideas (Cretchley et al., 2010). These themes are named after the most prominent concept in the cluster (i.e. the concept with the largest dot in that cluster). In this research, the Leximancer-determined theme names were revised so as to better reflect the concepts within them. The size of the themes is not representative of the importance of the themes; rather it is indicative of the concepts' co-occurrence with other concepts. The themes are heat-mapped from hottest to coolest, where red is the 'hottest' or most prominent theme, and purple is the 'coolest' or least connected theme. The concepts are connected by lines, illustrating which concepts share the strongest conceptual similarity. Insights from the Concept Maps were interpreted alongside the Insight Dashboard Report that provided Prominence Scores 'PS' for both online communities. A PS of 1 or more was considered sufficient to identify unique and important OBA characteristics and, for compound concepts, a PS of 3 or more was deemed satisfactory.

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Performance of internal auditing: How important is an instrument's construct?

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Abstract

When we measure performance, the items used to construct an instrument needs to be valid and reliable to ensure quality information is generated and interpreted meaningfully. Internal audit has been highlighted in most literature in the context of corporate governance and its function as a monitoring mechanism against systems failures and also providing avenues for continuous improvements. One way of measuring performance is through a perception survey. Validity and reliability hinges on the items relating to the measured process. Similar to preparing an examination paper to differentiate between excellent students and those who are borderline cases, questionnaire items could be constructed on a scale from easy to difficult. This paper gives an insight on how Rasch model is used to determine the construct of the survey instrument. The paper also provides further insight on how the original instrument that was used to measure internal audit process, can be extended to measure the performance of an internal audit function and its impact on corporate governance.

Keywords: *internal audit, performance measurement, Rasch model, instrument.*

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INTRODUCTION

The Cadbury Report (1992) is considered the first corporate governance code and mentioned that corporate governance as the way an organization is directed and controlled. The report was focused on financial aspects and made proposals on the existence of board audit committees and other public reporting matters. The corporate governance code is usually made a requirement for stock exchange listings. The stock exchange requirements are then embedded in a corporations corpate governance policies.

A corporation shall strive to achieve a certain level of performance in keeping with their strategic plans and to maintain investors' confidence. The scenario in Malaysia has seen the government moving from a highly regulated framework to self-regulation and market regulation, together with a voluntary Code on Corporate Governance (Abdullah, Ismail & Smith, 2018). All Malaysian public listed companies must have an audit committee with effect from 1994. Since then, the Securities Commission Malaysia and the Institute of Internal Auditors Malaysia [IIAM] had issued guidelines on the establishment of internal audit functions and the active involvement of audit committees in 2000 (IIAM, 2005). The latest initiative by the Securities Commission Malaysia to boost confidence in the capital market and to promote sound corporate governance practices, is the introduction of the Malaysian Code for Institutional Investors in 2014 (Hamid & Mansor, 2016). The Securities Commission believes in the need to strengthen the role of the audit committees and auditors to ensure a strong good governance culture. With such developments, the measurement of internal audit performance is significant; using attributes from the internal audit practice (e.g., Fadzil, Haron, & Jantan, 2005) and the level of audit committees' involvement.

In corporate governance, the human factor is fundamental in preventing systematic fraud or other wilful conduct (Abdullah, 2014). Abdullah (2014) mentioned that the key decision-making players in corporations are the directors and senior managers; their actions could influence integrity and the corporation's continued sustainability. The audit committee and internal auditors are located within a corporation's legal framework dimension. Internal audit, a self assessment mechanism on the workings of a corporation, is important as it forms part of a control mechanism against systems failures within the corporate governance framework.

Internal audits in Malaysia are conducted either in-house or out-sourced. Although the in-house internal audits are considered to be less independent, their work are relied upon by external auditors who placed due importance to their competency and related work such as the follow-ups on previous audit findings (Haron, Chambers, Ramsi, & Ismail, 2004). Other research also found that an in-house internal audit is more effective since the internal auditors have intimate business knowledge (Coram, Ferguson, & Moroney, 2008; Soh & Martinov-Bennie, 2011).

In view of the regulatory framework in Malaysia, the research paradigm in this study is to assume that an internal audit function is present in all public listed companies, and that the performance of internal audit or the quality of internal audit can be gauged from the activities in the internal audit process. As such, it is important to discover the internal auditors' perspective on their performance. Internal auditors' participations in research activities such as surveys are at times restricted by their organisations' policies to protect certain sensitive issues raised during internal audits. As a result, most research using surveys in internal audits for the views of heads of internal auditors have small sample sizes (see Stewart & Subramaniam, 2010). To determine a research instrument's construct, an appropriate measurement model is needed to address the constraint of small sample size. Thereby, we chose the Rasch model to test the construct validity, which would ensure that data has been collected in a disciplined manner using a well crafted instrument. The minimum sample size in Rasch model is 30 (Bond & Fox, 2007, p. 43).

This paper describes how the Rasch model is used to determine the reliability of an instrument and how the instrument could be included in future research. Rasch model has been used frequently in the field of human sciences, for example, in measuring public policy involvement, client satisfaction, rater severity in educational assessments and diagnosis in health sciences such as patients' anxiety depression (Bond and Fox, 2007; Pallant & Tennant, 2007; Wright, 1999). Rasch model is a probability model, designed to answer the likelihood of a person with a certain ability will answer or solve a problem, with the correct item. The results from Rasch analysis can be mapped based on the relative difficulty of items investigated, which could provide an initial indication on areas to be investigated further through other research methods.

DATA AND METHODOLOGY

Survey and variables

Usually, performance evaluation is done by assessing the occurrence of specific practices in a process and in this study, a perception survey on aspects of internal audit activities was done. The population comprises the heads of the internal audit functions of Malaysian public listed companies. As a professional, the heads of the internal audit functions would be members of the Institute of Internal Auditors. As such, the assistance of the institute in Malaysia was sought to issue the questionnaire directly to their corporate members. By using all IIAM corporate members, there is greater assurance that these chief internal auditors are managing their own internal audit functions in their corporations.

The survey items used in evaluating internal audit performance as shown in Figure 1 relates to activities specified by the professional standards and best practices; from planning, execution, reporting and monitoring (e.g., Fadzil, Haron, & Jantan, 2005; Abdullah, A Rashid & Masodi, 2008). We have considered 2 factors in creating the instrument; reliability and items difficulty. The survey questionnaire needs to be reliable for it to be a good and valid instrument; meaning that it must have a good construct. Another criteria that needs to be considered is the level of item difficulty (Abdullah & Masodi, 2012), especially in performance evaluation such as assessing the quality of the internal audits. Measurement of the internal audit performance is by referencing to the extent of the use of best practices on a scale of 1 (Never) to 4 (Always).

Each category represents **your degree of perception as auditor** towards each item when you conduct an audit. For each item, circle one of the numbers: **1 – Never, 2 – Sometimes, 3 – Usually, and 4 – Always.**

16. How would you rate the occurrence of the following activities in relation to the internal audits in your organisation?

1.	Set performance objectives that management had identified for business process as a reference point in audit program.	1	2	3	4
2.	Set key performance metrics such as budgeted vs actual audit time for audit assignments.	1	2	3	4
3.	Appoint auditors with the necessary skills relative to the complexity of the area to be audited.	1	2	3	4

Figure 1: Sample of survey items.

Measurement

The data collected using a typical Likert response categories questionnaire to measure the perception of the internal auditors can only provide rank measures (ordinal data). The ordinal data needs to be transformed to an interval scale that is linear and reproducible to be useful in making inferences. As ordinal scores, the data cannot be treated as linear measures (e.g.,Waugh & Chapman, 2005; Wright & Linacre, 1989). Wright (1999) noted the non-linearity bias of raw scores becomes significant with extreme scores.

The data transformation was done using the Rasch measurement model, where the unit of measurement is known as 'logit'. The quality of the internal audit is synonymous with the degree of success that an internal audit is conducted, which involves the internal auditors abilities and the difficulty of a given internal audit activity. Here, internal audit quality is interpreted as a successful internal audit. Using the model, the probability of a successful internal audit is construed as follows:

Probability of audit success = Auditor's ability – item (specific audit task) difficulty

The mathematical function for the model is:

$$\textbf{Logit}\ (P/1\text{-}P) = \beta v - \delta i$$

$\beta_v =$ the ability of person v

$\delta_i =$ the difficulty of assessment item i

Data analysis

The survey instrument on internal audit activities was first used in 2008 and very minor amendments were made in 2011 to the wordings to add clarification (see Abdullah et al., 2018). The earlier study had 123 usable responses; 54 from IIAM members and 69 from internal auditors of institutions of higher learning (Abdullah et al., 2008) whilst the later study completed in 2014 was responded by 133 IIAM members with 68 usable responses.

To determine reliability, the KR20 and its variants such as coefficient alpha are often used. The limitation of KR20 relates to the usage of raw scores, where raw scores cannot be taken as linear indicators of the measurement scale (Wright, 1999). Rasch model analysis resulted in a linear comparison of the Difficult to Easy items which can then be mapped for ease of comparison. The Cronbach computed in Rasch software is shown in Table 1 indicating that the survey instrument is highly reliable.

Table 1: Items reliability.

Year	2014	2008	2008
Respondents	IIAM members	IIAM members	IHL
N	68	54	69
Cronbach	0.91	0.93	0.91

*Scale of 0 to 1

IHL – internal auditors from institutions of higher learning

The output of the in depth analysis in Rasch model graphed as a person item difficulty map provides an indicator on the item's degree of easiness to be conducted. Any items considered to be difficult (which are closer to the items mean or above it) as shown in Figure 2, can be investigated further by other research methods for example a follow-up study using in-depth interview or case studies.

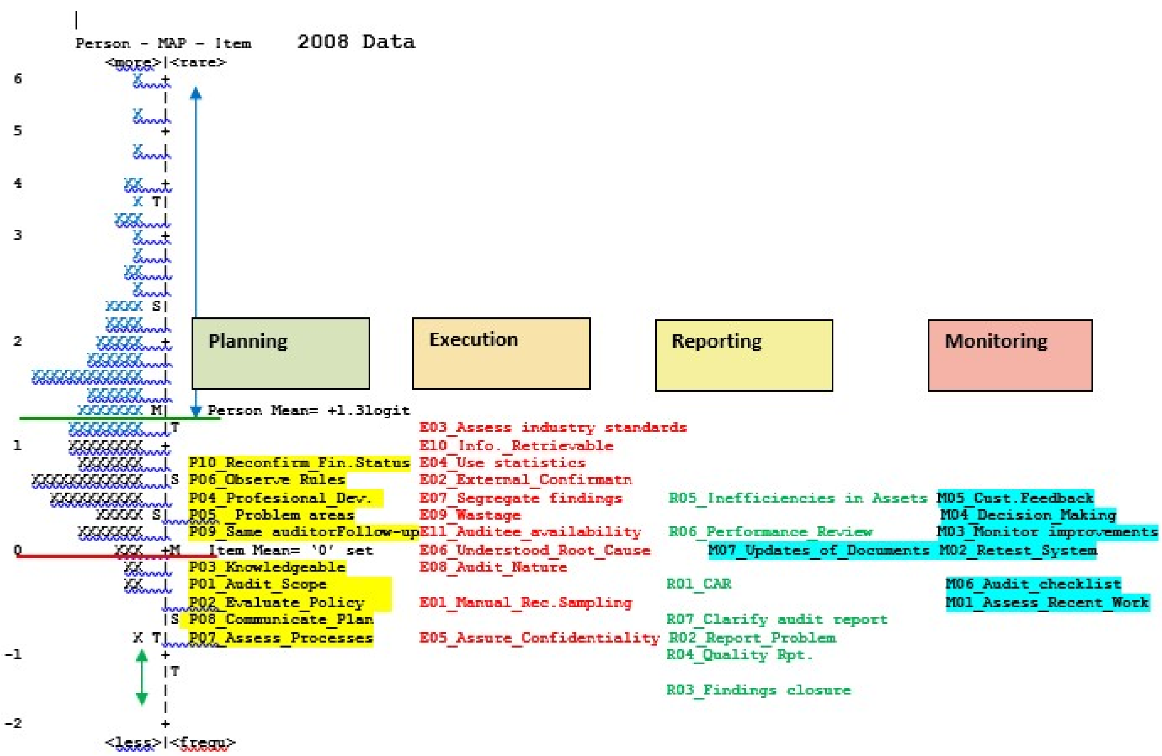

Figure 2: Person-item distribution map.

Since the construct of the initial instrument is reliable, we could now extend the model in the latest study in 2014 to determine the impact of internal audit on corporate governance. Rather than just the internal audit activities, we now measure the performance of the internal audit function or department, to include the involvement of audit commitees as specified in the Malaysian listing requirements on the roles of audit committees and how internal audit had impacted corporate governance by reference to the areas where findings occur from the conduct of internal audits. Figure 3 shows part of the person-item distribution map showing the results of data collected from the extended survey instrument.

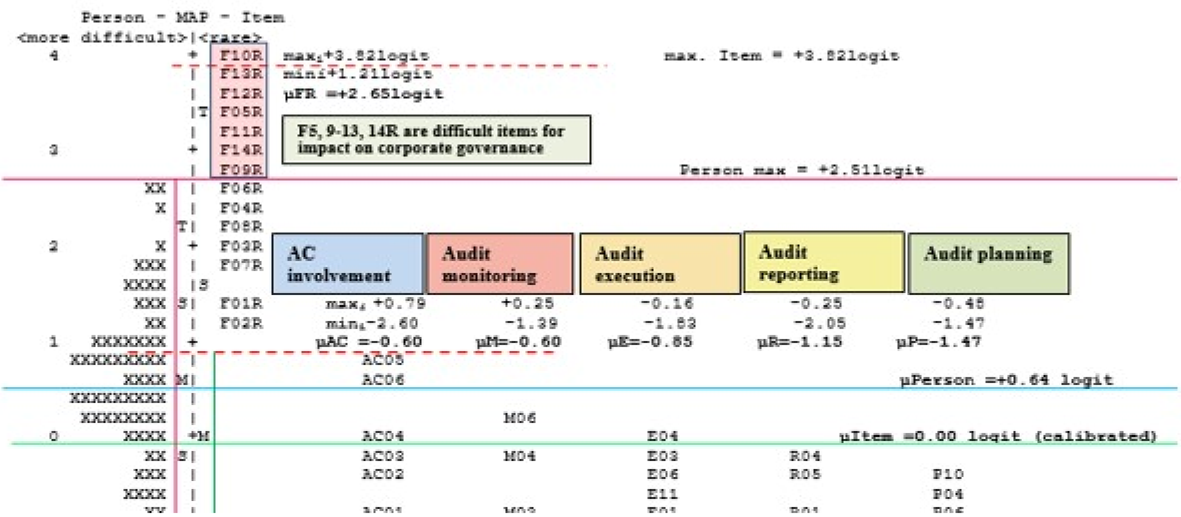

Figure 3: Overall person-item distribution for the internal audit function analysis

CONCLUSION

Rasch measurement model is a very useful tool to determine the validity of an instrument construct. Further analysis that yields the person item difficulty map, is able to indicate how easy or difficult is the item that is being investigated. As such, the empirical data taken directly from the perception survey can be evaluated discretely, for example in this case, the activities of the internal audit process and the review process of audit committees. Symptoms of weaknesses in the internal audit process and the subsequent research on internal audit function, identified as items with difficulties in their performance can be traced more easily based on the locii on the map. The identified areas to be delved further through in depth interviews can then be focused on the difficult items via the differences in views of internal auditors on their performance, thus providing guidance for future improvements on the effectiveness of the internal audit process and overall internal audit.

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The Colonisation of Academic Labour: Academic Responses to Neoliberal Practices in Universities.

