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CONTENT

Forewords

The School of Business and Law (SBL) at Edith Cowan University is very pleased to have welcomed you to the 2nd Business Doctoral and Emerging Scholars Conference.

This conference provides an opportunity for doctoral students and early career researchers (ECRs) to discuss and share their ideas and approaches with peers and leading academics within the broad field of business. Participants this year have come from a range of disciplines encompassing: accounting, financial markets, corporate finance, supply chain management, organisational behaviour, management, human resource management, marketing and innovation, to name a few.

We are also honoured to have distinguished keynote speakers such as Professor Duncan Lewis who has travelled to Perth from UK for this conference and our very own Professor Stephen Teo from our School at Edith Cowan University. They have provided some insights into charting and building an academic career.

We are also pleased to have Dr Abhay Kumar Singh from Macquarie University, Dr Saiyidi Mat Roni and Dr Diep Nguyen from Edith Cowan University, who have run workshops on statistical analysis using SPSS and R softwares, along with a session on method bias in behavioural research. We are committed to offer strong platforms for our future researchers to excel in their fields.

Research at SBL has gone from strength to strength. In 2017, we had a number of new academics joining us, fuelling a wave of collaborative activities to support researchers and students, and a number of new students commencing their degrees. The conference has wrapped up an eventful year in our constant pursuit to extend the boundaries of knowledge.

We hope you have enjoyed your time with us at the conference.

Associate Professor
Hadrian Djajadikerta
Associate Dean of Research

Committee

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Dr Jaime Yong, Senior Lecturer and Higher Degrees and Research Coordinator, SBL
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Notes:

- *All papers in the proceedings have been peer-reviewed.*
- *The authors of individual papers are responsible for technical, content, and linguistic correctness.*

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Taxpayer attitudes, perceptions and compliance costs of the value added tax system in Botswana

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Abstract

This paper presents businesses' attitudes and perceptions towards the Botswana Value Added Tax (VAT) system relative to their VAT compliance costs. The respondents were presented with various attitudinal statements and asked to express their perceptions concerning the VAT. The internal consistent reliability of the responses to the attitudinal statements is measured using Cronbach's alpha. The findings suggest that Botswana businesses find VAT requirements to be burdensome, with high compliance costs. Further investigation reveals that businesses' perceptions of the VAT burden are positively related to VAT compliance costs. The study concludes with policy implications for government, business taxpayers and researchers..

Keywords: *Value added tax, compliance costs, attitudes, perceptions, taxpayers.*

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INTRODUCTION

The VAT[1] system requires taxpayers to collect, account for and remit the VAT proceeds to the government. Businesses incur a heavy burden, which comes from being used by the government as unpaid tax collectors (Pope, 2001). A complex VAT system makes this task onerous and elevates VAT compliance costs. Evidence suggests that the failure of taxpayers to comply with the tax law results in loss of revenue by governments. As such, an empirical investigation

[1] Value Added Tax (VAT) is known as the Goods and Services Tax (GST) in some countries such as Australia, New Zealand, Canada and Singapore. These terms are used interchangeably in this study.

on taxpayers' attitudes is essential. To this end, this study investigates the attitudes of businesses towards the VAT system in Botswana and briefly discusses the compliance costs of those businesses. A detailed investigation of the VAT compliance costs in Botswana has already been conducted by Makara and Pope (2013), with overall findings that the VAT compliance costs in Botswana are high and regressive upon small businesses.

Attitudes towards a tax system may be either positive or negative. On the one hand, positive business attitudes may arise where the tax system is not complex to comply with and where enterprises support governments' tax reform due to benefits of compliance (Rametse & Pope, 2002). On the other hand, high VAT compliance costs may evoke negative attitudes from taxpayers, which in turn, can hamper compliance. This is particularly evident where they see a tax system to be complicated and where there is an initial negative reaction towards a newly tax legislated requirement (Rametse & Yong, 2009). Essentially, small businesses that resent their tax compliance costs may engage in tax evasion acts (Sandford, Godwin & Hardwick, 1989). Indeed taxpayers who feel that their compliance costs are unfairly high may be reluctant to comply with the tax regulations.

Many factors, such as the size, location and legal structure of the business, influence tax compliance costs. Where it is not possible to incorporate all factors into the measurement of compliance costs, taxpayer attitudes may serve as a proxy for many factors (Sandford, Godwin, Hardwick & Butterworth, 1981). This is because negative attitudes to taxes can overstate the perceptions of the compliance costs involved (Wallschutzky & Gibson, 1993), and overshadow the benefits of taxation (Rametse & Pope, 2002). More specifically, using the Responsive Regulation Theory (RRT) (Braithwaite, 2007) and Theory of Reasoned Action (TRA) (e.g., Ajzen & Fishbein, 1980; Bidin, Mohd-Shamsudin & Othman, 2014), taxpayers' attitudes can be a significant reflection of the complexity/simplicity of the tax system and the intention to comply. The RRT is based on influencing the community to pay tax through reforming complex processes and simplifying regulations (Braithwaite, 2007), while TRA postulates that the intention to behave in a certain way is a good predictor of whether or not a person actually engages in that behaviour (Ajzen & Fishbein, 1980). Hence, the knowledge of the attitudes of taxpayers towards tax is crucial and should be integrated in tax policy decision-making. Only a few studies have investigated the attitudes of business taxpayers towards tax systems (Sandford et al., 1989; Adams & Webley, 2001; Rametse, 2006; Rametse & Yong, 2009; Oberholzer, 2008; Yesegat, 2009; Marti, Wanjohi & Magutu, 2010; Yong & Rametse, 2010; Woodward & Tan, 2015).[2] Thus, the contribution of this study towards closing this significant gap in the literature is emphasised.

DATA AND METHODOLOGY

Overview

The attitudes of taxpayers towards VAT in Botswana are investigated using a five-point Likert attitude scale. Building upon the literature (e.g. Sandford et al., 1989; Pope, 1993; Adams & Webley, 2001; Rametse, 2006; Rametse & Yong, 2009; Oberholzer, 2008; Yesegat, 2009; Marti, Wanjohi & Magutu, 2010; Yong & Rametse, 2010; Woodward & Tan, 2015), the respondents were presented with various statements and asked to express their attitudes by ticking the box that best describes their opinion of VAT. The attitudes of the taxpayers are captured by their level of 'agreement' or 'disagreement' which are assigned values as follows: strongly agree (1), agree (2), neutral (3), disagree (4) and strongly disagree (5).[3] The attitudes of the value added taxpayers in Botswana are measured by Question 23 of the 2009/10 questionnaire and Question 22 of the 2010/11 questionnaire.[4]

[2] Overall, the majority of the studies, except Yesegat (2009), report negative taxpayer attitudes. See Appendix A.

[3] 'Strongly agree' and 'agree' are termed 'agree' while 'strongly disagree' and 'disagree' are termed 'disagree' in this study.

[4] See Appendices B and C, respectively.

Sample, Response Rate and Analysis Procedure

The data was collected using structured questionnaires. In 2009/10, six hundred (600) questionnaires were hand delivered to the businesses in the city of Gaborone as well as surrounding towns and villages. A total of 137 usable responses were obtained, giving a response rate of 23 per cent. During the year 2010/11, one hundred (100) structured questionnaires were hand delivered to businesses in Gaborone and surrounding towns.[5] Fifty usable questionnaires were collected from the businesses, resulting in a response rate of 50 per cent. The majority of the respondents have been operating and also VAT registered for longer than five years. In terms of legal structure, most of the respondents are companies. Small businesses, measured in terms of turnover, constitute a greater portion of the respondents for the year 2009/10, while for the year 2010/11, the number of large business respondents is greater. A majority are from Business/Financial Services, followed by retail trade/restaurants sectors. The Statistical Package for Social Sciences (SPSS) was used to compute cross-tabulations and descriptive statistics.

Attitudinal Statements

The statements used in this study, to investigate the attitudes of taxpayers in Botswana towards VAT are delineated in Table 1. Overall, the statements seek to find out taxpayers' attitudes towards the VAT requirements laid upon them by the Botswana government.

Table 1: Attitudinal Statements

No.	Attitudinal statements	Item measured
1	VAT is unreasonably complicated.	Burdensome 1
2	My VAT compliance costs are very high.	Burdensome 2
3	Other business duties are affected because I spend too much time on VAT.	Burdensome 3
4	The burden of VAT discourages me from fulfilling my VAT obligations.	Burdensome 4
5	Other taxes are easier than VAT.	Burdensome 5
6	Value Added Tax requirements are easy to fulfill.	Simple 1
7	I do not mind doing my VAT work.	Simple 2
8	My VAT compliance costs are insignificant.	Simple 3

Source: Authors. No. 1, 2, 3, 5, 6, and 8 represent "responsive regulation theory"; No. 4 and 7 are TRA

Assessment of Reliability

The internal consistent reliability of the responses to the attitudinal statements in Table 1 is measured using Cronbach's alpha (see Table 2 for the alpha coefficient ranges and their strengths of association). An alpha coefficient that falls within the acceptable range indicates that the respondents answered the questions in a consistent manner (Hair et al., 2007, p. 244).