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Abstract

Worldwide neoliberal reforms have changed the nature of social institutions through the introduction of private sector management practices. For universities, potentially, this change represents an attack on traditional academic values of collegiality, academic freedom and autonomy. Despite considerable evidence that academics are unsettled by the neoliberalist agenda, the extent to which academics are consciously participating in and supporting the agenda is unknown. Hence, drawing on the Theory of Advanced Liberal Governance, the aim of this paper is to report on how academics perceive the changes and how they respond to them. Data is drawn from stories extracted from interviews of 37 academics from across disciplines in a single case university. The findings indicate general academic dissatisfaction but there are differences in their responses to change. Three distinct changes are noted: funding; greater control; and increasing distrust of academics. Three types of responses to change are suggested: those who see the change as beyond their control; those who take advantage of the change; and a minority who resist it. Although the results are early and exploratory, there is some support for the Advanced Liberal Governance proposition that governance operates from a distance through mechanisms that translate the goals of governance into the choices and commitments of individuals. In other words, that knowingly or otherwise, academics are complicit in upholding a system for which they have little respect.

Keywords**:** *Neoliberalism, Academics, Universities*

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INTRODUCTION

The rise of neoliberalism in the 90's changed the landscape of higher education. As a socio-economic theory, neoliberalism rejects governmental intervention in the domestic economy and favours materialism, consumerism, and the commodification of public goods (Giroux, 2018). The emergence opened the gates to neoliberal reforms in universities (Clawson & Page, 2012). The implementation of neoliberal policies in universities includes the infusion of private sector management practices such as: audits; KPIs; branding; marketing; cost-cutting efficiencies; profit seeking; and executive compensation (Dowling, 2008). The reforms have pervaded universities allowing them to adopt business models and operate as quasi corporations (Lucal, 2015).

While most express disapproval (Gill, 2010), others argue that neoliberal reforms bring transparency and increased productivity in academic labour (Bruhn, 2008; Frølich, Kalpazidou Schmidt, & Rosa, 2010). There is no dearth of scholarly literature on the effects of neoliberal reforms. However, more attention needs to be given to questions about why academics allow their profession to be gutted in the manner suggested by most literature (Martin, 2016). One explanation is that academics actively propagate neoliberal reforms through strategic compliance in return for career mobility and instrumental rewards (Alvesson & Spicer, 2016). Daily, academics face this complex identity juggling act, seeing their working lives as a 'game' that must be played (Alvesson & Spicer, 2016). The question is, how do individual academics perceive and respond to neoliberal reforms, are they conscious of playing a game. This question is the focus of my research and this paper provides early results in understanding how academics are influenced by neoliberal changes in universities. Better understanding of the degree to which academics are complicit in undermining their own profession and of the traditional idea of a university has implications for both academic labour, its management and higher education policy.

NEOLIBERAL REFORMS IN UNIVESITIES

Neoliberal practices are practices and values more commonly found in the private sector. They include quality control systems; performance measurement; focus on marketing, strategic plans; and alliance building initiatives (Deem, 1998). The hallmarks of Neoliberal reforms are summarised as marketisation, managerialism, and financialisation. Marketisation defines a university as a business organisation with attached productivity targets (Doring, 2002). It entails two important components: an increasing presence and acceptance of a market ideology, including the presence of customers, and the increasing acceptance of market-oriented reform (Wedlin, 2008). Managerialism is the shift in university governance away from the classical notion of the university as a republic of scholars towards the idea of the university as a stakeholder organization (Bleiklie & Kogan, 2007). Financialisation is the privileging of financial concerns above other purposes of a university (Parker, 2002). Neoliberal reforms cause unparalleled changes in the way universities are governed (Ryan, Guthrie, & Neumann, 2008). Faced with reduced government funding, universities seek external sources of revenue which require large investments in marketing and reductions in costs associated with teaching and research (King, 2009). Along with increased government control over universities, universities increase their control over academics which is turn is interpreted as mistrust in the profession (Cheng, 2010).

ACADEMIC LABOUR

The academic is distinguished in three ways. First as a vocation, a way of life, second, as labour, a job that attracts capital, and third, as a career, a process to achieve occupational goals. Like any other intellectual labour, academia is conceptualised based on its labour processes. The processes are sub divided into "a) the labour process itself, b) the social organisation of the labour process, and c) the control of the labour process" (Tancred-Sheriff, 1985:370). The labour process is inclusive of teaching and research and the experience or social relations that determine individual work style. In the labour process, academics as teachers provide labour as a subset of the service supplied by the university, therefore, they are positioned as 'middlemen' or subcontractors. On the other hand, academics as researchers are presumed to be entrepreneurs on a private basis. Underlying both functions are the traditional values of academic freedom and institutional autonomy. Like other professions, academics are motivated by gains that are intrinsic within and outside their work environment (Lewis, 2013:66). Such intrinsic rewards include logical curiosity, satisfaction derived from innovation, and the ability to be able to contribute to society. However, intrinsic rewards are diminished by increased management control mechanisms such as the regulation and determinants of external reward, monitoring and surveillance (Connell & Crawford, 2007).

THEORETICAL BACKGROUND

Drawing on Miller and Rose's (2008) Theory of Advanced Liberal Governance, my research is an early exploration of the extent to which academics are 'governed', including the extent to which their actions are determined by governance. Specifically, the research focuses on how academics perceive and respond to changes introduced by neoliberalist governance.

The Theory takes its point of departure from Foucault's notion of governmentality. Governmentality is a collaboration created by institutions, processes, investigations and thoughts, designs and strategies that enable the use of complex power (Foucault, 1977). Government activities have become decentralised, working through various mechanisms, strategies and expertise that aim to govern citizens through luring them to govern themselves (Rose, 1990). The aim is to manage people by transforming them into becoming self-managers in a way they would otherwise not do (Ward, 2012). The paradox is how individuals choose to discipline themselves and how they make themselves free, efficient and empowered (McKinlay, 2010). Advanced Liberal Governance Theory proposes that specific forms of government influence the way individuals think about and manage themselves within an institution (Rose, 1990). This provides an interpretation of the theoretical, methodological and empirical spaces of governmentality and ethnography (McKinlay, 2010), and provides an understanding of choices and decisions.

In the context of universities, Advanced Liberal Governance theory provides insight into the processes whereby neoliberal practices such as performance management, auditing, monitoring; and increased administration are a shift from being simply governance processes to control strategies to influence individual decisions and behaviour. Academics are lured into making decisions that disregard their values of autonomy and freedom. Although academics continue to decry the deprofessionalisation of their labour, their choices speak otherwise. In other words, the way academics manage themselves, how they administer each other and cope with, comply or resist governance strategies (McKinlay, 2010) will determine the future of long held values.

DATA AND METHODOLOGY

The data for the research is based on semi-structured interviews with 37 academics from across disciplines in a single case university. The choice of a single case university was both pragmatically based on ease of access and the Advanced Liberal Governance theory assumption that culture and value change among the governed are more relevant than the type of institution. The disciplines were selected based on the Biglan (1973) and Becher (1981) typology of four discipline types: hard applied; hard pure; soft applied; and soft pure. Disciplinary differences may exist in universities but academic values are generally similar. Critical Narrative Analysis was used to analyse the interview transcripts and draw out narratives or stories from each participant. The stories are a reconstruction of the points made in the transcripts. Some of these stories are presented in the following sections to illustrate specific themes.

CHANGES IN UNIVERSITIES

The following stories exemplify perceived changes in higher education, the diversity in evaluation of change, and the responses to change. The main themes of change reflect those in the literature, reduced public funding (Altbach, Reisberg, & Rumbley, 2009), increased central control (Amthor & Metzger, 2011), and growing distrust of academics.

John's story- Less funding

John recounts how employments contracts were suddenly stopped because of the management's claim of insufficient finance to meet its obligations to staff. All funding to faculties and schools was stopped. This meant that some scholarly activities such as conferences and workshops could not be attended. John explained that it is common for faculties and schools to receive inadequate funds to carry out their teaching and research. This affects both academics' morale and quality of higher education.

Peter's story- centralisation of power and academic disempowerment.

Peter is a Head of School who received an instruction with a deadline from executive management for a particular task to be done by members of his School. Peter did not think the instruction was a good idea but his opinion was not considered. His responsibility was to pressure his colleagues to achieve the task, even though it was not in their best interests nor the interest of the School.

Ted's story- under surveillance

Professor Ted feels constantly under surveillance and distrusted by senior management. Besides the frequent check on what and how he teaches, his research expenditure is monitored closely. If he attends an academic conference, he must not only produce all receipts to allow refunding, he is required to fill several forms each requiring several signatures for approval.

EVALUATION OF CHANGE

There are opposing views on whether academics have become more productive as a result of change (Bruhn, 2008; Frølich et al., 2010), or whether change has led to a diminution in scholarly thinking and innovation (Gill, 2010; Martin, 2016). The following stories presents both sides

Kate's story- neoliberal practices improve performance and productivity

Kate perceives that before the onset of neoliberal reforms, academics spent much of their work time travelling. They had unproductive chats with each other and didn't spend enough time updating teaching materials for students. It is different now as performance management, auditing, surveillance and control ensure that academics account for time and resources.

Jane's story- more students, less staff

For Jane, the academic job has become impossible. Her tutorial classes were once capped at 12 students but now the cap is 30 students. Jane is under so much time pressure from her increased teaching workload which is subject to further pressures from increased performance expectations and excessive administrative controls.

RESPONSES TO CHANGE

Despite academics possessing the analytical skills to critique their social condition, academics generally fail to resist (Anderson, 2008). Based on the academics' response to neoliberal reforms, we suggest three types of academics based on their responses to change. **Type One** are those who see the change as beyond their control, either because they are overwhelmed with surviving the system or they believe that the university is a part of a global system that has long incorporated neoliberalist ideology. **Type Two** are those who take advantage of the change because of the self-accrued benefits achieved from compliance. Such benefits include career growth, financial benefits, and managerial power and influence. **Type Three** are a minority who try and resist the change. Resistance include creating conversations for discussion or choosing to be denied of some benefits but embracing self-satisfaction.

Type One

Bob's story- My survival is most important

Bob is overwhelmed with excessive workload and he is wrapped in this struggle every day. He is unaware of most things happening around him in the University since he is more concerned about keeping his job. He feels extra pressure from performance management, auditing, and generally being monitored.

Type Two

Kerry's story- wasting time but ticking boxes

Professor Kerry goes to meetings just to be physically present but she takes her diary or a piece of paper and sits in a hidden corner in the room. During the meeting, instead of listening to whatever is being said, she is busy writing other things about her research and teaching. She can't see the reasons for so many meetings because the decisions taken at the end of the meetings are regardless of whatever non -management staff think. All she wants is to tick the box of being present in the meeting.

Jenny's story- cracking jokes to tick the box

While it might sound more ethical to maintain her own values in teaching, for Jenny the losses attached to receiving poor student feedback are not worth it. So Jenny opts for being funny and telling unnecessary stories to her students to receive their positive appraisals. She feels she has no choice.

Type Three

Samuel's story- Resisting by speaking up

In a management meeting, Samuel gained the impression that only metrics matter, success is measured in terms of increases in the number of students enrolled, the number of students graduating, the number of new buildings, the number of journals published by academics, and the introduction of more courses. At the end of the meeting, Samuel asked why there was no consideration about the quality of the students graduating, of articles published, of the usefulness of new buildings, of ways to improve teaching and research, and how to better invest in human capital. Although, he didn't receive answers to his questions, he continues to ask these questions at every opportunity.

CONCLUSION

This paper is an early exploration of how academics perceive and respond to neoliberal reforms in universities. We discuss neoliberal reforms and present findings of what academics think of change and how they respond to it. The three types of responses provide an understanding of how academics choose to respond to change. The findings support the Advanced Liberal governance theory that changes as mechanisms influence response. Inadequate funding, greater control and show of distrust of academics are changes and are mechanisms influencing the way academics think about themselves and the way that they administer themselves. This means that changes translate the goals of governance into choices and commitments of academics. The unanswered questions remain as to the extent academics are conscious of the costs and benefits of 'playing the game' and even whether they see compliant behaviour as a game? In other words, to what extent is compliance conscious behaviour by academics and their managers, and, ultimately, whether such compliance will destroy institutional autonomy and academic freedom? The answers to these question may point to ways in which academics and their managers can become more aware of the influence of governance on their behaviours so they may more consciously decide to comply or not to protect their academics selves and either old or new values.

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The relative influence of formal and informal control on employee behaviours in knowledge industries.

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Abstract

Employees have a major impact on organisational outcomes in knowledge industries. The achievement of organisational goals represents the 'ends' of management control efforts, however, achievement of these ends cannot be divorced from the 'means' by which they are pursued. Employee behaviour at the individual level in response to management control is an area in which the literature has been largely silent. This study seeks to contribute to this gap by exploring the means by which management control influences managers' and employees' individual work behaviours in terms of both formal management control systems (MCS) as well as informal control. This study investigates the influence of formal and informal management control on employee outcomes, specifically organisational citizenship behaviours, knowledge sharing and employees' intention to remain with the organisation. Preliminary findings suggest informal control have a greater influence on guiding employee behaviours then formal control.

Keywords**:** *management control, MCS, formal and informal control, organisational citizenship behaviour, knowledge sharing, intention to remain*

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INTRODUCTION

The influence of management control on employee behaviours has been repeatedly identified as an area requiring further investigation (Hall, 2010; Tucker, 2018). Employees have a major impact on organisational outcomes in knowledge industries but a number of questions still need to be addressed in relation to the behavioural influence of management control on the level of individual and organisational goal congruence needed to drive organisational success (Fullerton et al., 2013). Changes in technological capability, the social and economic environment, and the growth of knowledge organisations, such as professional services firms, has meant that organisations are more reliant on employees to fill the gaps between what they are specifically rewarded for and the behaviours necessary for organisations to remain competitive (Dekas et al., 2013). Yet much of the research into management control to date has focussed predominantly on their strategic importance. Management control may take the form of formal control which are defined as "formalized procedures and systems that use information to maintain or alter patterns in organizational activity" (Simons, 1987, p 358) or informal control processes being "the non-formalized information based routines, procedures and practices that… influence, maintain, or alter patterns in organizational activities" (Tucker, 2018, p11). Together, formal management control systems (MCS) and informal control processes constitute what is known as a management control package (Otley, 1980).

Despite its importance, limited research has been conducted on the potential of management control to act as motivators for employees and managers to attain organisational goals. In order for management control to be effective it is necessary to understand more about the impact on employee outcomes, which in turn is influenced by employee perceptions of the control environment and prevailing management control package. Knowledge organisations are reliant on the talent and skills of their employees for sustainable competitive advantage (Martin-Rios, 2016) and also rely on their workers to collaborate across boundaries to find creative solutions to problems (Alvesson, 2004). This has required a rethinking of management control in regards to knowledge work (Martin-Rios, 2016) to become "flexible and dynamic frames adapting and evolving to the unpredictability of innovation, but stable to frame cognitive models, communication patterns, and actions" (Davila et al. 2009, p. 327).

This study investigates organisational citizenship behaviours, knowledge sharing and intention to remain and in so doing, provide insights into the influence that management control has on individual work motivation. This study also offers insights into the relative effect of formal systems and informal processes within the control package on a range of work behaviour dimensions of managers and employees, with implications for the design and identification of optimal control practices.

THEORETICAL FRAMEWORK

Despite the importance of management control in achieving organisational outcomes, the necessary frameworks to understand them have not focused on outomes and implications for employees. There has been a tension between the human resource management and management control literatures and a lack of integration of these literatures that enable the identification of factors that impact value creation (Coff, 1997). To address this tension, social exchange theory and employee-organisational support which directly engage with the concepts of organisational citizenship behaviour and knowledge exchange theories will be used. Both of these concepts incorporate the notions of altruism (helping colleagues) and generalised compliance (compliance with rules, norms and expectations) (Smith et al., 1983), both of which are central to employees' perceptions of both formal and informal management control, and the subsequent impact on employee behaviour.

While it has long been acknowledged that what gets measured gets attention (Ridgeway, 1956), most research has focused on formal control and little consideration has been given to informal control which is likely to be critical in achieving effective management control (Liu et al., 2014). Moreover, it has been recognised the social and psychological consequences of the users of the accounting information need to be considered more carefully by accounting and control systems designers when designing management control (Bisbe & Otley, 2004). For example, additional control introduced to increase compliance may be perceived as positive if they enable staff to take the time to write down procedures which actually help employees save time and perform better (Tessier & Otley, 2008). However, some employees may perceive the use of a prescriptive procedure, or overt control (Ahrens & Chapman, 2004), negatively.

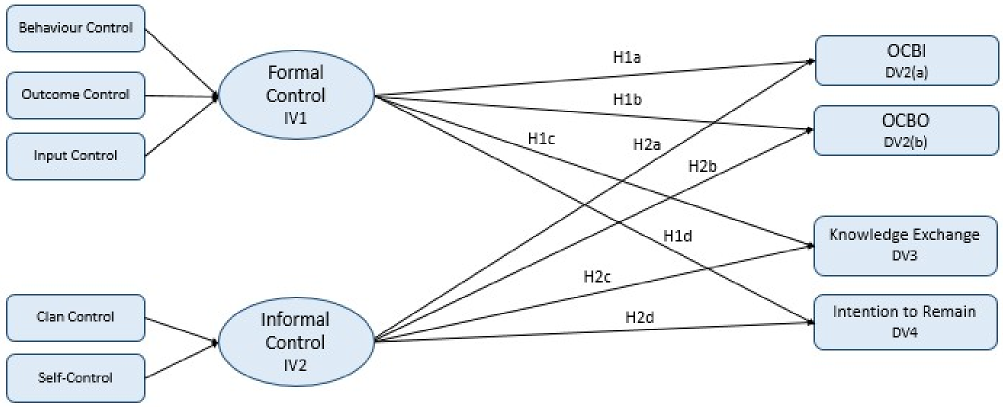
While management control have traditionally been designed with managers in mind, the perceived relevance of control practices for employees has consequences on their control roles, responsibilities, behaviour and, thus, on the overall organisation success.

Hypotheses

This study examines employee perceptions of both formal and informal components comprising the management control package to determine the influence on desired employee outcomes, including organisational citizenship behaviours (both in relation to that shown to individuals in the organisation (OBCI) and the organisation itself (OBCO)), knowledge sharing and employees' intention to remain with the organisation.

The hypothesized model including the hypotheses that will be tested are represented below:

Figure 1 –Hypothesised Model



RESEARCH DESIGN

The need for a behavioural view in management control research is clearly central to both researchers and practitioners, as it is people who are the focus of the control in place. This is important, as research findings suggest twice as much variance in organisational performance is due to factors related to human behaviour, than it is to economic factors (Hansen & Wernerfelt, 1989). Thus, it is necessary to understand and gain insights into the effect of management control systems on employee behaviour (Widener, 2015) as the processes by with management accounting practices are implemented can vary greatly (Parker, 2012).

Management accounting research has shown increasing recognition of the need to complement established survey methods with qualitative methods, enabling the relative strengths of one to counterbalance the weaknesses of the other, thus enhancing the credibility of results (Modell, 2005). Furthermore, a single-site case research design was chosen for the context within this study is situated, because it allows for an in depth understanding of the relationships being considered and one not offered by other research methods (Merriam, 1988).

Participants

This study collects and analyses data from a questionnaire survey of 267 employees, and subsequent interviews with 30 managers and employees within an Australian professional services firm providing engineering, architecture, environmental and construction services to private and public sector clients. Cross sectional survey data from was 115 employees from four offices in two states (43% response rate) were received in the single organisation case study. Interviews are still being conducted as at October 2018.

Procedures

This study used four methods of data collection: surveys, interviews, documents and archival records. An online survey was used to find out ‘what’ control are in place, interviews are being conducted to learn more about ‘how’ these control are perceived, and company employee survey data will be used to triangulate the results. Relevant scales were piloted on a small group of the organisation’s employees.

Survey Questionnaire Design

Data collected in the questionnaire survey was through an online instrument using established validated short form scales where available to maximise the ease of completion and likelihood of return.

Table 1: Scales used in the study

Construct		Construct Validity
Formal Control	Behavioural Control	Tiwana & Keil (2009)
	Outcome Control	Kirsch (1996)
	Input Control	Remus et al (2016)
Informal Control	Clan Control	Kirsch et al (2002)
	Self Control	Kirsch et al (2002)
Organisational Citizenship Behaviours		Lee & Allen (2002)
Knowledge Exchange		Collins & Smith (2006)
Intention to Remain		Kehoe & Wright (2013)

The questionnaire consisted of 90 questions, including questions on demographic variables such as age, gender, nationality, tenure, the service group they work in and information as to whether or not employees are in a supervisory position were also collected.

Interview Design

The interview phase consisted of semi-structured interviews with a range of employees from each of the locations. The issues explored in these interviews were informed by the literature review, document analysis and the findings of the survey data. These questions were posed to employees who had indicated their willingness to take part in the second phase of this research and provided their contact details. Qualitative questions were based on the 12-question Performance Management Systems Framework (Ferreira & Otley, 2009).

Data analysis

Survey data will be analysed using SPSS (Version 25) for the factor analysis and regression of survey data. Qualitative data from the semi-structured interviews will be analysed with the aid of the NVivo (Version 12) software package.Triangulation will be used to cross validate the survey and interview data collected with the results of the organisation's own employee survey results and the researchers own observations within the workplace (Modell, 2005).

RESULTS AND ANALYSIS

Although formal management control play an instrumental role in achieving organisational goals, it is hypothesized the influence of informal control processes are predominant in framing and guiding individual work behaviours. Initial findings suggest formal control are consistent across the organisation's Australian operations, however the informal control processes vary across the organisation's offices and between project teams. Preliminary indications suggest that is is informal processes rather than formal MCS through which control is principally enacted in this organisation.

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The nature of social exchange between employees, FLMs and senior managers during radical organizational change: A social exchange perspective.

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Abstract

Radical organizational change (ROC) often has a negative impact on employees. The psychological contract between employee and employer is likely to be violated, resulting in a negative work climate. This negatively impacts employees and puts pressure on first-line managers (FLMs) to achieve the required outcomes for change planned by senior managers. FLMs assume a central role because they are intermediaries between those initiating the change and those implementing it at the operational level. The FLMs are expected to manage the current operations as normal, and simultaneously facilitate the radical change requirements. As these circumstances of dual expectations suggest, the FLM needs considerable relational expertise in which they need to build social exchanges with employees and senior managers. This paper discusses the one of the research questions of my PhD, i.e. the nature of social exchange between employees, FLMs and senior managers from the perspective of social exchange theory (SET). SET is a series of interactions between two or more individuals through which they create expectations of one another by attaching values to these expectations. Meekers' rules of social exchange helped to develop an understanding of the nature of social exchange between employees, FLMs and senior managers. These rules encompass factors that stimulate individuals to enter into social exchange. I conducted forty semi-structured interviews. The preliminary findings suggests that employees have a high levels of social exchange with the FLMs, underpinned by high reciprocity and rational reasons, while social exchanges with senior managers are constrained the status and power differentials.

Keywords**:** *Social exchange theory, First-line managers, Radical organizational change.*

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INTRODUCTION

This research employs social exchange theory (SET) to examine the nature and intensity of social exchanges in the context of radical organizational change (ROC). Change management literature emphasizes that successful change management initiatives require careful attention to people management issues (Beeri, 2012). However, the role of social exchange/s between various parties to facilitate the change process has rarely been considered (Coyle-

Shapiro & Neuman, 2004; Coyle-Shapiro, 2002). This is despite social exchange being a fundamental element of relationships, including in the workplace (Coyle-Shapiro & Shore, 2007). SET is defined as “Voluntary actions of individuals that are motivated by the return they are expected to bring and typically do in fact bring from others” (Blau, 1964, p.91). SET posits that a series of interactions between two or more individuals builds expectations among one another by attaching values to these expectations (Blau, 1964).

ROC represents an occasional change that is typically revolutionary and swift (Fullan, 2006). ROC is defined as the type of change that “seeks to create massive changes in an organization’s structures, processes, culture, and orientation to its environment” (French, Bell, & Zawacki, 2005, P.8). However, ROC may negatively impact employees because the psychological contract between employee and employer is likely to be violated, which may result in a negative work climate (Lowe et al., 2008). Such a work climate can place pressure on FLMs who are expected to achieve the required outcomes for change planned by senior managers and maintain the agreed standard of service delivery to external clients. The FLMs are intermediary agents between those initiating the change and those implementing it at the operational/ground level. The study contributes to the literature on the FLM as an agent of change by assessing the sufficiency of SET in developing an understanding of the FLM’s role as a facilitator of change and regular work activities during ROC. As these circumstances of dual expectations suggest, social exchanges can aid in facilitating ROC. As such, SET can help to cast light on the social exchanges between employees, FLMs and senior managers. While the nature of social exchange between three parties has not been thoroughly investigated, SET literature has mainly focused on dyadic relationships. In contrast, in this study I focused on social exchanges between three parties, the implications of this exchange and its impact on one another. Accordingly, one of the research questions of my PhD asks: “What is the nature of social exchanges between FLMs, employees, and senior managers?

Meeker (1971) developed one of the most widely known and influential models of social exchange. According to Meeker, the relationship between two or more persons can be viewed as individual decisions while some rules are required to direct the choices individuals make about social exchange. Meeker postulated six rules: rationality, altruism, status consistency, reciprocity, group gain, and competition. These rules encompass factors to stimulate individuals to enter a social exchange. My research used Meekers’ rules to examine the nature and extent of social exchange between senior managers, employees and FLMs.

METHODOLOGY

My study adopted an exploratory approach, using qualitative semi-structured interviews. In focusing on staff, FLMs and senior managers’ experiences, the study fits in the interpretive paradigm of social research (Burrell & Morgan, 1979). I seleced a single organization in the Australian aviation industry as a case study. The aviation industry in Australia is highly competitive which has forced several organisations to either exit or employ ROC. FLMs, senior managers and employees in this organization were asked about their experiences with social exchange relationships during the latest four ROC events that happened in the last five years. Forty interviews were conducted with participants from the organization’s main operational department, which is customer service. Thematic analysis was used to analyse the data to identify patterns or themes that displayed commonalities, relationships, overarching patterns or theoretical constructs (Braun & Clarke, 2006). The data was analysed in accordance with Braun & Clarke’s (2006) six-phase guide for thematic analysis. Table 1 shows the demographic profile of participants.

Table 1: Participants demographic profile

Positions/ working status	**Total**	**Experienced ROC events**	**Total**
Staff members	17	All events	18
First-line managers	13	Last 3 events	5
Senior managers	5	Last 2 events	10
Ex- staff members	2	First 3 events	2
Ex- First-line managers	3	First 2 events	3
		Last event	2

PRELIMINARY KEY FINDINGS

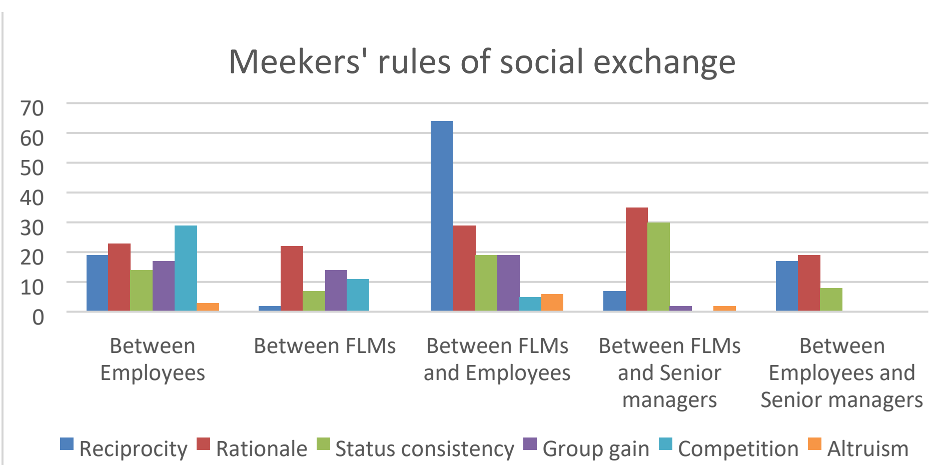
Three main themes emerged from the analysis of data. These were *social exchange intensity*, *power and status differential*, and *social exchange instability*. Descriptions of key themes are in table 2.

Table 2: Three main themes

		Theme	Theme description
Question 1	**1**	Social exchange intensity	The highest level of social exchange intensity is between FLMs and employees, underpinned by high intensity of reciprocity and rationale rules (i.e. logical and positive motives).
	2	Power and status differential	Senior managers' power and status differentials creates a low level of social exchange with other parties
	3	Social exchange instability	Lack of communication, insecurity and personal interest were major contributors to change in social exchange dynamics

Figure 1 below illustrates the nature of social exchanges based on Meekers' rules, and relates to the first and second theme as described in Table 2. Figure 1 illustrates that the highest level of social exchange is between FLMs and employees with a substantial degree of reciprocity which means that FLMs and employees have many values/benefits that could be exchanged. These values include high intensity of support, help, respect, understanding and information sharing. Additionally, figure 1 shows that social exchange between employees and FLMs is influenced by a significant rationale factor. This includes comfort, understanding, motivation, and working together the same shifts times. On different note, it is important to note that the *intensity* below is reflected by counting the number of comments made by the participants, however, it does not differentiate between negative and positive motives.

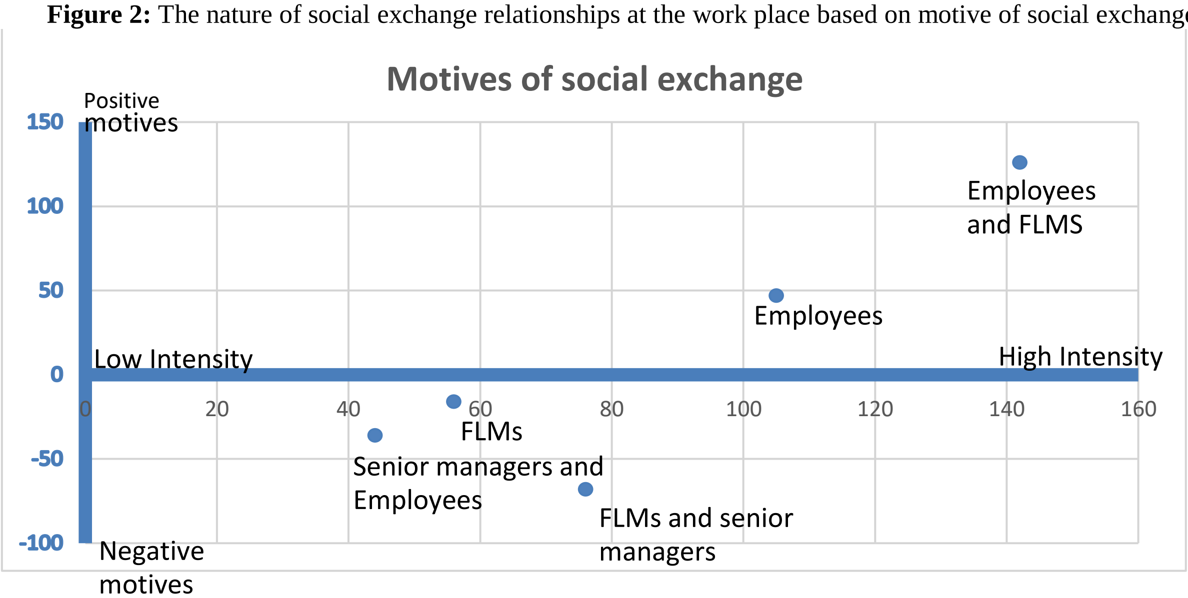
Figure 1: Intensity of social exchange interactions between the various parties based on Meekers' rules of social exchange.