Table 2: Rules of Thumb about Cronbach-Alpha Coefficient Size

Alpha Coefficient Range	Strength of Association
Less than 0.6	Poor
0.6–0.7	Moderate
0.7–0.8	Good
0.8–0.9	Very good
0.9 and above	Excellent

Source: Hair et al. (2007, 244).

[5] The researchers collected data from two financial years in order to conduct an independent t-test to compare the compliance costs results of the two years. The results of the t-test have already been published in Makara and Pope (2013, pp. 197–198).

Table 3 presents the results of Cronbach's alpha test for the attitudinal aspects of taxation in Botswana. The internal consistency of the responses is considered satisfactory because it falls within the acceptable ranges. The highest mean scores of 6.23 and 5.70 in the financial years 2009/10 and 2010/11 respectively, are obtained under the VAT burden item, suggesting that the majority of the respondents in both years find the VAT regime to be burdensome. The mean score of those who perceive VAT in Botswana to be simple are fairly close for both years.

The attitudinal statement namely 'the burden of VAT discourages me from fulfilling my VAT obligations' is deleted when computing the coefficient alpha in both years as it is negatively correlated with other attitudinal statements. It is possible that the respondents are not truthful about their attitudes regarding this statement in fear of exposing some likely non-compliance behaviour, hence the inconsistency in responses.

Table 3: Internal Reliability of Responses to the Attitudinal Statements

Attitudinal item	No. of items measured		Cronbach's alpha		Mean score	
	2009/10	2010/11	2009/10	2010/11	2009/10	2010/11
Tax burden[a]	4	4	0.835	0.825	6.23	5.70
Tax simplicity	3	3	0.821	0.755	4.94	4.62

a One item was deleted in order to obtain an acceptable alpha.

RESULTS

Taxpayers' Attitudes to Botswana Value Added Tax[6]

The survey results suggest that the majority of taxpayers in Botswana perceive VAT to be burdensome, as illustrated in Table 4. In fact, most of the respondents, in both financial years, indicate that they mind doing their VAT work, as shown in Table 5. The respondents also point out that their VAT compliance costs are high and many disagree with the statement that their compliance costs are insignificant. In addition, the majority of the 2009/10 survey participants agree that other business duties suffer because they spend too much time on VAT compliance tasks. Furthermore, VAT taxpayers in Botswana seem to be of the opinion that other taxes are easier than VAT. Overall, the findings appear to suggest that most value added taxpayers in Botswana perceive the VAT to be complex and costly.

Table 4: Taxpayer Attitudes towards Value Added Tax in Botswana (Burden Aspect)

	2009/10		2010/11	
	N	Percentage	N	Percentage
VAT is unreasonably complicated				
Agree	68	54	30	60
Neutral	5	4	0	0
Disagree	54	42	20	40
Overall	***127***	***100***	***50***	***100***
My VAT compliance costs are very high				
Agree	69	55	31	62
Neutral	5	4	0	0
Disagree	52	41	19	38
Overall	***126***	***100***	***50***	***100***

[6] Some businesses, especially in 2009/10 did not answer this particular section of the questionnaire, hence missing numbers. The missing numbers represent around seven per cent of the total 2009/10 respondents. Thus, they do not affect the overall findings.

Other taxes are easier than VAT				
Agree	66	52	30	60
Neutral	5	4	0	0
Disagree	55	44	20	40
Overall	***126***	***100***	***50***	***100***
Other business duties are affected because I spend too much time on VAT				
Agree	59	47	23	46
Neutral	13	10	0	0
Disagree	54	43	27	54
Overall	***126***	***100***	***50***	***100***

Table 5: Taxpayer Attitudes towards Value Added Tax in Botswana (Simplicity Aspect)

	2009/10		2010/11	
	N	Percentage	N	Percentage
Value Added Tax requirements are easy to fulfil.				
Agree	59	47	27	54
Neutral	3	3	0	0
Disagree	63	50	23	46
Overall	***125***	***100***	***50***	***100***
My VAT compliance costs are insignificant				
Agree	46	36	19	38
Neutral	6	5	0	0
Disagree	75	59	31	62
Overall	***127***	***100***	***50***	***100***
I do not mind doing my VAT work				
Agree	41	32	23	46
Neutral	4	3	0	0
Disagree	82	65	27	54
Overall	***127***	***100***	***50***	***100***

Attitudes by Size

The attitudes of the taxpayers by the size of the business are presented in Table 6.[7] In line with evidence provided in prior literature (e.g. Sandford et al., 1989, Rametse, 2006 & Oberholzer, 2008), the majority of small businesses in Botswana find VAT to be unreasonably complicated. With regard to the statement, "my VAT compliance costs are insignificant", most of the businesses across all sizes disagree, implying that they perceive their VAT compliance costs to be significant. Most businesses have indicated that they find other taxes to be easier than VAT, which may explain why they do mind doing their VAT work.

Table 6: Taxpayer Attitudes by the Size of the Business

Business size	**Less than P1.5 million**		**P1.5 million–P5 million**		**Over P5 million**	
	2009/10	2010/11	2009/10	2010/11	2009/10	2010/11
VAT is unreasonably complicated						

[7] The 'neutral' column and associated figures have been excluded from the ensuing tables due to very low numbers and also, to enhance the presentation of the results.

Agree	54 (65)	14 (93)	8 (35)	7 (58)	6 (40)	9 (39)
Disagree	29 (35)	1 (7)	15 (65)	5 (42)	9 (60)	14 (61)
Overall	***83 (100)***	***15 (100)***	***23 (100)***	***12 (100)***	***15 (100)***	***23 (100)***
My VAT compliance costs are insignificant						
Agree	29 (35)	1 (7)	13 (57)	5 (42)	4 (27)	13 (57)
Disagree	53 (65)	14 (93)	10 (43)	7 (58)	11 (73)	10 (43)
Overall	***82 (100)***	***15 (100)***	***23 (100)***	***12 (100)***	***15 (100)***	***23 (100)***
I do not mind doing my VAT work						
Agree	26 (31)	2 (13)	12 (52)	7 (58)	3 (20)	14 (61)
Disagree	58 (69)	13 (87)	11 (48)	5 (42)	12 (80)	9 (39)
Overall	***84 (100)***	***15 (100)***	***23 (100)***	***12 (100)***	***15 (100)***	***23 (100)***
Other business duties are affected because I spend too much time on VAT						
Agree	47 (59)	12 (80)	7 (41)	3 (25)	5 (31)	8 (35)
Disagree	32 (41)	3 (20)	10 (59)	9 (75)	11 (69)	15 (65)
Overall	***79 (100)***	***15 (100)***	***17 (100)***	***12 (100)***	***16 (100)***	***23 (100)***
Other taxes are easier than VAT						
Agree	42 (50)	14 (93)	14 (64)	6 (50)	10 (67)	10 (43)
Disagree	42 (50)	1 (7)	8 (36)	6 (50)	5 (33)	13 (57)
Overall	***84 (100)***	***15 (100)***	***22 (100)***	***12 (100)***	***15 (100)***	***23 (100)***
The burden of VAT discourages me from fulfilling my VAT obligations						
Agree	28 (42)	4 (31)	5 (25)	1 (8)	2 (17)	2 (10)
Disagree	39 (58)	9 (69)	15 (75)	11 (92)	10 (83)	19 (90)
Overall	***67 (100)***	***13 (100)***	***20 (100)***	***12 (100)***	***12 (100)***	***21 (100)***

Percentages are in parentheses.

Taxpayer Attitudes in Relation to Value Added Tax Compliance Costs

The compliance costs of the taxpayers by the attitudes towards VAT are presented in Table 7.[8] As could be expected, the respondents who agree with the statement that 'VAT is unreasonably complicated', and those who disagreed that their VAT compliance costs are insignificant, have higher average and median VAT compliance costs. In the same way, the respondents who agree with the statement 'other business duties are affected because I spend too much time on VAT' report higher compliance costs for 2009/10. In both years, the respondents who agree that 'other taxes are easier than VAT' report higher compliance costs.