Additionally, the findings highlight that there is a low level of social exchange between senior managers and other parties because there is a significant power and status differential between senior managers on the one hand, and employees and FLMs on the other hand as described in theme 2 (table 2). This created a social gap between senior managers and others. According to Figure 2, the social exchange between senior managers and other actors falls below the negative motive line and it is also indicated that senior managers' social exchange intensity is low.

Figure 2 illustrates the type of motives which influence the formulation of social exchanges between the various parties. Individuals may have a positive motive, which encourages the participation in social exchange, or may have a negative motive which has an adverse effect on social exchange and this may include avoiding building social exchange with other individuals. Figure 2 shows that there is a positive motive for employees to build social exchange with each other as well as build social exchange with FLMs, while there is a high degree of intensity between both parties. In contrast, negative motives were found between FLMs among themselves, FLMs and senior manager, but most significantly the findings highlight that there is a high degree of negative motives established between employees and senior managers during the ROC events which discourages establishing a social exchange between these two parties.

Figure 2: The nature of social exchange relationships at the work place based on motive of social exchange.



On the other hand, while both theme one and two describes the nature of social exchange between the various parties, theme 3 as described in table 2 covers the main causes for social exchange instability and change in dynamics. The findings highlight that lack of communication in the context of ROC may cause a reaction by the individuals who feel insecure and as a result those individuals will reassess the foundations/ rules of social exchange with others. Additionally, social exchange will change when an insecure environment exists where individuals feels threatened by other individuals for various reasons, such as competing for certain positions, securing working hours or job security related issues. Finally, the findings highlight that personal interest is a major cause for social exchange instability, particularly when there is a conflict of interest between the individuals or the interests of parties has been shifted.

CONCLUSION AND FURTHER RESEARCH

To summarise, the preliminary findings for my research indicates:

1- Employees and FLMs have a high level of social exchange in comparison to other pairs investigated in this study. This was apparent by the high degree of reciprocity and rationale which supports the exchange of the two parties.

2- Senior managers have a low degree of social exchange mainly caused by power and status differential, this was apparent during the ROC events and reflected in the way senior managers handled the people management aspect of the ROC events.

3- The main reason for change in social exchange dynamic is because of conflicts or change in interest, feeling insecure on a personal or professional level, and lack of communication which could be perceived as conspiracy or lack of respect for others particularly those who feel insecure about their jobs during the ROC events.

Understanding the nature of social exchange is important for the role of FLM because the findings suggest social exchanges enable FLMs to facilitate the ROC and overcome its challenges. The research will help senior managers to understand the importance of social exchanges in the workplace during ROC. This may result in positive outcomes for employees, and improve the efficiency and effectivity of the change process. My research is in its early stages of completion, after completing the data analysis and highlighting the findings for this research, data analysis of the other follow-up research questions is currently progressing as planned.

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Ownership concentration, Leverage strategies and Internationalization of Chinese MNEs

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Abstract

By analyzing a sample of 153 Chinese manufacturing multinational enterprises (MNEs) from 2009-2016, this paper finds that higher degree of ownership concentration of enterprises will negatively affect MNEs' internationalization performance. In addition, internationalization as a moderator affects the relationship between MNEs' profitability and leverage strategies. Firms with higher profitability tend to increase their leverage in the process of internationalization and thus take on higher risks. This paper is contributed to the literature of internationalization of emerging market enterprises.

Keywords**:** *Emerging market; Internationalization; Leverage; Ownership concentration; China.*

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INTRODUCTION

As emerging markets become more influential in global markets, researchers become more interested in analyzing multinational enterprises (MNEs) from these countries (D'Angelo, Majocchi and Buck, 2016). The eclectic paradigm (OLI) theory believes that companies' internationalization depends mainly on their ownership advantages, location advantage and internalization advantages (2001). This theory points out that companies have the right to choose internationalization only if they have sufficient resources. As a latecomer to internationalization, Chinese companies lack of resource advantages and competitive advantages. Therefore, Dunning's (2001) OLI theory does not apply to the international market latecomers. For most Chinese companies, the main reason for their internationalization is to gain profits by establishing connections, acquiring resources, and gaining competitive advantage. However, under the influence of ownerships, the motivation of the company's internationalization may change. The purpose of internationalization of state-owned enterprises may not be to obtain profits, but for other political purposes. Therefore, for special international market latecomers such as Chinese companies, researching the ownership structure of these companies is of great significance for us to understand the internationalization strategies and I-P (internationalization and performance) relationship of emerging market enterprises.

Internationalization provides learning benefits for Chinese companies that help them overcome barriers to innovation in the local market. However, whether Chinese companies will learn and upgrade technology in the international market depends on the motives of shareholders. The degree of internationalization of Chinese MNEs is largely depends on the risk preferences and strategic choices of shareholders. When the controlling shareholders (government, individuals, families, etc.) of Chinese companies have different internationalization purposes or business motives, the Leverage strategy of the company may change, and the performance of the company will also affected. Internationalization as a company's competitive strategy can moderate the relationship between leverage and firm performance. Previous studies have been interested in studying the internationalization and performance relationship of emerging market companies, but these studies have neglected the impacts of companies' degree of ownership concentration and leverage strategies on firm performance. In order to contribute to the current literature, this paper uses Chinese manufacturing enterprises to analyze the relationship between the degree of internationalization of emerging market enterprises, leverage strategies, dividend distribution and international performance.

LITERATURE REVIEW AND HYPOTHESIS

Different shareholders of an enterprise have different values, incentives and preferences. Singla, George and Veliyath (2017) believe that shareholders' motives directly influence the company's internationalization decision-making. In a MNE with highly dispersed ownership, shareholders' incentives to manage the company will reduce, and the company's ability to access critical resources and technologies will also be reduced. Family businesses have always been the focus of scholars studying emerging market companies. In emerging markets, family businesses tend to be heavily involved in ownership management to control business operations (D'Angelo, Majocchi and Buck, 2016). Therefore, these companies are characterized by a high degree of ownership concentration. Lin (2012) used data from 772 listed companies in Taiwan during the period 2000-2008 and found that the higher the concentration of family ownership in emerging market companies, the higher the pace of internationalization, and the higher the degree of internationalization. Based on the above analysis, this paper proposes the following hypothesis.

Hypothesis 1*: The degree of ownership concentration of Chinese multinational companies will have a positive impact on their degree of internationalization.*

The control and management capabilities of the company's shareholders lead to differences in the international performance of the company (Tsao and Chen, 2012). A company's degree of ownership concentration affects the efficiency of the decision-making process and the ability to learn in the international market (Singla, George and Veliyath, 2017). Companies with a highly concentrated ownership structure may lead to a lack of innovation awareness, and the international performance of the company will be affected by the awareness of the controlling shareholder. On the contrary, the relatively dispersed ownership structure can improve the management efficiency and innovation ability of enterprises. Tsao and Chen (2012) suggest that a complex international environment exacerbates the ability of controlling shareholders to deprive wealth from other shareholders. Zhou (2018) analyzed the relationship between the internationalization of Chinese listed manufacturing MNEs and firm performance in 2001-2004. The results show that the internationalization of Chinese companies will have a negative impact on their performance, and enterprises with state ownership will expand the negative impacts of internationalization on firm performance.

Hypothesis 2*: The concentration of ownership of Chinese multinational companies can moderate the relationship between their internationalization and performance. Higher degree of ownership concentration will lead companies to have lower efficiency of international business operations.*

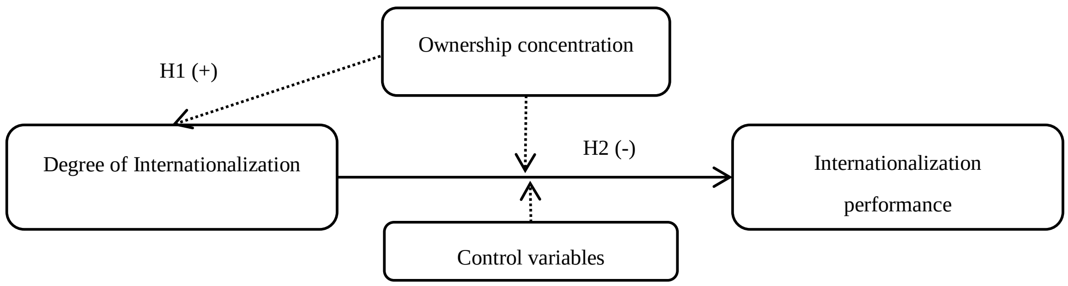

Figure 1: Research Framework and Hypothesis 1 and 2

Leverage strategy is an important way to help Chinese companies access and use foreign market resources and knowledge. It also reflects the company's international risk preference. Compared with developed companies, companies from emerging markets face higher international risks in the international market because they have competitive disadvantages in terms of resources, home country systems, technology and international experience. Al-Rdaydeh, Almansour and Al-Omari (2016) used data from Jordanian companies during 2007-2016 to analyze the relationship between financial leverage and firm performance. Their findings suggest that a company's competitive strategy will moderate the relationship between financial leverage and performance. MNEs gaining international expansion funds through leveraging can help them to improve their internationalization opportunities and performance. Based on the above analysis, this paper proposes the following hypothesis.

Hypothesis 3: *Internationalization moderates the relationship between leverage and MNEs' performance. The higher the performance of the enterprise, the greater the leverage degree it will choose in the process of internationalization.*

The performance of MNEs will be passed on to shareholders through dividend distribution. In general, companies with high profitability tend to have higher dividend distribution, but this may now change under international conditions. Highly internationalized companies are considered by investors to have higher growth and rewards, so their shareholders will not be concerned about the profitability of companies and they will be willing to accept lower dividend payout rates (Lin, Hung and Yang, 2012). In the process of internationalization, companies face higher uncertainties and risks. In order to maintain higher liquidity in response to international market risks, companies may reduce incentives to distribute dividends. Lin, Hung and Yang (2012) used evidence from multinational companies in the electronics industry in Taiwan and the United States during 1999-2008 to show that companies with a high degree of internationalization tend to protect the liquidity of corporate funds. As a result, these companies pay dividends lower than local companies.

Hypothesis 4*: Internationalization moderates the relationship between shareholder dividend distribution and MNEs' performance. The higher the performance of the company, the fewer dividends it will distribute to shareholders.*

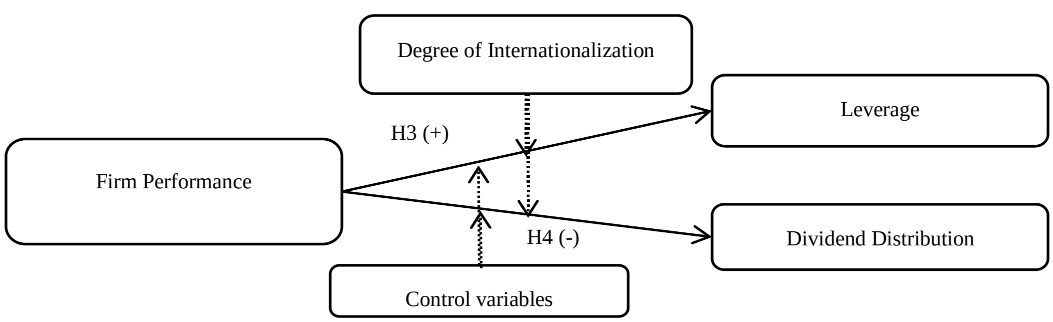

Figure 2: Research Framework and Hypothesis 3 and 4

DATA AND METHODOLOGY

Since Chinese government proposed the open-door policy and encouraged enterprises to expand abroad, the internationalization wave of Chinese enterprises begins from early 2000s.This article selects China’s manufacturing MNEs annual data covering the period of 2009 to 2016. The data was obtained from CSMAR database and companies’ annual reports. This paper will use multiple regression models to test the hypotheses. All variables and measures are as follows.

Firm performance: Firm performance can often be measured by financial indicators, such Return on asset (ROA), Return on equity (ROE), Return on sales (ROS), etc. Among them, ROA is widely used as a performance indicator by previous studies. ROA can measure how much net profit per asset creates. In this paper, I used ROA to measure multinational companies' profitability. This paper calculates the degree of internationalization of enterprises by using foreign sales to total sales (FSTS).

Ownership structure refers to the proportion holding by different shareholders accounts for company's total shares. This paper uses two indicators to measure ownership concentration, including largest shareholder’s ownership concentration (LSCP) and top ten shareholder’s ownership concentration (TSCP). Leverage is often raised from the use of debt financing decisions of the company. According to the DuPont analysis, the company's equity multiplier (EM) is an important indicator of its leverage strategy. The equity multiplier is calculated based on total assets/shareholders' equity. This paper uses the dividend payout ratio (Dividend) to measure MNEs' dividend distribution. This paper also controls firm age and firm size as a logarithmic transformation of total assets (Tsao and Chen, 2010).

EMPIRICAL ANALYSIS

Statistics analysis and correlation matrix

It can be seen from Table 1 that the ownership concentration variable is significantly correlated with ROA, and there is also a significant correlation between EM, ROA and FSTS.

Table 1. Statistical analysis and correlation matrix

	Mean	SD	Dividend	ROA	FSTS	LSOC	TSOC	EM	Age	Size
Dividend	0.16	0.382	1							
ROA	0.0842	0.0582	0.467***	1						
FSTS	0.219	0.235	-0.048*	-0.044	1					
LSOC	0.339	0.138	0.148***	0.082***	-0.048*	1				
TSOC	0.561	0.143	0.113***	0.192***	-0.028	0.625***	1			
EM	1.945	0.687	-0.066**	- 0.304***	-0.092***	-0.004	-0.074**	1		
Age	16.58	5.181	0.024	-0.089***	-0.080***	-0.184***	-0.245***	0.082***	1	
Size	21.83	1.534	0.072**	0.033	0.043	-0.056**	-0.126***	-0.043	0.225***	1

***, ** , * indicate significance at 99%, 95% and 90% level, respectively. LSCP represents largest shareholder’s ownership concentration; TSCP represents top ten shareholder’s ownership concentration; EM represents the company's equity multiplier.

Unit root test

From the results of the unit root test, the VIF values of all variables are lower, which indicates that the sample data is stable and can be tested in the next step.

Table 2. VIF Unit root test

Variable	VIF	1/VIF
Dividend	1.04	0.960827
ROA	1.15	0.869707
FSTS	1.03	0.974628
LSOC	1.7	0.586563
TSOC	1.76	0.569312
EM	1.03	0.970361
Age	1.12	0.8947
Size	1.07	0.932826
Mean VIF	1.24	

Regression analysis

In this paper, the Hausman test is used and the result shows that using fixed effect regression is better than using random effect regression. Therefore, this paper use fixed effect regressions to test the hypotheses.