Table 7: Value Added Tax Compliance Costs by Taxpayer Attitudes

	2009/10			**2010/11**		
	N	**Mean (P)**	**Median (P)**	**N**	**Mean (P)**	**Median (P)**
VAT is unreasonably complicated						
Agree	68	8,231	7,362	30	8,099	7,128
Neutral	5	8,734	8,180	0	0	0
Disagree	54	5,190	3,876	20	5,855	5,400

[8] The attitudinal statements 'my compliance costs are high' and 'VAT requirements are easy to fulfill' are not included in the analysis, from this point forward, as they are similar to the statements 'my VAT compliance costs are insignificant' and 'VAT is unreasonably complicated'.

Overall	***127***	***6,958***	***5,760***	***50***	***7,201***	***6,225***
My VAT compliance costs are insignificant						
Agree	46	5,314	3,943	19	5,200	5,000
Neutral	6	10,502	8,904	0	0	0
Disagree	75	7,682	6,000	31	8,428	7,308
Overall	***127***	***6,958***	***5,760***	***50***	***7,201***	***6,225***
I do not mind doing my VAT work						
Agree	41	5,831	4,080	23	7,322	5,820
Neutral	4	8,104	8,904	0	0	0
Disagree	82	7,465	5,760	27	7,099	6,875
Overall	***127***	***6,958***	***5,760***	***50***	***7,201***	***6,225***
Other business duties are affected because I spend too much time on VAT						
Agree	59	8,198	7,364	23	6,821	6,875
Neutral	13	6,229	4,701	0	0	0
Disagree	54	5,842	4,206	27	7,525	5,820
Overall	***126***	***6,985***	***5,760***	***50***	***7,201***	***6,225***
Other taxes are easier than VAT						
Agree	66	8,591	8,208	30	8,085	6,843
Neutral	5	8,521	9,627	0	0	0
Disagree	55	5,558	3,974	20	5,877	5,020
Overall	***126***	***6,999***	***5,760***	***50***	***7,201***	***6,225***
The burden of VAT discourages me from fulfilling my VAT obligations						
Agree	22	8,705	7,549	7	7,976	6,000
Neutral	25	7,799	6,240	4	7,842	7,797
Disagree	75	5,910	4,091	39	6,997	5,820
Overall	***126***	***6,999***	***5,760***	***50***	***7,201***	***6,225***

Around 10 respondents, in 2009/10, did not provide their attitudes towards VAT compliance work, hence, the missing responses.

CONCLUSIONS AND RECOMMENDATIONS

This study investigated the attitudes of taxpayers towards VAT in Botswana. The reliability of the responses towards the attitudinal statements in this study was tested using Cronbach's alpha. The findings indicate that the majority of the respondents perceive the VAT system in Botswana to be unreasonably complicated. Most also feel that their VAT compliance costs are significant. Thus, the majority of the survey participants resent doing their VAT work. The assessment of taxpayers' attitudes by their compliance costs reveal that taxpayers who report negative attitudes towards VAT incur higher VAT compliance costs than those who do not. Further research is needed to determine whether the attitudes of value added taxpayers in Botswana lead to non-compliance or not.

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Organizational learning for innovation in an Australian hospital

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Abstract

Organizational learning can facilitate innovation and it is influenced by internal and external contexts. This paper applies Crossan et al. ‘s (1999) 4I framework to examine the effect of internal and external factors on an organization's learning process and the extent of its innovation. A case study of a large private Australian hospital is used to gain insights about the process of innovation. The government's strategic agenda in the provision of health care services and regulatory environment in the Australian health care industry have driven much innovation in the hospital under investigation. Leaders of this hospital strive to simultaneously pursue exploration and exploitation in organizational learning by developing an organizational culture that allows a variety of ideas to flourish but at the same time promote integration of differences to enable the implementation of innovative ideas

Keywords: *Innovation, organizational learning, hospital*

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INTRODUCTION

Previous research has confirmed that organizational learning can facilitate innovation (e.g. Garcia-Morales, Jimenez-Barrionuevo, & Gutierrez-Gutierrez, 2011; Jimenez-Jimenez & Sanz-Valle, 2011). How leaders perceive their business environment influences organizational learning (Garcia-Morales, Llorens-Montes, & Verdu-Jover, 2006). Leaders need to provide internal contextual support for learning to occur in the organization to respond to changes in the external contexts (Berson, Nemanich, Waldman, Galvin, & Keller, 2006). For instance, leaders need to create an organizational culture or climate that promotes innovation. Wang and Rafiq (2014) argue that organizational leaders need to develop an organizational culture that allows task-related diversity (in information, knowledge, and perspectives) to encourage creativity and at the same time empower organizational members with a shared vision to promote the harmony of interests and alleviate opportunistic behaviours. Leaders need to encourage a variety of ideas in the creativity phase of innovation (i.e. exploration) and integrate differences to enable implementation of the ideas (i.e. exploitation). As such, leaders should be able to foster both exploratory and exploitative learning to enable their members to pursue innovation (Rosing, Frese, & Bausch, 2011). Exploratory learning is linked to the search of new learning whereas exploitative learning is associated with refinement of existing knowledge (March, 1991).

The Crossan et al. (1999) 4I framework is used in this study to understand the underlying tension between exploratory and exploitative learning. The framework contains four related sub-processes: intuiting, interpreting, integrating, and institutionalizing. Intuiting and interpreting is the process of how ideas are developed and shared. In an organization, since individuals cannot realize their ideas alone, they will need the help of other members. A shared understanding within a group has to be achieved to enable coherence and collective action through conversation and dialogues and this is associated with the process of integration. Finally, ideas that have been learned are institutionalized by embedding this learning in the organizational systems, structures, strategy, routines, and infrastructures for the rest of the organization to adopt. These sequences are called “feed-forward” or exploratory learning. In contrast, the institutionalized learning feeds back from the organization to group and individual levels, creating a context that affects how people behave and think. This “feedback” or exploitative learning enables organizations to exploit institutionalized learning (Crossan, et al., 1999).

Exploration of new learning emphasizes the intuiting and interpreting phase of organizational learning and in this stage leaders need to provide contextual support that can stimulate organization members’ creativity and sharing of knowledge to develop new initiatives for innovation (Berson, et al., 2006). For example, leaders need to communicate a vision and strategy that can guide innovation activities and provide a sense of purpose (Hunter & Cushenbery, 2011). Leaders may adopt a structural differentiation approach to organizational learning (also known as structural ambidexterity) by establishing a separate unit for exploration (e.g. R&D) to ensure resource allocation for this activity (O'Reilly III & Tushman, 2011). Leaders also need to gather ideas from frontline employees who often have more accurate information on the misalignment between existing products, services or technologies and a dynamic environment, potential demands and future opportunities (Wei, Yi, & Yuan, 2011). For instance, surgeons may identify the need for adopting new medical technology to improve surgical operations. In Australia, the adoption and diffusion of new technologies in the health sector are often driven by medical practitioners (Gallego, van Gool, Casey, & Maddern, 2013). However, complex structures and bureaucracy, commonly found in large organizations, may prevent effective identification of ideas that flow from the bottom-up and this bottom-up process is often associated with exploration of new knowledge (Eisenhardt, Furr, & Bingham, 2010).

In the integrating phase, leaders often face tension between the exploration of new learning and the exploitation of existing knowledge (Berson, et al., 2006). The most difficult integration process is in the areas requiring a trade-off, particularly in resource allocation, with individuals or groups often competing for scarce resources (Crossan & Berdrow, 2003). Vision and strategy can serve as a common goal and shared understanding to achieve integration (Hunter & Cushenbery, 2011). In organizations with structural differentiation (separated exploratory and exploitative units), the integration between exploratory and exploitative units takes place at the senior management team level (Benner & Tushman, 2003). Having the most complete understanding of the organization’s strategic context, senior leaders are able to evaluate innovation initiatives and make decision around strategic resource allocation (Floyd & Lane, 2000). Nevertheless, the integration of exploratory and exploitative units at senior management team level is not sufficient, lower-level integration mechanisms are also required to promote lateral knowledge flow across units (Gilbert, 2006). Cross-functional interfaces (such as liaison personnel, task forces, and teams) can help the integration of exploratory and exploitative activities at lower levels of management by enabling knowledge exchange across exploratory and exploitative units (Jansen, Tempelaar, Van Den Bosch, & Volberda, 2009). In addition, leaders also need to create an organizational culture that will enable members to simultaneously explore new competencies and exploit existing capabilities (H.-E. Lin & McDonough III, 2011). Individual members need to be able to explore new knowledge and exploit existing knowledge as required by the task environment (Birkinshaw & Gibson, 2004). Even organizational members that specialize in exploration (i.e. R&D teams) need to exploit to some degree so that they will not only search for new ideas but are also able to exploit potential benefits from their existing knowledge (Rosing, et al., 2011). In addition, as the separation between exploration and exploitation activities in different units may lead to isolation, the integration that ensures that exploration and exploitation activities are interrelated and relevant for the achievement of the organization's goals is required (Birkinshaw & Gibson, 2004).