Table 3. Fixed effect regression analysis on Model 1, 2 and 3

	Model 1		Model 2		Model 3	
VARIABLES	FSTS	FSTS	ROA	ROA	ROA	ROA
TSOC	0.02			0.015	0.0325**	0.0457***
	-0.0431			-0.0136	-0.0154	-0.0159
LSOC		0.0307	-0.0352*		-0.0446*	-0.0601**
		-0.0673	-0.0212		-0.0247	-0.024
EM	0.0000346	-0.000139	-0.00446	-0.00442	-0.00422	-0.00396
	-0.00928	-0.00928	-0.00292	-0.00293	-0.00293	-0.00292
FSTS			-0.0349***	-0.0354***		
			-0.0104	-0.0104		
LSOC×FSTS					-0.0772***	
					-0.0282	
TSOC×FSTS						-0.0586***
						-0.0179
Age	0.00295	0.0029	-0.00418***	-0.00391***	-0.00400***	-0.00406***
	-0.00191	-0.00189	-0.000598	-0.000604	-0.000605	-0.000603
Size	0.0162***	0.0164***	-0.00312	-0.00333*	-0.00365*	-0.00348*
	-0.00614	-0.00612	-0.00194	-0.00194	-0.00194	-0.00194
Constant	-0.196	-0.198	0.251***	0.230***	0.242***	0.238***
	-0.121	-0.121	-0.0384	-0.0381	-0.0386	-0.0386
Year dummy	Included	Included	Included	Included	Included	Included
Observations	1,071	1,071	1,071	1,071	1,071	1,071
R-squared	0.025	0.025	0.125	0.123	0.125	0.128

***, ** , * indicate significance at 99%, 95% and 90% level, respectively.

The regression results from Model 1 show that the MNE's ownership concentration will not affect its degree of internationalization, whether the ownership concentration is measured by TSOC or LSOC. In Model 2, the shareholding ratio of the company's largest shareholder has a significant negative impact on its ROA, but this TSOC has no significant effect on ROA. In model 3, this paper identifies the moderating role of ownership concentration in the relationship of internationalization and firm performance by adding interaction items of LSOC×FSTS and TSOC×FSTS. The results confirm that in MNEs' process of internationalization, the higher the concentration of ownership in a company, the worse its performance. This relationship is significant regardless of whether the LSOC or TSOC indicator is used. Therefore, Hypothesis 1 is rejected and Hypothesis 2 is accepted.

Table 4. Fixed effect regression analysis on Model 4 and 5

	Model 4		Model 5	
VARIABLES	EM	EM	Dividend	Dividend
ROA	-0.54	-1.161**	0.724***	0.607***
	-0.374	-0.467	-0.162	-0.206
FSTS	-0.0194	-0.251	0.00448	-0.0399
	-0.119	-0.158	-0.0573	-0.0748
ROA×FSTS		2.817**		0.542
		-1.275		-0.586
LSOC	0.203	0.199	0.171	0.17
	-0.272	-0.272	-0.12	-0.12
TSOC	-0.186	-0.19	0.187**	0.188**
	-0.174	-0.174	-0.0803	-0.0803
Age	-0.0049	-0.00453	0.0176***	0.0177***
	-0.00699	-0.00698	-0.0031	-0.0031
Size	-0.0184	-0.0184	-0.0177*	-0.0177*
	-0.022	-0.0219	-0.00965	-0.00965
Constant	2.516***	2.566***	0.0306	0.038
Year dummy	Included	Included	Included	Included
Observations	1,071	1,071	1,224	1,224
R-squared	0.006	0.011	0.047	0.048

***, ** , * indicate significance at 99%, 95% and 90% level, respectively.

Model 4 examines whether internationalization can moderate the relationship between firm performance and leverage. By adding the interaction term ROA×FSTS, the regression results show that the higher the enterprise performance, the greater the degree of leverage it chooses in the process of internationalization. Model 5 examines whether internationalization can moderate the relationship between firm performance and shareholder dividend distribution. It can be seen from the regression results that this relationship is not significant. Therefore, Hypothesis 3 is accepted and Hypothesis 4 is rejected.

CONTRIBUTIONS AND LIMITATIONS

This paper is expected to contribute to the current literature on the internationalization of emerging market companies. This paper re-examines the relationship between internationalization and performance by emphasizing the concentration of ownership and leverage strategies of Chinese companies, which makes up for the past research gaps. This paper is expected to contribute to the future formation of the emerging markets I-P theory. This paper also has practical significance that companies from emerging markets can improve their ownership strategies and leverage strategies in the process of internationalization, and thus obtaining higher performance.

The limitation of this paper is that the research object is limited to China and may not be representative of all emerging market enterprises. It is suggested that future research on this topic can increase the research and comparison of multiple emerging markets, and thus obtain more contributions on the analysis of internationalization of emerging market enterprises.

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Organisational And Collaboration Capabilities In Management Of Innovations (Case study of power grid transformation)

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Abstract

This paper discusses the content and objectives of an 'in progress' case study addressing the business challenges presented by the transformation of the electricity grid sector. The study analyses the place of collaborative capabilities in implementing innovation and shaping the industry transition in general. Disruptive technologies and shifting consumer expectations have opened windows of opportunity for substitute services to enter the electricity market and are challenging the business models of incumbent grid companies. In response, grid companies have great innovation ambitions. However, challenges distinct of natural monopolies may impair the effectiveness of the innovation efforts unless they open and better collaborate with their ecosystem. The research focuses on the case study of a single grid company and its associated strategic net using a qualitative case study approach. It is examining whether there is a disconnect between innovation ambitions and implementation effectiveness. Notably, it intends to understand the causes of this disconnect relating to the role of inter-organisational and intra-organisational strategic nets in successfully achieving the objectives of innovation's implementation. Western Power, which operates in Western Australia (WA), has been selected for this study as it is a typical incumbent grid operator facing the same issues as all companies in this industry.

Keywords**:** *Innovation, Collaboration, Value Co-Creation, Ecosystem, Electricity industry Transformation, Electricity Grid*

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INTRODUCTION

Theoretical background

The management of innovation has never been more relevant than now, as we are entering the fourth industrial revolution and are expected to see the heavy implementation of disruptive technologies (Schwab, 2017). The implementation of innovation does not occur in isolation, it requires the collaboration of a network of people that are part of a business ecosystem (Moore, 1996). The theory relating to intentionally designed strategic networks constructed for attaining specific business goals emerged in 2003 (Möller et al., 2017). Early researches focused on understanding the types of strategic nets and their capabilities (Möller et al., 2007), clusters of innovation (Engel et al., 2009), the orchestration of actors types and the role of intermediaries in co-managed innovations (Cantù et al., 2015), and how changes in strategic network resources influence the success of innovation networks (Purchase et al., 2014). Although more recent researches have focused on firms seeking to effectively form and manage strategic nets face challenges in influencing others (Schepis et al., 2017), we still have limited knowledge on how to orchestrate or coordinate interlinked networks. We also have limited knowledge in the competition and collaboration between ecosystems. Furthermore, the ability to capture value and how this value is appropriated among actors of strategic nets remains a theoretical gap in the literature.

Industry context

The management of innovation supported by collaborative capabilities is particularly pertinent in an industry facing radical changes such as the electricity sector. The electricity industry is composed of the electricity generators, grids, and retailers who respectively produce, transport and market electricity to the consumers. The global technology revolution has changed the power balance between consumers and centralised power authorities (Moreno-Munoz et al., 2016; Sioshansi, 2017), and opened opportunities for increased consumers' bargaining power. The mass take-up of rooftop solar has changed the generation landscape allowing consumers to become 'prosumers' (Toffler, 1980). Those prosumers have the potential to sell electricity back to the grid, hence, challenging the established large-scale generation plants (Dupont et al., 2014). Prosumers also increasingly envisage using the grid as a trading platform.

WA Grid's impetus for change

The rising electricity prices, motivating more households to install solar and batteries, has been described as the 'death spiral' (Simshauser et al., 2012) for the industry. Distributed generation, coupled with improved energy efficiency, have already reduced the electricity usage volumes transmitted through the grid (Australian Energy Market Commission, 2016). This emerging competition to the incumbent monopolies is accelerating as industry experts predict that; Australia' solar capacity is set to double by 2020 (Parkinson, 2018) and foresee that by 2050, prosumers will generate half of the country's electricity consumed (Energy Networks Australia et al., 2017). The prevention of uncontrolled escalation of electricity tariffs, particularly for vulnerable customers (Antonia Cordwell, 2017; Tom Houghton, 2018) is a priority for the government and regulators. This clashes with the profit-seeking objective of Western Power, a government traded enterprise. As such, the role of government, as an actor of the innovation strategic network (Davidson et al., 2016) is pertinent to this research. Furthermore, new revenue opportunities for Western Power from the take-up of electric cars (Hodges, 2018), peer-to-peer electricity trading (Lüth et al., 2018) or the untapped value of metering and infrastructure assets data (Buchmann, 2017). The problem is therefore complex and does involve a multitude of actors across the electricity value chain. This study is investigating whether grid companies, as central to the electricity system, are well placed to facilitate these innovations.

OBJECTIVE OF THE STUDY

Theoretical novelty

This study presents a great opportunity to understand how the leader of the strategic net uses collaborative arrangements with its ecosystem to manage innovation, co-create and share value. The theoretical contribution will help unravel the challenges associated with entrenched natural monopolies transitioning towards a competitive market, within a growing and increasingly complex ecosystem. Understanding why innovation is difficult to implement in grid businesses and how this could be overcome will provide managerial applications for natural monopolies. As such, the research also intends to produce practical outcomes for incumbent grid companies in repositioning themselves in the new customer-focused energy marketplace.

DATA AND METHODOLOGY

The research philosophy is based on critical realism (Bhaskar, 2008). To understand the phenomenon of innovation implementation, a qualitative case study approach is being used (Beverland et al., 2010). The single company case study will analyse Western Power, a WA Grid company, and its ecosystem. Data collection is being undertaken in two stages in order to enable triangulation across multiple sources and increase the credibility and validity of the results (Creswell, 2014; Medlin et al., 2012). Stage one involves a background analysis using publicly available secondary data to build an initial picture of the innovative approaches and their criticisms. Stage two of the data collection will consist of semi-structured interviews administered to subject matter experts within Western Power and actors across the industry's value-chain.

PRELIMINARY FINDINGS

Finding 1 - Investment in innovation is timid

Despite Western Power's corporate strategy communicating great innovation ambitions, in reviewing the regulatory submission, planned expenditures in innovation appear low, representing less than 0.3% of the expenditure plan which favours traditional solutions such as like-for-like asset replacement program. This could be explained by the fact that the WA regulatory framework, unlike its east coast counterpart, does not directly incentivise innovation.

Finding 2: WP has the ability to influence its value net

The reputation and credibility of Western Power have improved over the last 6 years according to a survey. Particularly, the change to a more collaborative and opened approach has been observed since the 2012 Parliamentary Inquiry. Furthermore, the efforts of Western Power, over the last few years in understanding its customers, their demand patterns and their segmentation is providing strategic insight. This credibility and market data are valuable assets enabling Western Power's ability to influence its strategic net.

Finding 3: Small but promising success stories

There are pockets of great collaboration efforts achieving promising results, particularly in initiatives requiring minimum capital investment such as collaboration with Perth Machine Learning group using data analytics to solve business problems specific to Western Power. In this example, both organisations benefit as they are "complementors" (Nalebuff, 1996).

Implications and discussion

Consumers' bills reduction, without compromising safety and reliability is the overarching objective of Western Power, the government and the regulator. The successful and sustainable achievement of this objective presents some challenges in an environment that is ambiguous and influenced by many parties. Decisions on what to invest in are critical as allocating scarce financial resources to the wrong solutions would waste customers money whereas stop investing in the infrastructure would result in $1bn per annum of job losses which the WA economy can't afford.

CONCLUSION

Disruptive technologies, emerging competition, and an ever increasingly complex ecosystem provide great challenges and opportunities for grid companies to co-creating and share value through the implementation of innovation. However, the collaborative approach fundamental to the success of the implementation of innovation in the grid industry is at a nascent stage for the incumbent monopolies. Supporting the overarching goal in attaining sustainable electricity tariffs and supply reliability for all customers demand grid companies to be astute at facilitating the implementation of innovative solutions across the electricity value chain.

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Cash to cashless payment bandwagon: cultural influence (Cross-country study between Australia, China and Sri Lanka)

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Abstract

The range of payment methods for consumers at the point of sale (POS) has increased exponentially in recent years. Alternative modes of payment to cash such as debit cards, credit cards, mobile payments, and crypto currencies are now much more accessible to consumers. Research also indicates that the factors that influence payment preference vary between countries. This paper explores the factors affecting consumer's payment preference at the point of sale (POS) in Australia, China and Sri Lanka by using a Diffusion of innovation (DOI) framework. Variables such as attitude to payment type, rewards, demographic factors, and situational factors will be examined. This research will adopt a mixed methods approach consisting of focus groups, interviews and an online survey. Using focus groups, an initial exploration of the social, financial and historical background within each country will be undertaken to understand the context and explore attitudes toward payment types available. A structured questionnaire will then be developed using existing research and the findings of the focus groups. It will be administered using Qualtrics to at least 300 respondents from each country based on a quota sampling technique. This will provide a diverse sample allowing for cross-country comparison in relation to the variables related with the payment preference at POS. The will increase the understanding of the factors that influence the choice of payment method and how these consumer choices differ between countries with diverse cultural, financial and historical backgrounds.

Keywords**:** *Point of sale, Diffusion of innovation.*

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INTRODUCTION

Payment patterns around the world have changed considerably in the past 20 years. Asian countries experienced massive growth in cashless payments across all regions due to the increase in the use of mobile payments such as WeChat Pay and Alipay (Fan et al., 2017). This was driven by China's impressive growth in cashless payments; a result of the progressive adoption of cashless payment initiatives in rural areas and a shift from cash to cashless (World Payments Report Summary, 2017). In Australia, cashless transactions were hit by tap and go cards; Mater and Visa payments and accounted for 70% to 80% of total cashless transactions (World Payments Report Summary, 2017). Also, the transaction share of cash has declined from 73% to 55% during the period between 2007 and 2013 in Australia (Ossolinki et al., 2013). By comparison Sri Lanka is still inclined to cash transactions (CBSL, 2016). Although, Australians, Chinese and Sri Lankans have different payment preferences, studies have an insufficient understanding of how culture drives consumer's payment preferences and were still not able to validate the fact that culture depends on a country's financial background or history or any other factor (Chemingui and Benlallouna, 2013; Jun et al., 2018; Lu et al., 2013).

These rise of cashless transactions has impacted on consumer's purchasing behaviour (Hedman et al., 2017), resulting in a plethora of research focused on consumer payment preferences (Arango et al. 2015; Cruijsen and Plooij, 2017; Hedman et al. 2017), pricing models of the different payment modes (Willesson, 2009) and the reward programs offered by the banks (Carbó-Valverde and Liñares-Zegarra, 2011; Gan et al., 2015). Prior research has predominantly adopted the Technology Adoption Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), the Theory of Reasoned Action (TRA), or the Theory of Planned Behaviour (TBP) to investigate consumer payment preference at the POS (Awa et al., 2015; Bailey et al., 2017; Lin et al., 2018; Martens et al., 2017; Rakhi and Mala, 2014; Yang et al., 2012). To date, POS research incorporating the Diffusion of Innovation (DOI) limited. The main characteristics of DIO of relative advantage and compatibility could be substantial factors in forming the consumer's attitude to the payment type. Additionally, perceived risk of online and offline POS as an alternative to POS, could be influential in inducing a positive attitude towards product type (Kim et al., 2017). This study aims to fill the knowledge gap by identifying the factors that influence consumer payment preference and how payment patterns vary between countries at the POS (China, Australia and Sri Lanka) by adopting DOI theory.

Most of the recent studies on consumer payment methods modes have been conducted from a consumer's adoption perspective or are focused on a certain payment method in a country (Worthington, 2005; Lok, 2015, Chao and Yu, 2016; Neto, 2017). This study aims to narrow an existing gap in the payment methods literature by explaining the changing roles cash and cashless modes of payment amongst Australians, Chinese and, Sri Lankans. This study will apply DOI theory, which will provide a strong extension to existing literature by connecting the gap in explaining user behaviour to use payment methods at the POS (Sampaio et al., 2017; Jun et al., 2018). Furthermore, this will be the first-ever cross-cultural examination of the use of modes of payment including crypto currency using consumer samples from three different countries.

RESEARCH PURPOSE

In order to investigate consumers' payment preference and how they vary between different countries or cultures, the study will be comprised of two phases. The purpose of the qualitative phase of this study is, to explore the cultural, financial and historical systems of Australia, China and Sri Lanka and to identify how these systems impact on the methods of payment. Previous research has been predominantly quantitative (Abdul-Muhmin, 2010; Fan et al., 2018; Norvilitis and Mao, 2013; Stavins and Shy, 2015; Trütsch, 2016) and has thus far has not explored in depth the qualitative facets of the difference between these cultural systems and subsequent impact on payment preferences and behaviour. Therefore, this study will investigate people's historical experiences and the development of each country's cultural and financial systems by conducting a focus group and interviews to add richness to the data.

The purpose of the quantitative study is to advance understanding into factors which have a significant impact on consumer's choice of payments at the POS across different cultures. Gaining an understanding of the factors that impact on Australian, Chinese, and Sri

Lankan consumers' payment preference at the POS is an area of research that has the potential to be of great benefit to a number of stakeholders including financial institutions and vendors. In addition, the study will contribute new knowledge to this relatively new field of study. The findings have the potential to provide retailers with insight into consumer payment patterns aiding in the development of global business strategies. For financial institutions, understanding of customer payment preferences will assist in new product innovation, and the opportunity to make improvements to existing payment options.

Research Objectives

1) To identify the factors influencing consumer's payment preference method at the POS.
2) To investigate the moderating factors of culture across the identified factors influencing the payment preference at the POS.

Research Questions

1) What are the factors impacting consumer's payment preference method at the POS?
2) Does consumer culture have a moderating effect on the factors that impact payment preferences at the POS?

FACTORS THAT INFLUENCE THE PAYMENT PREFERENCE METHOD

Previous research has identified that attitudes towards payment types, demographics, perceived rewards and situational factors have a significant impact on consumer's payment preference method. (Phau and Woo, 2008; Runnemark et al., 2015; Zuroni and Lim, 2012; Sriyalatha, 2016; Wickramasinghe and Gurugamage, 2015)

Consumer attitudes to the payment type

Attitudes are subjective due to the multi-dimensional nature of the construct (Robert and Jones, 2001). Changes in attitudes can lead to changes in consumer behaviour (Hook and Lucier, 1995). Previous researchers (Chung et al., 2012; Lu et al., 2009; Kim et al., 2017) observed that attitude to the payment type is determined by perceived relative advantage, perceived compatibility and perceived risk which are determinants of DOI theory. This theory was developed by Everett Rogers (1963) by explaining the process of innovation, its adoption and diffusion rate over time (Arvidsson, 2013). Relative advantage is a product's degree of superiority and attractiveness to customers over similar existing products (Moore et al., 1991) whereas compatibility refers to the degree to which an innovation is perceived as consistent with the existing values, past experiences, and the needs of potential adopters" (Chung et al., 2012, p.227). Relative advantage and compatibility impact on positive attitudes of mobile commerce consumers (Wu and Wan, 2005), by contrast perceived risk impacts on the negative attitude of consumers (Runnemark et al., 2015). Chinese consumers more likely to use WeChat pay (Chung et al., 2012) as it provides convenience and advantages, whereas Sri Lankan consumers reluctant to use credit cards for their purchases because of perceived risks (Sriyalatha, 2016). Chung et al. (2012) suggests that culture has varying impact on consumer attitudes towards payment modes. The availability of information is a significant factor, which determines the attitudes of Sri Lankan credit card users when purchasing daily consumptions. Australians more likely to use cash for lower value transactions as it provides convenience (Doyle et al., 2016).

Demographics

Previous studies (Chan, 1977; Chemingui and Ben lallouna, 2013; Dewri et al., 2016; Gan et al., 2015; Wickramasinghe and Gurugamage, 2009; Zuroni and Lim, 2012; Cruisjen and Plooij, 2017; Kim et al., 2017) observed that age, gender, occupation income level, perceived wealth, education and number of dependents in a family impact on the use of modes of payments by consumers for purchases.

Rewards

Prior studies have shown that rewards such as bulk buying discounts, loyalty discounts, cash back and reward points have a significant influence on the customer's choice to use credit (Baek and Hong, 2004; Gan et al., 2015; Sriyalatha, 2016). Food and clothing are the most popular types of purchases amongst Sri Lankans and companies offer discounts and special rates when purchases are made using credit cards (Sriyalatha, 2016). BY comparison most of the reward programmes offered to Chinese credit card holders are waiving annual fees, cash back on major purchases, frequent flyer points, automobile rental programmes, bulk buying discounts and manufacturer and retailer loyalty discounts (Worthinton, 2005).

Situational factors

Situational factors can be defined as the factors particular to the time and place of a transaction (Kim et al., 2017; Runnemark, 2015). Factors include "the time of day (when) and the location where the payment is carried out (where - street, event, store, restaurant, home)" (Runnemark, 2015, p289). Consumers who have only a limited time to shop may show different shopping behaviour to those who are not in a hurry (Kim et al., 2017). Retailers are more likely to attract regular consumers to their businesses by making it more convenient for them to transact, by providing self-service processes and easy to use payment methods as this will also impact on payment preference of consumers (Atulkar and Kesari, 2018). For example, mobile payments are popular in convenience stores (Tencent, 2018; Doyle et al., 2016) whereas credit cards are predominantly used for online purchases (Wickramasinghe and Gurugamage, 2015; Sriyalatha, 2016). Research also indicates that consumers tend to use various modes of payments in different locations (Runnemark, 2015). For example, consumers are likely to use credit cards at online stores and mobile payments at restaurants, cafes and other convenience stores (Wickramasighe and Gurugamage, 2012; Sriyalatha, 2016; Teoh et al., 2013; Zhang, 2018).

METHODOLOGY

This research will adopt a mixed methods approach consisting of focus groups and an online survey. At the first phase, this study will conduct focus groups and interviews for each country to examine attitudes to the payment type and to check if there are similarities and differences across the selected countries. At the second phase, this research will set up operationalisation of the constructs that have emerged from the qualitative and literature review process and pilot study will be conducted. A pilot study is carried out prior to the main data collection to confirm that there are no issues in the questionnaire (Li et al., 2006). The feedback received from the pilot study can be used to reword the items in the questionnaire or change the order of the questionnaire and refine the model. Secondly, a quantitative online survey will be conducted to identify the factors affecting the preference of modes of payment amongst Australian, Chinese and Sri Lankan consumers and propose and validate the additional constructs that are not presented in the model.

A request for participants (Australians, Chinese and, Sri Lankans) to take part in an online survey will be posted across various online platforms, with a link directly to a questionnaire. Australian College of Business and Technology (ACBT) partners will be asked to distribute the link and connections will be used to assist in data collection in Australia, China and Sri Lanka.

DATA ANALYSIS

A multiple-item online questionnaire, with questions developed from the literature and from the qualitative phase of the research, will be administered by using the Qualtrics platform. The questionnaire will be developed in English and translated into Chinese for Chinese consumers and Sinhalese for Sri Lankan consumers and then a back to English to confirm that there is no loss of meaning (Mortimer et al., 2015). To identify the structural relationship between factors and choice of modes of payment and to refine the model by excluding insignificant factors, Structural Equation Modelling (SEM) will be used as it is a multi-variant statistical analysis technique. Furthermore, SEM is a combination of factor analysis and path regression analysis and therefore, it will measure the relationship between measured variables and latent constructs (Lee et al., 2014). Schumacker and Lomax (1996) observed that studies, which use SEM vary between 200 and 500 sample size. This study will collect data through an online survey by using Qualtrics and sample size will be at least 300 from each country for the study.

CONCLUSION AND IMPLICATIONS

Conclusion

There is a significant shift from cash to cashless in consumer's payment preference. These shifts in payment patterns have created changes in consumer's payment behaviour. However, there is lack of studies on areas like cultural factors impact on the use of payment methods at POS and comparisons of traditional payment methods with cashless modes of payments. Whilst, payment methods are steadily gaining popularity, cross-country research in the field of payment preference at the POS is still in its infancy. Therefore, this research will address the literature gap by providing them implications for academia and practitioners.

Academic implications

This study contributes new research to the existing pool of studies based on the DOI theory. Although there have been studies in the past that have examined the characteristics of innovation to explain the intention to accept new technologies such as, online banking and mobile banking, few have explored the relationship with regards to payment preference at the POS in a retail context. Additionally, while existing research has mainly investigated a specific payment method in a specific country, this study will investigate different modes of payment across countries by considering culture as a moderating variable for the preference to use a specific mode of payment at the POS.

Practical implications

This study will offer insights of benefit to practitioners considering implementing business strategies to cater to their consumer's preferences for payment options. Since transactions at the POS are an increasing trend, practitioners have been looking for guidance on how to integrate their sales channels. As a pioneering academic study in this area, this research will provide meaningful guidelines on how to set the mode of payment for online and offline POS transactions, which will help banks and financial institutions to develop modes of payments tailored to their consumer's wants and needs.

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Internal audit function quality, internal audit outsourcing/co-sourcing contribution and external audit fees

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Abstract

This study proposes to examine the impact of an internal audit function and its outsourcing arrangements on external audit fees. Such analysis is important given continuing questions and uncertainty of the precise nature of the internal audit function/external audit fees linkage. There is a paucity of research that examines the impact of internal audit outsourcing arrangement on external audit fees. To enrich the internal audit outsourcing literature, this study will explore the relationship between the outsourcing of routine/nonroutine internal audit functions and external audit fees. The hypotheses are developed within an agency theory framework and will be tested using data collected from a sample of 500(Australian listed) firms per year spanning the period January 1 2016 to December 31 2017. The results from this research will have implications for auditors, client companies, regulators and scholars.

Keywords**:** *Internal audit quality, audit outsourcing, audit fee.*

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INTRODUCTION

Motivation and Background

The pressures of globalisation and competition have influenced how organisations operate. To avoid scandals and failures that are a detriment to stakeholders, organisations must practise corporate governance that upholds transparency and accountability of their financial information. From such practise, effective corporate governance identifies internal audit functions (IAF) as a key internal control system. IAFs may lead to a decrease in external audit fees according to evidence (Prawitt et al. 2009; Prawitt et al. 2011; Pizzini et al. 2015); however, external auditors must confirm the quality of IAFs before relying on them (Zain et al. 2015). There is push for both internal and external auditors to increase the quality of audit and financial reporting while lowering audit costs. A study about internal audit quality (IAQ) attribute in Australia is important due to the induction of new corporate governance legislations (i.e. the Corporate Law

Economic Reform Program Act 2004, also known as 'CLERP 9', enacted on 1 July 2004) and the SarbanesOxley Act (2002) legislated in the US have a profound impact on these attributes in particular audit independence and risk management. These legislations require the management of the company to annually assess and assert the effectiveness of the organisation's internal control. It also requires the external auditor to report on the effectiveness of these controls.

This study attempts to broaden the literature addressing the relationship between internal audit function quality and external audit fees due to a current scarcity of research in this area. An exception to this lack of evidence is a (Felix, Gramling, & Maletta, 2001) paper; however, this study was based on the U.S. market, and the findings focused more on indications that internal audit function quality (IAFQ) was a critical factor in determining the extent that IAF contributes to external audits and that this contribution negatively impacts audit fees. It did not observe the direct impact that IAFQ had on external audits and audit fees, and the intricacies involved in these relationships and contending theories to explain them justifies further research in this area.

Further, there is little evidence regarding how sourcing arrangements (co-sourcing and outsourcing) of internal audits contribute to external audit fees. While previous research has indicated that organisations outsource auditing activities to increase efficiency and decrease cost (Desai, Gerard, & Tripathy, 2011; Mohamed, Mat Zain, Subramaniam, & Wan Yusoff, 2012), external auditors objectivity (Glover, Prawitt, & Wood, 2008), and internal auditors competency (Carey, Subramaniam, & Ching, 2006), these studies did not investigate a wide number of variables. If reliable conclusions are to be found, variables such as audit committee independence (Abbott, Parker, Peters, & Rama, 2007), organisation size and cost (Widener & Selto, 1999) and audit committee involvement (ACI), size and location (Mohamed et al., 2012) should also be investigated. This study aims to fill this gap by investigating the relationship between internal audit (IA) sourcing arrangement and what activities are outsourced and external audit fees in the Australian context.

Theory Development and Research Questions

Several theories have been used when discussing internal audit control and audit fees in the accounting literature. However, this study will explore Agency theory, which proposes that IAF reduces monitoring costs of statutory audits while assuring company owners that audit coverage has not been weakened and allowing minor owners to manage the activities of managers without incurring high costs (Adams, 1994). The body of literature on IAFQ, internal audit outsourcing (IAO) and audit fee model is developing, and internal audit professional guideline and standards continue to evolve and improve. In Australia, a principalbased approach to governance has emerged that encourages strong corporate governance processes, which allows companies to choose whether or not to employ internal audit functions' (IAF) within the organisation. According to Carey, Simnett, and Tanewski (2000), a large number of listed companies appear to have taken this path. Another major concern of current study is the choice of internal audit outsourcing arrangement of the firm and its association with external audit fee. There is quite a noticeable inconsistency of prior research's result due to firms' discretion on purchasing internal audit (IA) services. According to Deborah and David (2013), outsourcing non-audit services and the level audit fees mostly are driven by firm size and other characteristics.

Therefore, the research question of the study emphasis on the firm's IAFQ and their impact on external audit fees regarding cost saving perspective. Additionally, this study will attempt to identify firms' internal audit out-sourcing choices and the relation between routine/non-routine internal audit outsourcing and external audit fees.

RQ: Does the quality of an internal audit function and the outsourcing of routine/non-routine internal audit functions affect external audit fees?

BACKGROUND LITERATURE AND HYPOTHESES DEVELOPMENT

Perspective on internal audit quality over external audit fees

As this field of study has expanded, two competing perspectives to identify the association between internal audit function and external audit fees have emerged: substitution and complementary. The substitution perspective expects that greater internal controls will reduce audit fees, as higher quality internal controls should reduce the external audit needs (i.e. high quality internal controls will substitute for external audit activities), thus reducing audit fees. The complementary perspective contrasts with this by proposing that high-quality IAFs suggest an organisation values strong corporate governance enough that it is willing to pay more for high quality external audit activities (Hay, Knechel, & Ling, 2008); thus, the presence of IAFs will increase audit fees.

Internal Audit Quality

The interaction between the presence of IAFs and audit fees has been examined in previous studies with mixed results. Some studies noted a positive relationship between internal audit function and audit fees (Goodwin-stewart & Kent, 2006; Hay et al., 2008; Walker & Casterella, 2000); however, some studies found no significant relationship between the two at all (Johnson, Walker, & Westergaard, 1995). The association between IAF costs and external audit fees has also been examined through previous studies with inconsistent results (Anderson & Zéghal, 1994; Wallace, 1984). A study conducted by Wallace (1984) found a negative relationship between IAF costs and audit fees, while Anderson and Zéghal (1994) found a positive relationship between audit fees and the ratio of IAF costs to total assets; however, organisation size may have been a variable in this result as the finding was observed in large companies but not small companies. In Australia Carey, Simnett and Tanewski (2000) find that many listed companies do not appear to engage in internal auditing in spite of regulators' commitment to strong corporate governance. The Australian Securities Exchange (ASX), Corporate Law Economic Reform Program (CLERP 9), Corporate Governance Council (CGC) Guidelines (ASX CGC, 2010) make some references to the purpose of internal audit functions. These Guidelines specify that the role of IAF is to examine and appraise a company's risk management and internal control systems to determine their adequacy and efficiency, as well as providing the Audit Committee (AC) with assurances regarding internal corporate governance and compliance (AICD, 2008). Although there have been recent regulatory reforms in Australia that have caused an expansion in the roles of IAF, there are currently no requirements for companies in Australia to have internal control functions. The first study that identifies factors associated with the use of internal audit by Australian listed companies is by Goodwin-Stewart and Kent (2006). They suggest that the size of the companies is the main driver to engaging internal audit activities.

Internal audit contribution to external audit and external audit fees

Several methods have been used to examine the contribution IAF makes to external audit activities. Using a continuous scale, Elliot and Korpi (1978) found that IAF contribution reduced the scope of external audits enough that audit fees could be predicted. In contrast, Stein, Simunic, and O Keefe (1994) used a dichotomous scale to measure IAF contribution based on how much assistance it provided external auditors (i.e. 'extensive/moderate' or 'limited/none') and found no strong correlation between level of assistance and external audit fees; however, the scale may have been too limited to deliver an accurate finding.