The process of institutionalization stresses the role of leadership in making knowledge available for exploitation (Berson, et al., 2006). Leaders may set specific guidelines and monitor goal achievement to enhance organizational members' abilities to implement innovative solutions more effectively (Rosing, et al., 2011). Top management's leadership and endorsement are required to minimize the inertia in the human capital and administrative systems that impede innovation (Kam-Sing-Wong, 2013). In addition, Lin et al. (2017) argue that leaders should institutionalize knowledge in a such way that enables an organization to create an organizational culture which is conducive for innovation and to develop an organizational capability in configuring and reconfiguring resources and operational routines to respond to changing environments. As such, institutionalized knowledge will enable organizations to both explore new knowledge and exploit existing knowledge simultaneously (Lengnick-Hall & Inocencio-Gray, 2013).

In the context of tightening government budgets and increasing costs in the provision of health care services, the Australian health care services sector faces considerable challenges in maintaining and improving patient health care (Macri, 2016). For instance, demographic changes (i.e. an increasing ageing population and rapid urbanization) have posed significant issues on the access to healthcare services. In addition, rising medical technology costs have increased the burden on government budgets in the health sector. Therefore, the health care services sector needs to provide services that not only can improve Australian residents' health and well-being but can also offer cost-effective treatments (Macri, 2016). To respond to these challenges, leaders of health care providers in Australia need to pursue both medical and administrative innovation. This study seeks to understand how leaders in a large Australian hospital pursue these types of innovation through organizational learning.

Medical innovation involves technology and methods directly related to the primary activities of diagnosis, treatment, and prevention of diseases in hospitals (Wu & Hsieh, 2015). The adoption of a new medical technology often requires new practices or routines to be implemented (Lettieri & Masella, 2009). In other words, medical innovation may lead to changes of physical settings and organizational structure used to deliver medical care. Thus, medical innovation may require managerial changes or administrative innovation. Conversely, administrative innovation can also stimulate medical innovation. For example, the establishment of a dedicated innovation function can positively influence innovation activities in hospitals (Labitzke, Svoboda, & Schultz, 2014) that may also involve the adoption of new medical-related treatments.

In the following sections, we describe the methodology used in this study and then discuss the findings, conclusions, and recommendations for future research.

DATA & METHODOLOGY

We adopted case study methodology in this study because our research question is "how" leaders facilitate organizational learning for innovation by adjusting the organization's internal context in order to respond to external challenges, and at the same time, we have no control over behavioral events being observed (Yin, 2009). The case study in this paper is part of multiple case studies undertaken to explore contextual differences of internal and external factors influencing organizational learning in four organizations operating in different sectors. We used a qualitative approach because it offers a greater clarity of the role and interaction of internal and external contexts that enable organizations to facilitate organizational learning and in turn innovation. For the purpose of the study, innovation does not refer only to new services or practices in the industry but can refer to something new to the organization being observed. The organization under investigation is a private Australian hospital that caters to both private and public patients and is owned by one of Australia's largest private hospital operators. It was chosen because it had engaged and still continuously engages in innovation. The hospital had experienced significant levels of growth in terms of patient activity and physical infrastructure since it was established in 1996. The hospital started its AUD$393 million redevelopment program in 2009 and completed it in 2013. For the expansion of these facilities, it acquired new medical equipment and offered new medical services which can be associated with exploratory innovation. The hospital has also engaged in incremental process improvements that can be linked to exploitative innovation. Semi-structured interviews were conducted with 2 staff at executive level and 4 staff at senior management level. Interview questions were developed based on the instruments developed by Crossan and Berdrow (2003) and the researchers also asked additional questions related to how leaders evaluated the success of innovation initiatives. These interviews were complemented by the use of documentary sources, such as the corporate website and annual reports, to get information related to the profile of the organization, its perceived external challenges, as well as its exploratory and exploitative innovation. Interview data was classified thematically based on the Crossan et al.'s (1999) 4I framework (Figure 1) and compared to the corresponding documentary sources to build interpretation for the case report.

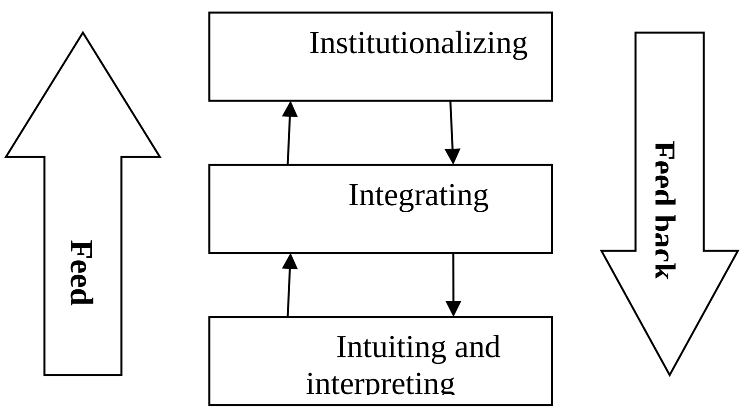

Figure 1. Four I organizational learning framework (adapted from (Crossan, et al., 1999))

RESULTS

External drivers for innovation

We found that the external context characterized by the significant influence of the state government's strategic agenda and the regulatory environment in the Australian health care industry drives much of the innovation in this case. The state government's strategic agenda to facilitate health care being provided closer to home has offered opportunities for the hospital under investigation to redevelop its infrastructure under public-private partnership arrangements. The redevelopments significantly expanded the range and breadth of clinical services at this hospital and this enabled the hospital to catch up with its rapidly growing community. The local population of around 340,000 in 2013 is projected to grow to more than 500,000 by 2020. The offering of new clinical services, such as a new antenatal clinic which had not been offered previously, could be associated with exploratory innovation. In addition, the hospital had to meet the National Emergency Access Target (NEAT) and this has promoted significant improvements of its emergency service deliveries. For example, the hospital has achieved a significant time reduction in its bed management systems by streamlining the process. The average time from patient needing a bed to notification of the allocated bed has decreased to seven minutes whereas previously it took about an hour.

In the context of tightening government budgets and increasing costs in the provision of health care services in Australia, the challenge for this hospital was to provide excellence health care services that not only would improve the health and well-being of patients but also had to be cost-effective treatments because around 70 per cent of its patients were public. Under the public contract, the state government specifies an annual maximum operating budget for required levels of activity and the services to be provided to public patients. The hospital will only be paid for each activity or patient treated. However, as a private hospital, the hospital also needed to differentiate its services between public and private patients to enable it to compete with other private hospitals. In 2013, with the funding support from its parent company, the hospital completed the redevelopment of its private hospital facilities to provide better services for its private patients. The hospital also adopted technological-based innovation to provide better a health care experience to its patients. For instance, in May 2014, the hospital's cardiac specialists performed the first procedure of its kind in the state, implanting the world's smallest cardiac monitor into patients who experience an irregular heartbeat. In addition, the hospital also collaborated with external innovation partners in conducting research in the health care areas. For example, in association with the Telethon Kids Institute, the hospital was undertaking a study involving mothers and their babies to investigate how early environments influence the risk of a broad range of diseases.

The Chief of Executive Officer (CEO) of the hospital was often credited as the initiator of the above redevelopement projects. He negotiated with the the state government and the parent company to get funding for the redevelopment proposal. With the help of other senior leaders in the hospital, he prepared for the redevelopment project which involved innovation in terms of medical and administrative activities. Leaders in this hospital provided contextual support in various forms to encourage a variety of new ideas and insights in the creativity stage and at the same time to integrate different ideas and perspectives to enable the implementation of these innovative ideas. This has demonstrated that leaders play a significant role in the process of innovation by providing internal contextual support. The process of organizational learning for innovation in the hospital is structured based on the 4I framework in the following sections.