Investigating the association between IAF contributions and external audit fees, Prawitt, Sharp, and Wood (2011) aimed to discover if fee reductions occurred due to reliance of external auditors on IAFs or the assistance IAFs provided. From analysis of 2001–2006 IIA-GAIN [1](Institute of internal auditors) surveys, the latter was proved more accurate; fee reduction only occurred when IAFs provided direct assistance to external auditors. The result appears to primarily apply to regulated and mature markets, as a study conducted by Mohamed et al. (2012) in the developing market of Malaysia found an association between external auditors' reliance on IAF activities and a reduction in external audit fees.

Internal audit can be seen as a complement to external audit (Sherer & Kent, 1983). This co-sourced audit arrangement maintains a cost-effective partnership between company owners and managers. Additionally, in-house auditors possessing both industry knowledge and audit expertise can result in cosourcing costing less than exclusive external auditing. Therefore, an existence of Agency conflict is predicted due to manager incurring bonding cost (the

[1] The IIA conducts annual surveys of participating organizations, soliciting objective measures relating to the organizations' IAFs for benchmarking
purposes. Data from the annual surveys are collected into an archive that the IIA refers to as the GAIN database. Additional information about the GAIN database is available on the IIA's website.

cost of internal audit) to signal the monitoring authority that, they are acting responsibly. However, professional standards that recommend how external auditors use IAFs identify important characteristics of the IAF work they use, including objectivity, technical competence, due professional care and communication. IAFs that include these characteristics are considered to be of higher quality than those that do not; as such, these high quality IAFs are more likely to be used with other governance systems, such as audit committees (Sarens, Christopher, & Zaman, 2013; Zain & Subramaniam, 2007). This involvement can prompt more reviews and reports, which may increase the amount of time external auditors spend reviewing reports, which may lead to an increase in external audit fees. Hence, considering above discussion on the impact of internal audit function quality on external audit, the hypotheses of the study are:

H1: Firms with higher quality internal audit functions are more likely to pay higher external audit fees.
H2: Firms with higher IAF contribution to external audit are more likely to pay lower external audit fees.
H3: External auditors are more likely to place greater reliance on firms with higher quality IAF, leading to lower external audit fees.

The impact of internal audit outsourcing on audit quality and audit fees

Internal audit functions can be conducted in-house (i.e. the company maintains its own IAF) or can be outsourced (IAF is conducted by an independent firm) or co-sourced (IAF is conducted cooperatively with the company and an independent firm) (Desai et al., 2011), and each arrangement has its benefits and detriments in terms of costs, independence and function (Del Vecchio & Clinton, 2003; Rittenberg, Moore, & Covaleski, 1999; Thomas & Parish, 1999). For example, an organisation who conducts IAF in-house maintains greater control over audit operation and has greater understanding of business activities and better understands the associated risks; however, employees may lack specialised knowledge and receive more pressure from management (Del Vecchio & Clinton, 2003).

Research has indicated that outsourcing of IA activities has become more common in recent years (Dennis H. Caplan & Kirschenheiter, 2000; Ernst & Young, 2006). When outsourcing internal audit activities, organisations should ensure the audit will involve minimal redundant work, and consider the external auditor's professional liability insurance, reputation and technological specialisation to avoid risk (Dennis H. Caplan & Kirschenheiter, 2000). Both specialist internal audit firms and public accounting firms provide these outsourced internal audit services (Ernst & Young, 2006); however, external auditors may only provide these services to their non-audit clients (Sarbanes Oxley Act, 2002).

The impact of outsourcing routine and non-routine internal audit activities on audit quality and audit fees

Any non-audit service can be either routine or non-routine for a client as classified by Abbott et al. (2007) through client-specific survey responses. Routine tasks have straightforward and standard output and require less judgment from the accountant (Abbott et al., 2007; Denies H Caplan & Emby, 2004); non-routine tasks are less standardised and require more judgment and valuable input from the accountant. Previous study found that internal auditing activities were less likely to be delegated to an external auditor if the firm had established independent, active and expert audit committees. As non- routine tasks rely on the information of routine tasks, a firm that outsources its routine tasks will also need to outsource non-routine tasks; as such, it was also found that outsourcing routine IA activities may threaten internal auditors' job security by increasing the amount of IA outsourced and decreasing the amount completed in-house by internal auditors (Kalbers & Fogarty, 1993; Quarles, 1994; Rittenberg et al., 1999). However, it was also argued that economic bonding could result from outsourcing routine tasks as they are likely to be recurring (Beck, Freeka, & Solomom, 1988; Simunic, 1984).

Prior study indicates there is insufficient evidence to draw conclusions relating to how outsourcing and cosourcing influence external audit fees. Attribution theory suggests that incentives for bias must be considered (Stewart & Munro, 2009). Applying this theory to internal audits indicates that an external auditor will rely less on IAF if they perceive incentives for that work to report a message, rather than being transparent (Dezoort, Houston, & Peters, 2001; Glover et al., 2008). Positive internal audit reports may diminish an external auditor's reliance on those reports if there is a close alignment between in-house internal auditors and management, as there may be an incentive for reports to satisfy management (Glover et al., 2008); therefore, external auditors will rely more on outsourced work than in-house work. Glover et al. (2008) further find that this lack of reliance on in-house work may only appear when the inherent risk is high and that while external auditors may consider in- house auditors less objective, the co-sourcing arrangement does increase explanatory power.

Supporting the earlier-discussed substitution perspective, little quality difference in routine tasks has been found between in-house and outsourced auditors (Denies H Caplan & Emby, 2004), from which it can be suggested that outsourcing does not enhance the overall quality of internal audits, yet still leads to higher audit costs resulting from more effort put into the audit. This finding indicates that external auditors rely more on higher quality IAF; thus, higher quality IAF leads to higher potential cost savings. Based on the above discussion, the second hypothesis for this study is as follows:

H2a: Routine internal audit outsourcing will decrease IAQ, which leads to higher audit effort thus higher audit fees.

Outsourcing non-routine tasks may also increase audit quality and cost saving potential (Abbott et al., 2007), as external auditors and outside service providers (OSP) assert greater audit quality than in- house auditors (Denies H Caplan & Emby, 2004). Non-routine tasks often require specialist knowledge. External service providers (external auditors or OSPs) may employ specialists that would not be cost- effective for an organisation to employ in-house (IIA 1996). External auditor and OSP access to this specialist knowledge can increase audit quality (Aldhizer & Cashell, 1996; Simunic, 1984; Smith, 2002). As non-routine tasks are less likely to be recurring than routine activities, the potential for economic bonding is reduced (Beck et al., 1988); however, external auditors may be preferred over OSPs due to more familiarity with the client, and it's IAF, resulting in greater efficiency in performing non-routine tasks (Krishnan & Zhou, 1997; Smith, 2002). Therefore, based on above discussion, the third hypothesis of the study is as follows:

H2b: Non-routine internal audit outsourcing will increase IAQ, which leads to lower audit effort thus lower audit fees.

RESEARCH DESIGN AND MODEL SPECIFICATIONS

Sample Selection and Data Sourcing

The observation period will be from 2016-2017 inclusive. This period is not only timely but enhances the credibility of the study, allowing some generalisability and transferability of results particularly during the current European Union financial crisis. To determine the quality of the IAF and associated governance process, both quantitative and qualitative information will be sourced initially. A listing of chief audit executive (CAE) will be obtained from professional auditing associations, and a well-developed (and pilot tested) questionnaire set will be send to random selection of CAEs of companies listed in the Australian Securities Exchange (ASX). Based on the responses, their firms will be stratified based on industry type and market capitalisations. The process will continue until a planned sample size of top 500 frim-year is achieved, making a total of 1000 observation over two years. In order to collect the financial data required for the IAQ and audit fee model, this study will use number of resources. Audit information (auditor tenure, audit fees, non-audit fees) will be collected from Sirca Corporate Governance Database. Overall data for control variables will be collected from Connect 4 Database, Sirca, S&P Capital IQ, and Morningstar DatAnalysis Premium.

Survey

The questionnaire packages will contain a covering letter, the survey and reply paid pre-addressed envelopes, two sets of questionnaires will be mailed to the CAEs with a request for them to complete one set and to forward the other to the external audit partner in charge of the audit of their firm. The questionnaire will be designed to obtain feedback from the external auditor regarding IAF performed by the internal audit department of the firm. Using the method of Felix et al. (2001), external audit respondents will provide details of this contribution in terms of what percentage of internal auditors' work was used in the external audit, where 0% indicates that the external auditor used no work produced by the internal auditor, and 100% indicates that whole audit was conducted internally. If there is inadequate qualitative data, internal audit quality will be instead measured using Prawitt et al.'s (2009) approach that measures internal audit function quality using an index. The variable used by Prawitt et al. (2009) measures can be sourced from secondary data as well as the questionnaire. This study will apply for an ethical approval from Curtin Human Research Ethics Committee upon completion of questionnaire set for the survey instrument.

IAF quality and audit fee model

LNFEE = β0+ β1IAQ+ β2AUDITSPCIAL+β3BIG4+ β4TENURE+β5LOSS + β6LNASSETS+ β7LNSUB+β8FOREIGN+β9LEVERAGE+β10CURRENT+β11ACEXPER+β12ACMEET+β13ACINDEP+β14BOARDI NDEP+β15BOARDMEET+ β16AUDITCOMMITTEE+ ε (1)

Routine/Non-routine IAO and audit fee model

LNFEE= β0+ β1IAO_R+ β2AUDITSPCIAL+β3COMPEXITY+ β4CURRENT+β5RELCON+ β6LNASSETS+ β7LNSUB+β8FOREIGN+ β9LOSS+ β10LEVERAGE+ β11ACEXPER+β12ACMEET+ β13ACINDEP+ β14BOARDINDEP+β15BOARDMEET+ β16AUDITCOMMITTEE+ ε (2)

LNFEE=β0+ β1IAO_NR+ β2AUDITSPCIAL+β3COMPEXITY+ β4CURRENT+β5RELCON+ β6LNASSETS+ β7LNSUB+β8FOREIGN+ β9LOSS+ β10LEVERAGE+ β11ACEXPER+β12ACMEET+ β13ACINDEP+ β14BOARDINDEP+β15BOARDMEET+ β16AUDITCOMMITTEE+ ε (3)

SIGNIFICANCE

The present study examines whether firms with higher internal audit quality contribute to cost efficiencies through a reduction in external audit fees. Hence, the findings of the study will have some implications for regulators who are concerned with the quality and accuracy with which accounting information is disclosed, managers and audit committee directors who structure the IAF, and external auditors who determine the nature and the extent of the IAF's contribution to the financial statement audit.

There are some other important contributions, which can be achieved from the outcomes of this research. First, this study intends to contribute to the current literature relating to internal auditing by discussing the competing perspectives on internal control of substitution and complementary and their relevancy to the distinct situation of firms' internal audit quality. Second, this study adds to prior research by exploring evidence that supports the view that an external auditor's reliance on IAF contribution may increase audit fees, but this reliance depends on the IAF quality. Third, this study contributes to the internal audit literature by providing evidence on the amount, nature and provision of IA outsourcing in an Australian context. Fourth, previous studies have not explored how routine and non-routine IA services may influence audit fees; as such, this study intends to examine these. Fifth, the findings of this study are likely to interest parties exploring methods of improving internal audit functions, the costs of these, and corporate governance. Sixth, the findings may also have implications regarding SOX restrictions on internal audit outsourcing and may be of use to those who set auditing standards or those pursuing more research in this area.

LIMITATIONS

The study is not without limitations, although it has several strengths. First, to measure the independent variables (IAQ, IAO_R, and IAO_NR) to test the hypotheses, data will be collected using questionnaires. The questionnaires may not always necessarily reflect the respondents' intentions, actions and memorising of fact due to inherent limitations associated with using questionnaires to gather information. Second, another major limitation of this study is the approach to identify routine and non-routine IAO. Following prior research, this study classifies tax services as routine IAO and consulting as non-routine IAO. The limitation of these approaches is, the measurement is not precise to speculate the recurring nature of the services. Third, when a service described as "consulting", no clear description of work is mentioned in most of the report, and it may include different types of services. The same issue also applies to the categorisation of "taxation" as there are many types of taxation services, with some of them potentially being non-recurring.

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An Exploratory Study of the Green Marketing Practices in the Retail Industry of Pakistan

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Abstract

This study explores the green marketing practices of retailers in Pakistan. Employing the inductive approach to conduct the qualitative data analysis of interviews managers of four big retailers, this study has examined how retailers in Pakistan contribute towards environmentally friendly practices and communicate the same to their customers. Findings suggest that there are six major aspects that define the retailers' green marketing practices in Pakistan. Those aspects are, communication of eco-friendly initiatives, customer's role in green marketing success, ecofriendly initiatives and operations, how green practices are incorporated, making organization green marketing-oriented, and measuring outcomes of green marketing initiatives. This study would pave the way for further quantitative studies to be conducted in Pakistan's retail industry.

Keywords**:** *Green Marketing, Inductive Approach, Qualitative Data Analysis*

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INTRODUCTION

Climate change and its effects, especially on the developing countries, are the biggest concern for the world today. The change in climate has made global communities to come together and formulate environmentally friendly policies and the corporate sector is also an important part of this phenomenon (Tang, 2012).

Pollution caused by the economic development, specially manufacturing sector, has originated from the mindset of considering environment as a free good (Welford & Development, 2003), and this mindset has been changing as the global community has started taking initiatives for environmental protection. Rapid change in climate and its effects is alarming. For example, according to Global Greenhouse Warming (2018) and National Aeronautics and Space Administration, in the last century, the global sea level rose around 17cm; ocean surface water acidity increased by around 30 percent; ice sheets area also melting as Greenland has lost 150 to 250 cubic kilometers of ice per year from 2002 to 2006; and in the 21st century, the global average temperature is predicted to rise up to 4° C.

Following such alarming change in climate, international agreements such as Kyoto Protocol 1997 and Paris Agreement 2015 were signed to combat the global warming. According to Scientific Press Releases (2018), global climate change and global warming hit the poorest countries the hardest. According to Intergovernmental Panel on Climate Change, IPCC (2014), Pakistan has been evaluated as one of the developing countries that are highly vulnerable to climate change. Pakistan is currently facing some serious issues such as, water pollution due to sewage, wastes from industries, and agricultural runoff; 84 percent of population lacks safe drinking water (Iftikhar Ahmed Khan, 2017); only 2.5 percent of land is covered by forests and Pakistan has the highest deforestation rate in Asia and loses 2.1 percent of its forest every year (Ziauddin, 2018).

Given the environmental concerns and the challenge of aligning the environmental protection initiatives with international agreements (Kyoto Protocol 1997 and Paris Agreement 2015), Pakistan has created a separate environment ministry portfolio and formulated environment and renewable energy policies. This takes into account the awareness regarding low-carbon community and brings in the concept of 'green business', which is endorsed by the advocates of corporate social responsibility and sustainable development (Tang, 2012). The concept of greening business signifies the necessity for the firms to combine the social, economic, and environmental objectives. As the environment related challenges are growing, strict regulations are being made, which make it important for the corporate sector to incorporate environmental issues in their decisions and business operations (Leonidou & Leonidou, 2011).

Governments do legislation and develop frameworks that encourage green initiatives by corporate sector, however, environment-related objectives cannot be achieved without an active involvement of retailers and product consumers (Jones, Comfort, Hillier, Eastwood, & Management, 2005). Therefore, retailers play a critical role in creating customerconsciousness and changing customer behavior (Jones et al., 2005).