Intuiting and interpreting stage

The CEO drove innovation by sharing his vision of growth to inspire all hospital members to contribute their intuitive ideas in achieving the organization goals:

"A lot of it [redevelopment] is driven by our CEO because he loves change. As soon as one project is finished, he is looking for the next one. He likes to continually be in a position of growth and moving things forward" (Director A)

While radical initiatives at the hospital were often driven by the CEO and other senior leaders through the organization's strategic priorities, some innovation initiatives were proposed by organizational members from lower levels of management across the hospital:

A number of larger initiatives have come through from the CEO, but a number of them come through from lots of different places. Pressures in various work areas surface, so we need to find a better way of doing something. (Manager A)

In other instances, medical practitioners at the hospital might have ideas about adopting new technology to offer better quality of health care:

That would come mainly from our practitioners. It might be from our general surgeons in the area of robotics, for instance. They might have had some exposure to robotics at another hospital or they might have attended a conference and they would bring that idea back to us as an executive. (Director B)

Although frontline employees may have intuitive ideas or insights they often struggled to channel-up their ideas to the top management. Immediate supervisors sometimes failed to recognize the potential ideas from their subordinates and did not put the ideas forward to the higher levels of management. In such cases, leaders of the hospital provided some mechanisms other than formal hierarchical channels for lower levels of management to put forth their ideas. For example, leaders of the hospital facilitated some cross-functional meetings that could be used for organizational members to express their thoughts or ideas. It was common for the organizational members from different functional units to have different perspectives, skills, and knowledge. Respect for differences was part of the organizational culture and this helped staff develop knowledge sharing and collaborative behaviors to stimulate intuitive ideas:

Everybody has a voice and the positions that they play are very important, so those conditions that people work in really encourage that interaction and collaboration. (Director B)

Collective interpreting by hospital members from different functional units provided multiple perspectives and generated enriched interpretations that were required for exploring new intuitive ideas or insights. To encourage more varieties of intuitive ideas, leaders in the hospital welcomed new intuitive ideas and would support these ideas as long as they were reasonable. These leaders had a formal policy review that enabled hospital members to question the established policy or procedure to promote more bottom-up initiatives and in turn more exploratory ideas:

In all of our policies and things like that, they are reviewed. As part of the review process there is a stakeholder group that is consulted, and indeed, when we're implementing a new policy, we'll have a wide stakeholder group. If I was a staff member and I think "Okay, this policy actually impedes me from having some innovation", I can go to the owner of the policy and say, "For the next review, can you please ensure that this is covered or I would like to bring forward this idea and I think that this policy restricts it". (Manager B)

In addition, some leaders of the hospital provided opportunities for their members to try new approaches and tolerated some degree of failure to encourage exploratory innovation:

> *I would always give people a fair say to talk about what they might want to implement. Even if it's only something small, generally speaking there's no reason why they might not be able to trial it in their own little area and see how that works, and then if that's proven successful, they can then present to a broader audience and see if we want to roll it out.* (Director B)

In this way, leaders in the hospital also provided some degree of autonomy for their members in the pursuit of innovation to stimulate new intuitive ideas particularly around administrative or non-medical initiatives:

> *Other aspects that are not clinical, there's less restrictions and there's less process around those things for good reason, because I suppose one of the things you like to see is a speedier process. So we don't want to put too much red tape and too many barriers in place for people to be given the opportunity to try.* (Manager A)

However, due to safety concerns where patients' lives may be at risk and in order to comply with the safety standards and regulatory requirements, the hospital tended to have high formalized procedures and limitations on adopting medical-treatment related innovation. This high formalization often resulted in more incremental innovation or exploitation of existing knowledge despite the adoption of new medical technology linked to exploration of new knowledge. Nevertheless, in other instances, the government's standards and requirements for improved efficiency (e.g. NEAT) have promoted significant process improvements that could be associated with exploration, for example in terms of significant improvement in bed management systems. In response to the NEAT, the hospital established a dedicated function to ensure consistent attention and availability of resources for improving patient flow and clinical processes in the organization which in turn would speed up the delivery of emergency services. This dedicated function enabled the hospital to explore innovation initiatives in the area of patient flow and clinical process redesign and at the same time to minimize the tendency towards focusing only on exploitation of existing competences in this area.

In order to stimulate technological-based medical innovation, the budgeting process for adopting new technology involved a bottom-up approach to gather intuitive ideas about the real technology needs from the frontline members like medical practitioners at the hospital:

> *We have a hospital-wide budget for purchasing of equipment, so most departments give us an idea of what sort of things they may want to buy next year. They don't have to necessarily stick to the wish list they put in. We don't allocate a budget per department on capital – they submit an application form and there's an approval process that comes to me.* (Director A)

Although the adoption of new technology in healthcare would put the hospital at the forefront of innovation, the cost to do so could be prohibitive for the hospital being studied.

Overall, in the intuiting and interpreting phases, leaders of the hospital strived to promote exploration of new intuitive ideas by allowing organizational members to have diverse perspectives or insights in achieving the organization's goals. While diversified intuitive ideas were required for exploration of new ideas in the creativity phase of innovation, the integration of perspective differences were also needed to enable the implementation of new innovation initiatives.

Integrating stage

Leaders of the hospital used the vision and strategic priorities to integrate individuals' perspectives and knowledge to achieve a common understanding through which hospital members would collaborate to achieve the organization's ultimate goals. Organizational members at different healthcare units often perceived the importance of innovation initiatives differently resulting in competition for scarce resources. As such, leaders of the hospital had to prioritize these innovation initiatives based on the fit of these initiatives with the hospital's vision and strategic priorities. Due to its public-private partnership arrangement, the hospital had to align its strategy with the state government's strategic agenda. Such strategic alignment with the external environment is critical as it guides the prioritization of innovation initiatives during the integration phase:

> *Some, I suppose, balancing the business with what may be coming from the Department of Health as well, so we have to prioritize. Prioritizing is a big one in health because there are lots of priorities.* (Director B)

In addition, with high quality healthcare for patients being the focus of innovation in Hospital A, it is important for the organization to continuously ensure that such consistency in the implementation of service delivery is maintained in the integrating phase of organizational learning for innovation:

> *And that's obviously the number one goal for everything – Is that going to have some benefits for our patients?* (Manager B)

Leaders of the hospital also evaluated and selected innovative initiatives against particular criteria that could best deal with the realization of the organization's objectives. The criteria are used in integrating different perspectives and to achieve a common understanding of how ideas could best benefit the organization. The criteria included compliance with regulations and standards, potential benefits, costs, required resources, and risks. The hospital also had a dedicated unit to specifically deal with the evaluation of new health technologies which played an important role in the prioritization of resource allocation in the pursuit of medical innovation.

The integration process was most difficult in terms of resource allocation that required a trade-off, requiring leaders of the hospital to prioritize initiatives that potentially offered sustainable profits through the provision of high quality health services. When conflicts arose due to resource competition, leaders facilitated dialogues and rational discussions between conflicting individuals and/or groups to promote a common understanding for integration. Through continuing and active conversations, organizational members identified areas of difference and agreement to achieve shared understanding in the pursuit of innovation. The regular meetings among senior leaders facilitated discussions and debates around conflicting demands and goals associated with exploration and exploitation activities. Based on their knowledge and understanding of the hospital's external and internal contexts, senior leaders would then select the most feasible initiatives that could potentially meet the external challenges. While the hospital had strived to adopt a more bottom-up approach in the budgeting process by gathering information about the resource needs from its frontline members, budgeting decisions tended to be a top-down process due to the complexity of its budget structures:

> *Our budget's negotiated with our national office so they have an expectation of what revenue we're going to bring in, and we do involve the departments, but not extensively. We probably guide them more than allow them to build the budget from the bottom up. Our budget's very complicated because of the public and private contract components.* (Director A)

Integration in the resource allocation process was focused on obtaining the acceptance of senior management's decisions by hospital members. The senior leaders had to communicate the reason for strategic decisions and in cases where government regulations dictated such decisions, there was likely to be less resistance.

The senior leaders of the hospital also strived to promote integration of thinking and behaviors required for implementing innovative changes by adopting the "One Team, One Direction" workplace culture focusing on teamwork in achieving the organization's goal. These leaders conducted regular workshops like the "Growing the Blue" to facilitate the growth and the development of the "One Team, One Direction" organizational culture. Through this program, leaders tried to develop common language and shared understanding by involving a bottom-up approach:

> *They also have Growing the Blue [workshop] which is basically a process across the site of identifying how we can improve our culture, so it's really promoted from the ground up. So all the staff members here have access to these workshops and they go along and they meet colleagues from different areas and it is tremendous. I have to say I can't recommend it enough as being quite unique here and is a very, very positive thing.* (Manager C)

Individual members in this program could interact and exchange knowledge with colleagues from different areas which in turn would promote knowledge coherence required for the integration of ideas for implementation. In addition to the "Growing the Blue", leaders also conducted various formal and informal cross-functional meetings to facilitate dialogues and conversations required for integration of ideas among hospital members. These leaders also formed cross-functional teams to work on specific innovation projects such as in the improvement of bed management systems. In this way, leaders tried to promote collaborative behaviors and integrate knowledge by making each individual member understand how they could contribute in their area of responsibility and work together in achieving the hospital's goals. The hospital had a relatively high integration that enabled it to institutionalize new innovation initiatives.

Institutionalizing stage

Leaders of the hospital used a relatively flat structure without many layers for approvals and budgeting, facilitating both top-down and bottom-up knowledge inflows and enabling coordination for institutionalizing new innovation initiatives:

> *So because we're lean, we don't have a big bureaucracy that has to be consulted. We can actually make decisions and affect change very quickly, because we can. One minute we decide we're going to start a new procedure and within a matter of months we can have it up and running, so we do it quickly.* (Director A)

However, as the hospital grew bigger, communication became more challenging and it had to use various means of communication to feed-back institutionalized knowledge to all hospital members:

> *The bigger you get the harder it is to get that communication flowing up and down so that it touches everybody. We have a lot of publications, we have emails, one-minute updates that come out every week – there's a lot of communication that happens.* (Director A)

Leaders of the hospital provided regular updates and encouraged open dialogues with staff regarding the redevelopment and other changes related to innovation. Information provided by senior management in company-wide meetings and the formation of cross-functional teams enabled organizational members to learn and adopt newly institutionalized practice. In this way, leaders of the hospital tried to ensure that new changes such as new routines for bed management were communicated and new knowledge became accessible for all organizational members to exploit. This would enable feed-back learning in the hospital in which institutionalized knowledge at the organizational level was fed-back to the group and individual levels.

During the implementation and institutionalization of new innovation initiatives, there could be resistance to change and leaders of the hospital had to provide support to organizational members to go through the changes. In addition, as communication was the key for achieving mutual understanding, in the institutionalizing process leaders of the hospital had to develop two-way communications with organizational members to identify unforeseeable problems or barriers to implementation and to work collectively to solve these problems:

> *So it's really looking at what level of support and making sure that there's a feedback loop, that as problems arise they can be addressed at the time.* (Manager B)

As such, leaders of the hospital ensured collective understanding for solutions to problems. This shared understanding would then enable coordinated actions to further institutionalize new innovation initiatives. Additionally, the commitment and support from senior management was also required to engage hospital members in participating in the institutionalizing process:

> *Despite the fact that at the end of that process you are going to benefit the hospital, somebody is impacted along the way, and nobody likes being given more work to do and really, that's what it boils down to… we have to go back up to Executives, to the very highest, to have him come and talk to these people to try and engage them and get them to do it… You're always negotiating and we have to provide justification. Once we do that, most people are fairly agreeable and will come round to our way of thinking.* (Manager C)

As the hospital often introduced new standardized routines for new medical services, the hospital also had a dedicated unit for training and development to institutionalize new routines. The provision of training was a part of the change management practices in the hospital to ensure successful implementation of new medical services. The hospital would collaborate with external partners to deliver the required training when they did not have the resources internally. As such, by collaborating with external partners, the hospital would be able to institutionalize new competences linked to the adoption of new practices or exploration activities.

In the institutionalizing phase, leaders also had to evaluate the success of innovation initiatives in order to monitor the progress of achieving the organization's goals through these initiatives. This could also trigger new intuition to come up with new ways of doing things, leading to feed-forward learning. When the results or performance of innovation initiatives were not as planned, leaders at Hospital A would revise the implementation plan. It could also potentially loop back to the creativity phase of innovation where new ideas are generated in the intuiting and interpreting phase, followed by the selection process in the integrating phase, and ended by the modification or even renewal of previous innovation initiatives in the institutionalizing phase. This is supported by the following response:

> *So with any sessions that we run we have evaluation forms, with any workshops we always have written forms for evaluation. Other methods of measuring outcomes or success are in response to clinical incidents, we can measure them before and we can measure them after innovation has taken place when hopefully it's calmed down. Patient satisfaction, staff satisfaction and then feedback; feedback as to whether it is a good innovation. You know, "It's not quite there yet, let's go back and revisit and tweak it again." So lots of different forms of feedback to assess whether it was a worthwhile investment.* (Manager D)

Conversely, when the performance of an innovation initiative showed positive results, the proven success could promote exploitation of the existing innovation initiative and lead to further feed-back learning. However, this initiative could become obsolete and no longer provide a competitive advantage. As such, leaders of the hospital had to balance tension between exploration and exploitation by institutionalizing new knowledge in such a way that enabled the hospital to both explore new knowledge and exploit existing knowledge simultaneously. For example, leaders of the hospital had to invest in information technology infrastructures that could provide flexibility to meet future IT needs:

> *I think we have to implement, we have to invest in our IT and implement ones that are going to work. And also not in a stop-gap type measure, look at trying to make it as future-proof as possible.* (Manager B)

It was important that the process of institutionalizing new knowledge through new systems or technology had to consider future technology needs and compatibility with existing technology infrastructure.

In addition, by having the "One Team, One Direction" organizational culture that allowed unity in diversity, leaders of the hospital strived to encourage its members to explore new knowledge and exploit existing knowledge at the same time. As previously mentioned in the intuiting and interpreting phases, leaders of the hospital allowed their organizational members to have different views and encouraged varieties of ideas. However, in the integrating and institutionalizing phases, these leaders strived to integrate different views to achieve a common understanding and encouraged their members to work collectively to attain the organization's goals. This is evident in the following comment:

> *I just can't stress enough the importance of people and culture in innovation. I think if there's one thing I've learned in my career to date it's that we as senior managers and executive are only as successful as the people we have working with us. So if we're not listening to everybody that works out on the wards or in the kitchens or in the laundry, wherever it might be, we're not going to be completely successful, because whilst we might have ideas, we need to trial the ideas and if we don't have people on board, well then we won't be successful, and we need the feedback.* (Director B)

As such, leaders of the hospital would be able to encourage individual members to both explore new knowledge or innovative ideas which deviate from their functional perspectives and at the same time, exploit existing knowledge in their domain expertise to contribute to the implementation of innovation initiatives.

CONCLUSION AND RECOMMENDATIONS

The case findings show that the government's strategic agenda in the provision of health care services and regulatory environment in the Australian health care industry have driven much innovation in the hospital being studied. The adoption of medical innovation has led to administrative changes and conversely administrative innovation also promotes medical innovation in this hospital. The hospital's capability to pursue innovation was significantly influenced by its organizational culture that allows task-related diversity but at the same time supports the integration of differences and fostered collaborative behaviours among its organizational members in achieving the organization's goals (Wang & Rafiq, 2014). In the intuiting and interpreting phases, leaders of the hospital strived to promote exploration of new intuitive ideas by allowing the organizational members to have diverse perspectives or insights in achieving the organization's goals. In these phases, the CEO and other senior leaders played a significant role in guiding the direction of innovation activities through the vision and strategic priorities. Leaders also provided internal contextual support such as through cross-functional meetings, a formal policy review, some degree of autonomy, and a dedicated unit for exploration to encourage creativity for the development of new intuitive ideas among the organizational members. In addition, leaders tried to gather information about the technology needs from frontline members to stimulate technological-based medical innovation even though the costs might inhibit the adoption of this innovation. In the integrating phase, leaders used the hospital’s vision and strategic priorities to integrate intuitive ideas and encourage organizational members to work collectively to achieve the organization’s goals. Leaders conducted both formal and informal meetings that promoted integration through dialogues and conversation among the hospital members. Through two-way communications involving bottom-up and top-down knowledge inflows, leaders of the hospital facilitated coordination and integration despite budgetary constraints. These leaders also facilitated an organizational culture that was focused on teamwork to promote integration by encouraging organizational members to work together to achieve the shared goals. The high level of integration in the hospital further enabled the institutionalization process of new innovation initiatives. Leaders used various means of communication to feed-back institutionalized knowledge to all organizational members. They also provided training to put new changes into routine operations. Furthermore, these leaders evaluated the success of new innovation initiatives to monitor the progress of achieving the organization’s goals through these initiatives. Leaders also strived to achieve flexibility in its technological infrastructures that enabled the hospital to meet existing and future business requirements.

This study offers further insights for both academics and practitioners about how leaders pursue both exploration and exploitation in organizational learning through the creation of organizational culture or climate that is conducive for innovation, involving administrative changes in structures and formalized routines. However, the result of this study may not be generalized to other leaders in other hospitals because it only examined one hospital as a case study. Managers should contextualize the lessons learnt from this study to fit their organization-specific contexts. The external and internal contexts may vary within different industry sectors and among organizations within the same sector. Thus, future research can examine variations in one industry, cross-industry, or even cross-country to account for the impacts of industry-specific context and issues like culture or regulatory environments on innovation.