The retailers with worldwide presence having environmentally friendly policies and investments into implementation of those policies show that green retailing is not an option rather a necessity for the success of businesses. Products and services with environmental benefits define the term 'green retailing' (Lai, Cheng, & Tang, 2010). For example, some giant retailers, such as Tesco and Wal-Mart are ahead of time in making a transition to becoming more effective in environmentally friendly operations (RSR, 2009).

The concept of sustainable development has been discussed globally by nongovernmental organizations, governments, and big companies after the Rio Earth Summit 1992 took the issue of climate change to the United Nations Conference on Environment Development. Environmental protection has drawn a lot of attention these days. Consumers express strong negative feelings about the organizations that do not actively respond to their environmental responsibilities (Elkington & Rowlands, 1999). This makes the big corporations to find a balance between their responsibilities regarding environmental protection and economic growth (Berry & Rondinelli, 1998).

According to Lai et al. (2010), green retailing is the most practiced concept by the big retailers, in addition to other eco-friendly activities. The concept of green retailing is consisted of two major parts i.e. sales of green products and eco-friendliness of other activities. The green products include organic and healthy products (Yudelson, 2009). Some studies show that the green products and promotion of green practices favorably influence customer behavior and consciousness, therefore, making the green retail mixes an important aspect for retailers to capitalize on (Moore & Management, 1995; Van Birgelen, Semeijn, Keicher, & Behavior, 2009). The focus of this study is to identify the retailers' practices in terms of what green practices do they have and how they communicate to encourage customers to change their behavior in favor of green products.

Retailers have always been considered as distributors of products and services, however, in the contemporary era, their role has changed from only distributors to gatekeepers. Modern retailers, apart from delivering products and services, influence customer behavior in terms how they develop their preferences and what leads them to the products they demand (Lai et al., 2010).

According to Wirthgen (2005), it is important for retailers to play the gatekeeper role in order to manage what products to be sold and what information to be disseminated to consumers. Retailers as gatekeepers deliver environment-friendly products and provide appropriate information, which in turn increases customer demand for quality products.

As Pakistan is one of the countries that are highly affected by climate change, it makes an important case to explore what is happening in Pakistan's retail industry in regard to green initiatives. Therefore, this study aims to explore the green marketing practices in retail industry of Pakistan. This study determines where the retail industry is standing in terms of its contribution to the environmental protection initiatives. It also helps pave the way for more empirical studies to be conducted in the said context.

OBJECTIVE OF THE STUDY

The study aims to explore the green marketing/retailing practices in Pakistan. This research attempts to understand the insights of retail firms' managers regarding green marketing practices implemented by their firms. This study also attempts to understand how the retail firms communicate their green initiatives and practices to their customers.

RESEARCH QUESTIONS

1. What are the green marketing initiatives of retailing firms being practiced in Pakistan?
2. How retailers communicate their green marketing practices to their customers?

METHODOLOGY

Sample & Data Collection

The data was collected in the form of semi-structured interviews from marketing managers of four big retailers in Pakistan from four different sectors i.e. oil & gas, foods, hospitality, and beverages. The sample was selected based on the size and involvement of organizations in green practices in Pakistan's retail market. Interviews involved questions pertaining to the green marketing initiatives, retailers' role as gatekeepers for green behavior, and information dissemination regarding green practices.

Data Analysis

Data were analyzed following the *thematic content analysis* using NVivo 12. The data analysis was conducted based on the *inductive approach*, which does not involve any predetermined theory, proposed framework or structure that should guide the pattern of analysis. The inductive approach was adopted due to the aim of the study, which is to explore the green marketing practices of the retail firms in Pakistan, and very little research is available in the said context. Table 1 shows the themes developed through thematic content analysis of the interviews using NVivo 12.

RESULTS

The results were developed following the *inductive approach*, which involves no predetermined theory or framework. This approach has been adopted in order to make the results least biased as a predetermined framework guides the development of themes from the qualitative analysis into some predefined variables.

Table 1. Themes Developed through Content Analysis

Final Coding Framework	Initial Coding Framework
Communication of Eco-Friendly Initiatives Print Materials (Pamphlets, Banners etc.) Health, Safety and Environment Department Billboards and Panaflexes Green Belts	• Observing Environment Day
Customer Role Green Marketing Success Customer Awareness Customer Pressure	• Appreciation and Buying
Eco-Friendly Initiatives & Operations Recycling of Bottles Water Treatment on Solar Panels Health, Safety, Environment Initiatives Periodic Inspections Reduced Paper Usage	• Green Parks
How Green Practices Are Incorporated Inter-Organizational Collaboration Running Awareness Campaigns Development of Green Belts	• Environment-Related Trainings
Making Organization Green Marketing-Oriented Internal Consensus Use of Renewable Energy Sources Customer Awareness Price-Effective Green Products Customer Pressure	• Identification of Problems
Measuring Outcomes of Green Marketing Initiatives Recycling Customer Opinion Company Profitability	• Periodic Inspections

Table 1 contains six major themes resulting from qualitative analysis of interviews conducted from four big retail firms in Pakistan. The themes are, 1) communication of ecofriendly initiatives, 2) customer role in green marketing success, 3) eco-friendly initiatives & operations, 4) how green practices are incorporated, 5) making organization green marketingoriented, and 6) measuring outcomes of green marketing initiatives.

The themes in table 1 show that the retail firms in Pakistan are aware of the fact that the 'green marketing' is not an option, but a necessity in the current age, which is driven by the philosophy of environmentally friendly products and services. The green marketing practices of almost all the organizations (that participated in interviews) converge into six major themes that represent how those organizations practice green marketing activities. The results show that the retailers in Pakistan have green marketing related initiatives included in their policies. They work introducing renewable energy projects to reduce greenhouse gases emissions, conduct trainings for their employees in order to make them an active part of their green marketing practices, try to make their customers aware about what green products they offer and how they (customers) can be an active part of the green marketing initiatives of retailers, and try to measure impacts of their green initiatives in terms of periodic inspections, customer opinion, and firm's profitability.

CONCLUSION AND RECOMMENDATIONS

This research study has explored the 'green marketing' related practices of retailers in Pakistan. It is evident from the findings that all the retailers (participants in the study) have incorporated 'green retailing' philosophy in their operations, employee trainings, promotional campaigns, and product manufacturing. However, it has been observed that the retailers in Pakistan do not have green marketing practices thoroughly enshrined in their overall organizational practices. This is evident as the questions regarding retailers' green marketing initiatives' wider impacts have not been answered satisfactorily. At least, not sufficient conclusions have emerged from interviews.

Similarly, the findings of this study do not include any aspect of retailers' role as gatekeepers. This shows that the retailers in Pakistan are not leading and propagating the green marketing ideology as the retailers in other countries, especially in the developed countries, are doing. For instance, Wal-Mart have played a lead role in the development and implementation of green marketing practices as discussed previously.

As this study is qualitative and exploratory in nature, further quantitative research study can be conducted in order to further validate the findings of this study. However, the findings of this study have been validated through *inter-rater reliability/peer debrief*, which is an independent qualitative data analysis by another qualitative researcher.

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Exploring Kitchen Preparation Food Wastage in Chinese Hotels: A Conceptual Model Using the Theory of Planned Behaviour

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Abstract

The hospitality and tourism industry has enjoyed significant growth around the world, especially in China. In addition to growth, there are a large amount of consumption of hospitality products. However, there is food wastage in market segments. The current research investigates the social pressure and individual factors that influence food preparation wastage among hospitality kitchen employees in Chinese downstream hotel supply chains. Most scholars adopted quantitative methods to confirm food wastage in the end of consumption, for example plate food wastage. However, the current research will use the theory of planned behaviour (TPB) as the theoretical framework to support the research development. Therefore, this research adopts the use of TPB to analyse hospitality kitchen employees' attitude, social groups' pressure, and perceived difficulties towards performing food preparation wastage. This research will explore the reasons of kitchen preparation food wastage in downstream hotel supply chain, and help managers to manage their kitchen food wastage standards.

Keywords**:** *hospitality supply chain; hotel supply chain; kitchen food wastage; theory of planned behaviour*

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INTRODUCTION

Due to the "opening-up" China policy in 1978, the hotel industry has recorded substantial increased. Tourism and hospitality industry has been included in China's 13th fiveyear plan, with forecasting tourist number estimated at 6.7 billion people in 2020 (Liu, 2017). The development of Chinese hospitality has seen changes to Chinese eating habits. An increasing number of customers prefer to eat their meals out of home (Food Consumption Behaviour and Trend Analysis, 2009). Statistics indicates that 60% of young people prefer to eat in outside (Thibaud, 2016). The catering industry has significantly developed over 700 times in the last 40 years. In 2017, the annual income of catering industry was 3.96 trillion yuan, and it ranked second in the world (China's catering industry revenue up 700 times since reform, 2018).

One-third of all food product for human consumption has been wasted and lost in the supply chain (FAO, 2014). Indeed, food waste has become one of the most important management problems in the hospitality industry. The amount of waste is close to millions tonnes in some countries annually, like 920,000 tonnes of food wastage in the UK (Pirani & Arafat, 2014), indeed there is 1.7 billion tonnes food wastage in the worldwide (FAO, 2014). A summary of previous food wastage in different countries can be seen in Table 4. Particularly, it has been a significant issue in the hotel catering sectors and restaurants, which brings a number of problems, such as social problems, environment problems and economic problems. For example, the social issues are relationships between customers and suppliers, as well as negative emotion, like guilt. Environment problems include extra carbon dioxide (CO_2) emission, requiring the use of natural resources, and an impact on the maintenance of biodiversity and natural resources (Xu & Gursy, 2015; Mirosa et al., 2016, Jones, Hillier & Comfort, 2016). Furthermore, one of economic or financial problems is impact on cost control and revenue fluctuation, (Pirani & Arafat, 2014; Papargyropoulou et al., 2016; Jagau & vyrastekova, 2017; Juvan, Grun, & Dolnicar, 2017). Food wastage has also become an important issue in China. In restaurants and hotels in Hong Kong, food wastage has doubled in recent years (Pirani & Arafat, 2014). Out of 1.3 billion tonnes of food waste globally, Chinese people produce nearly 17-18 million tonnes of food waste annually (Piess, 2017). Approximately, 11-17% food wastage is produced in catering industry (Hoeks, N.D.).

Table 4.The Summarise of Food Wastage

Reference	Country/Location	Description
Betz et al., 2015	Swiss	91 and 86 g food wastage per portion in two restaurants respectively
Parfitt et al., 2010	UK	food wastage occupying 37% of total waste; 21% food wastage from spoilage, 45% from preparation, 34% from customer plate
Silvernnoinen et al., 2012	Finland	About 18-20 million Kg food wastage per year
Gustavsson et al., 2011	Europe	280-300 Kg food wastage each person per year.
Van waning, 2010	Chicago	60.3% food wastage with total waste
Jeong, 2010	US	Average 45360 Kg of waste in restaurants per year
Majid and Owee, 2007	Malaysia	71.73% food wastage in the island restaurants

Food wastage is generated in the whole supply chain, in which is divided into two parts, namely upstream and downstream. Some researchers have focused on the upstream supply chain to reduce the food waste with improving harvest and storage methods (Porter & Reay, 2016; Priefer, Jörissen, & Bräutigam, 2016). Other researchers focused on the downstream one around consumption service (Kallbekken & Sælen, 2013; Pirani & Arafat, 2014; Principato, Pratesi, & Secondi, 2018; Toma, Costa Font, & Thompson, 2017). However, majority of studies have investigated plate waste within the hospitality industry (Shi & Liao, 2013; Sandaruwani & Gnanapala, 2016; Jagau & Vyrastekova, 2017). Some previous researchers have defined causes of producing food wastage to include: the size of plates, poor management policies, and customers' behaviour, which means that the plate food wastage is a direct outcome in food wastage research (Balaji & Arshinder, 2016; Charlebois, Creedy & von Massow, 2015; Toma et al., 2017). On the other hand, some studies have analysed the kitchen wastage of hotels or restaurants, such as a competency framework of kitchen staff (Wan, Hsu, Wong & Liu, 2016). The food preparation wastage has been confirmed existence in previous studies (Betz et al., 2015; Pirani & Arafat, 2016). However, limited studies have investigated food wastage from the lens of kitchen employees especially during the food preparation stage.

DATA AND METHODOLOGY

Overview

The section introduces the methodology on kitchen food wastage within supply chain. It consists of two subsections. The first subsection introduces the main theoretical framework. Specifically, it explains the theory of planned behaviour (TPB). The second subsection describes the methodology including the research design, sampling, and procedures.

The Theoretical Framework

The TPB has been used to analyse beliefs and behaviours. The definition of the theory of planned behaviour is "The Theory of planned behaviour emphasizes that human behaviours are managed not only by personal attitudes, but by social pressures and a sense of control. Human behaviours can be predicted and changed best by considering dispositions focusing directly on the behaviour of interest, such as self-efficacy beliefs and intentions"(Fiore et al., 2015, p.3). The TPB is divided into three main parts, namely attitude, subjective norm and the perceived behavioural control (PBC) (Figure 1). (Ajzen, 1991; Armitage & Conner, 2001; Fishbein & Ajzen, 2009; Floreskul, Žardeckaitė-Matulaitienė, Endriulaitienė, & Šeibokaitė, 2016).

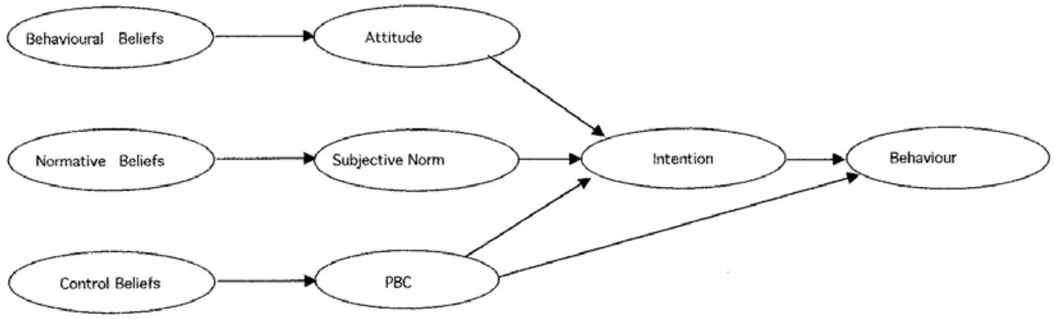

Figure 1. Theory of Planned Behaviour

Attitude is defined as general psychological object about intended behaviour (Floreskul et al., 2016), or the positive or negative evaluations when individual performed a particular behaviour (Armitage & Conner, 2001). The behaviour is dependent on nature of the knowledge or experience participators receive, which can aim to perceive the participants' behaviour and tell us information about their pattern of behaviour.

The subjective norm is defined as a perception of general social agent or person pressure when an individual performed a particular behaviour (Ajzen & Fishbein, 1980), or a set of beliefs about social pressure related to engagement into behaviour under consideration (Floreskul et al., 2016).

The measure of PBC improve the accuracy of particular behavioural prediction, because PBC is linked with behavioural achievement, and individual who owns stronger interest has a successful result (Ajzen, 1991).

In this theoretical framework, past behaviour could be as an additional important factor to effect on perception. Indeed, past behaviour might prove useful for understanding food preparation wastage in the hotel kitchen and could be a source of information to aid managers' food wastage prevention.

Methodology

In recent study, data will be collected from some hotel kitchens in China, recently, because the new generations have changed their diet habits. For example, 43% of Chinese millennials eat lunch out at least five times a week, and 78% of millennials' guests eat dinner out at least once a week (Thibaud, 2016). There are 2600 tons of kitchen food wastage in Beijing catering industry based on Beijing municipal commission of city management (Guo & Guan, 2017). As a result, the data will be collected from Beijing. The participants should come from the star-ranked hotels in which own independent catering sectors. Additionally, the predicted respondents will be aimed at 50-70. The present study will use personal interviews, a qualitative methods approach to collect and analyse data for the elicitation study.

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