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The materiality of corporate sustainability reporting: User's perspective in China

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Abstract

This study explores the perceived stakeholder's materiality in corporate sustainability reporting (CSR) made by the listed companies in China, thereby contributing to corporate policy within the broader context of public policy and reporting standards. A stakeholder-driven instrument that combines the three-dimensions adjusted from GRI was developed. The instrument was initially developed based on questionnaire to measure the material sustainability information perceived by stakeholders. Partial-Least-Square was used to examine the validity of the measurement in the study. The results indicated that items in environmental and economic performance in sustainability provides significance to affect CSR materiality, whereas social performance is less able to. In our deconstructed model, social information regarding human rights were shown relevance to CSR materiality

Keywords: *Corporate sustainability reporting, China, stakeholder perception, PLS*

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INTRODUCTION

China has rapidly boosted its economy within a very short period of 30 years. While financial values were generated by the Chinese firms, academics and practitioners have started to question and demand for the transparency of corporate sustainability, and the materiality of sustainability information (Kolk, Hong and van Donlen, 2010; Zeng, Xu, Dong and Tam, 2010; Hsu, de Sherbinin & Shi, 2012). The regulators in China has been actively engaging organizations to become more environmentally and socially responsible by setting sustainable development as a nation strategy priority, as well as aligning their goals with its national economy. The combination of governmental effort and agency initiatives consequently has precipitated a sudden surge in corporate sustainability disclosures in China. According to SSE, 290 out of 980 listed companies in China issued CSD in 2008, and more recently this number has tripled to 706 in 2014 (China Securities Journal, 2015).

While CSD has been widely concerned from academic and management perspectives in emerging economies, evidence in the materiality of CSD from stakeholders' perspective remains limited, especially in China, where an extensive degree of interference the powerful stakeholders greatly impacts societal expectation that drives corporate reporting strategy. This study aims to provide evidence of the perception on materiality of corporate sustainability reporting from financial analysts' perspective, thereby contributing to corporate policy within the broader context of public policy and reporting standards.

Neoclassical economic view of sustainability

Corporate disclosure is often used as a vehicle that facilitates the communication between a company and its stakeholders, and it forms part of accountability to report its environmental and social activities that contribute to corporate sustainability (Reynolds and Yuthas, 2008). The concept of sustainability is derived from a normative concept, which occupies a continuum where it is understood quantitatively through an economic dimension, and qualitatively through a development dimension (Lu and Abeysekera, 2015). The traditional economic conception often focuses on the monetary terms and looking at economic growth related by corporate activates, whereas sustainability adjudicates to stretch this wealth creation into long-run. In the neoclassical economic model, which was initially mentioned by DesJardins (1998), considering this model placing a moral constraint on firms in their pursuit of profit. This conceptualisation is then further extended to a development model, which is to produce profits without causing environmental and social damages, and aims to ensure that firm using natural resource without producing waste in excess of the absorption capacity of ecological systems (DesJardins, 1998). In other words, the neoclassic economic model lines between the growth and development stage of economy. If the assumption of the concept of sustainability is adopt, which is the concept can be situated anywhere on the continuum between the classical economic modal and the development of economic, the concept has then eluded this strict definition. When we look at China's current social status and cultural context, the neoclassic model is applicable to describe the development of sustainability in China, given social actors in China perceive sustainability naturally in the cultural context, where sustainability activities from firms are referred to whether they are translating in the long term into some form of market-worthiness, such as reputation building (Lu and Abeysekera, 2015). However, in the neoclassic model, the dominant social paradigm of such cultural context is what frames their actions and its association on how natural resources become inputs and outputs in a firm production system (Korhonen, 2003). In this study, we propose that social actor at a higher-level dominant the social paradigm, and corporate sustainability actions are framed by a certain group of stakeholders in the economy. Based on this approach, therefore, we assume that societal expectation is largely interfered by the government, where stakeholders would only be interested in information disclosures relating to sustainability set by government.

According to Korhonen (2002), the dominant social paradigm is not suitable for ecological dimension development in the classical and neoclassic economic model, because it may mislead social actions towards sustainability. Lu and Abeysekera (2015) gave an example of the use of fossil fuel resource, which the ecosystems cannot accommodate emission arising from fuel consumption. Subsequently, the use of fossil fuel meets the energy requirement set by the current economic model. However, the dominant social paradigm guides the policies and practices of sustainability in such economic model, in which sustainability is quantified in monetary terms. This monetization includes ecological footprint, lifecycle of product assessment and industrial ecosystem, which are defined broadly in China, and a solution cannot be simply generated due to the its cultural and economic context. Lifecycle of product assessment is a major issue for many emerging economies, as well as China which produces natural intensive resources at low prices for exchanging other goods at higher prices (Lu and Abeysekera, 2015). The situation is similar with industrial ecosystem, where China's use of coal for energy consumption can hardly be replaced by other clean technology to halt the depletion of natural resources (Korhonen, 2003). Due to the existence of these problems, the social actors are then very likely to refocus on the dominant social paradigm and alter their understanding and interpretation of sustainability, and use the underlying world view based on ethics to describe and analyse sustainability.

The materiality of corporate sustainability report

CSR provides materiality that facilitates the users for decision making in their investment. Financial analysts use it to reflect partially corporate risk in assessment. In the auditing process, materiality is a main focused area, and sustainability activities which are material to a company are particularly being assessed. According to Deegan & Rankin (1997), materiality within environmental reports is used to be wary of the potential financial risks associated with companies that are unable to indicate environmental accountability. This statement is further supported by Rettab, Brik & Mellahi (2009) that management perception of the materiality of sustainability report is often well considered as measurement of organizational performance, particularly financial performance. To measure report users' perceived importance of the materiality of corporate sustainability, O'Dwyer, Unerman and Hession (2007) considered the users', particularly financial analysts' desirability of sustainability information. We considered the definition provided in previous literature that, desirability is reflected from users' perception of the usefulness and creditability of CSR, as well as the possibility to supply feedback to the producers of CSR (O'Dwyer et al, 2007). Another definition is provided by Deegan & Rankin (1997), in which they define desirability in terms of whether the users showed strong needs of setting CSR mandatory. Two of the significant dimensions that measures the users' desirability to CSR is particularly considered in this study – the need to set CSR mandatory accords all industries; government should provide solid social paradigm to guide reporting corporate sustainability.

Stakeholder Theory and Legitimacy Theory

Stakeholder Theory considers that corporate sustainability does not only relate to its shareholders or debt holders, but also any relevant stakeholders (Corderio & Tewari, 2015). From a normative theory perspective, the Stakeholder Theory asserts that 'regardless of whether stakeholder management leads to improved financial performance, managers should manage the business for the benefit of all stakeholders' (Hasnas, 1998, p.32); however, from the managerial branch of the theory, the more salient the stakeholder, the more efforts will be exerted in terms of satisfying their needs (Mitchell, Agle and Wood, 1997). Based on the neo-economic view of sustainability in the Chinese context, a social actor at a higher hierarchy represents the group of powerful stakeholders setting paradigm within society. This creates an overlap between Stakeholder Theory and Legitimacy Theory, where the dominating group of powerful stakeholders has great substantial impact on 'social contract', and the secondary stakeholders will search information addressing the primary stakeholders demand for decision-making. To testify the degree of influence of powerful stakeholders on the others derived from the overlap between Stakeholder Theory and Legitimacy Theory, we selected financial analysts and examined their response that address materiality to sustainability set by Chinese regulatory bodies. In addition, the findings based on this framework will support the ideology from neoclassic economic perspective, because for value maximization, firm in economic transaction is more like to satisfy stakeholder engagement to understand better in terms of political, social and economic background of a market that they intend to enter (Lu and Abeysekera, 2015). This study employs stakeholder theory from the perspective of financial analysts to investigate the materiality of corporate sustainability report based on a series of adjusted GRI measures engaged by the Chinese context in the aspects of economic, environmental and social.

DATA & METHODOLOGY

Sample and data source

A GRI adjusted questionnaire with open-ended questions was developed and sent to the participants for data collection. In this study, for recruiting report users, which are financial analysts, the samples were solicited from the listed securities organisations provided by CSRC (http://www.csrc.gov.cn). There were 114 companies registered on CSRC in 2014, and 200 designed questionnaires were sent out to the managers of these registered security companies in China by email. Each manager was asked to provide five responses for the surveys, and then send them back. The response rate was 64.5%, with 129 responses that were statistically significant.

The rationale for choosing financial analysts was that corporate sustainability information has always been a useful input for financial analysts to evaluate and to predict firm value, which consists of many financial factors influencing companies' performances, such as sales, costs, operational efficiency, financing and litigation risk (Dhaliwal, Radhakrishnan, Tsang & Yang, 2012). A better corporate sustainability reputation captured by financial analysts will improve companies' brand value and reputation, which in turn significantly enhances the appeal of firm products to consumers (Brown & Dacin, 1997), and leads to increased sales (Dhaliwal, et al., 2012).

Questionnaire design

The questionnaire for this study is developed based on the GRI sustainability reporting guidelines (G4 version) to assess CSR users' perceived usefulness of company's sustainability report. Although it meets the need of uses from diverse nations, industries and stakeholders, GRI is criticized by its one-size-fit-all approach (Sherman, 2009). Therefore, in this study, we constructed an adjusted GRI questionnaires with open-ended questions, aimed to capture the useful information which is yet to be a part of the dominant social paradigm. As prior studies have mainly considered GRI guidelines as a coding framework to analyze corporate social and environmental disclosure, this study considered only the second part of GRI information, and items were developed and adjusted based on Economic performance (ECO), Environmental performance (EN) and Social performance [including 4 subdimensions, such as Labor practice and decent work (LPDW), Human rights (HR), Society (SO), and Product responsibility (PR)]. The adjusted GRI questionnaires includes 44 questions in accordance with the main categories within each aspect of GRI and the open-ended questions collected from the report users. With regards the measures for the usefulness of CSR, materiality in terms of users' desirability and disclosure cost-efficiency were particularly considered, and the measures were adopted from O'Dwyer et al (2005) and Deegan & Rankin (1997). As the reflection is financial resource allocation was emphasized by O'Dwyer et al (2007), two questions that measured cost-effectiveness of CSR were designed in this study, which is shown in Appendix A.

DATA ANALYSIS

Results and discussion

This section includes two models. Social was divided into lower- and high-order construct, in which the higher-order social construct divided 'Social performance' in terms of including 4 subdimensions - Labor practice and decent work (LPDW), Human rights (HR), Society (SO), and Product responsibility (PR). PLS Mode B was adopted in the analysis, in which stand criteria for measurement model was used. The latest $HTMT_{85}$ approach was used in lieu of Fornel-Larker criterion to assess discriminant and convergent vitality.

The R^2 for both models were acceptable, where $R^2_{lower\text{-}order}$ is 0.41 and $R^2_{higher\text{-}order}$ is 0.35. In model 1, where social construct was a higher-order construct, environmental performance and economic performance were shown to be significant to CSR materiality, where β is 0.48 and 0.25 respectively with p both at 0.01 level. However, social performance did not show statistical significant ($\beta = 0.08$, $p = 0.18$). To further explore whether all or partial social components not being statistically significant to affect CSR materiality, our model 2 deconstructed the social construct into its four subdimensions as a lower-order construct. Our results showed that HR is moderate significant with $\beta = 0.17$ with p at 0.05 level, and PR is marginally significant with $\beta = 0.13$ with p at 0.06 level. LPDW and SO did not show significance in the analysis. The illustration of the results output is shown in table 1.

Table 1. PLS results

Sustainability construct	β	Significance (p-value)
Higher-order model (R^2=0.35)		
Economic*	0.25	<0.01
Environment*	0.48	<0.01
Social	0.08	0.18
Lower-order model (R^2=0.41)		
Economic*	0.39	<0.01
Environment*	0.17	0.02
Labour practice and decent work	0.10	0.13
Human rights*	0.17	0.02
Society	0.02	0.41
Product responsibility	0.13	0.06

*p-value at 0.01 level indicating a strong significance of the construct

The analysis shows a considerable degree of match between materiality in CSR and items engaged by Chinese regulators. The trends in results indicated that environmental and economic information engaged by the regulatory bodies show a great degree of materiality. It was noted that when we deconstruct social factor into its four components, not all four lower-order factors are statistically non-significant. Human rights play an important role affecting CSR materiality. The study further provides an insight into the overlap between Stakeholder Theory and Legitimacy Theory in the Chinese context, where information regarding financial allocation and reflects materiality was suggested by financial analysts to provide linkage with CSR items engaged by regulatory bodies.

With respect to environmental and economic disclosures, all the categories from environmental and economic disclosure were perceived as useful by report users. This can be explained due to the success of implementation of the 12th Five Year Plan of National Economic and Social Development, announced by the Chinese government in 2011. Similar findings were highlighted by existing research, showing that the implementation of the national sustainability plan was successful in terms of raising people's awareness and understanding of environmental protection and national sustainability development (CSMAR, 2013). In terms of the importance of environmental disclosure by category, items included in the 12th Five Year Plan had significant influence on the users' perceived importance of environmental disclosure. The results indicated that "Energy", "Water", "Emissions", "Effluents and Waste" and "Compliance" were perceived as more important than the other indicators, the overall PLS results shown to be significant to the usefulness of CSR. The relevant items in the Five-Year Plan include information disclosure on emissions and pollutants containing carbon dioxide, sulphur dioxide, chemical oxygen demand and nitrogen oxide, where emissions of CO_2 were listed as the primary pollution to be reduced (CASS, 2016). It is known in the context of China that around 60% to 70% of energy is generated from burning coals, which causes enormous amounts of carbon emission and air pollution. The 12th Five Year Plan extends the mission from the 11th Five Year Plan by beginning a low-carbon economy, and it also lists details of promoting energy-saving and carbon reduction in major industries (CASS, 2016). First, the tendency in the results shows that the Chinese government had been trying to promote a carbon reduction policy, which consequently raised people's understanding of the seriousness of national environmental issues. The results from PLS confirms that financial analysts recognise firms reporting environmental information reflecting positive signs and adding value for investors decision-making for financial resource allocation because it addresses the national plan. For corporates, they are urged to disclose environmental information due to this view is consistent with the positive approach of Stakeholder Theory that they need to meet the expectation of the primary stakeholder to ensure the 'survive' and potential financial prosperity. The degree of importance to report was shown from financial analytes response, in which the primary stakeholder's expectation overlaps with 'social contract', given the institutional context is largely interfered by Chinese regulatory bodies. On the other hand, to fulfil the dominant social actors' paradigm, the financial analysts recognize the importance for companies to behave responsibly according to the direction shown by the Chinese government. Such fulfillment may be companies' ultimate goals, and companies may not disclose sustainability purely from the ethical prospective. This is consistent with the neoclassical economic model assumption, that individual decision making is based on value maximization. Therefore, although the alternative review is from the self-interest perspective, financial analysts do engage companies to report sustainability.

In comparison, social disclosure was perceived as less important by financial analytes. However, human rights showed significance as it relates to significant social events or exposed by media showed more importance in the results, particularly the recent faulty products and the milk power scandal of 2006. This variation imply that stakeholder paid more attention to listed companies on human rights due to public scrutiny for large companies in relation to the commitment and the fulfillment of stakeholder's expectation (Cormier and Gordon, 2001). Therefore, financial analysts are more likely to perceive human rights as more useful information for companies to focus on public attention.

CONCLUSIONS

This study extended the current research on sustainability disclosure in emerging economies, particularly China. The contribution of this study has two-fold. First, as an external group of stakeholders, financial analysts are driven by self-interest, but our results confirm their recognition of corporate sustainability reports for decision-making. The results of this study support the neo-economic view of sustainability, and the materiality in CSR information indicate the importance of using it for resource allocation, thereby reaching value-maximisation. However, this is only based on reporting companies addressing their fulfillment in the social paradigm set by the social actor – the government. Thus, addressing social paradigm adds values to materiality in corporate sustainability reports. Second, this study developed an instrument that address the materiality of CSR from the perspective of financial analysts. The findings contribute to the development and improvement of corporate sustainability, corporate social and environmental reporting policies and regulations in China. Although the governing body has been continuous promoting firms to implement and operate sustainably, there has been an extensive degree of uncertainty and ambiguity in corporate reporting practices. The government should therefore continue making effort on more detailed guides for companies to communicate effectively and efficiently to the stakeholders. However, the interpretation of the study findings need to consider the following limitations. First, this study only considers a single year measurement. As perception changes overtime, a longitudinal approach may be adopted to look at major social events impact on corporate CSR perception across a period. Also, this study does not assume what motivate the stakeholders to read corporate sustainability reports. Whether stakeholders are ethical or profit-seeking it is not determined in this study, and thus, this sets future research to examine this question.

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Total cost of ownership along the mine assets management and supply chain

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Abstracts

Total Cost of Ownership (TCO) is a notion which is widely used in many business and industries around the world and mining industry is not an exception. TCO is a complex concept which not only can determine most pivotal or integral costs in the acquisition, possession, use and subsequent disposition of a good or service but also can specify factors like order placement/replacement, supplier's qualification, shipping/hauling, acquiring, audit, refusal, displacement, downtime caused by failure, and costs of disposal. This research uses TCO model as a tool in the mining supply chain concept to examine and improve purchasing decisions by foreseeing different attributes such as acquisition cost, quality, and the reliability of supplier's delivery.

Keywords: *Total cost of ownership, assets management, Supply chain, purchasing tools, mining industry*

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INTRODUCTION

One of the pivotal parts of any competitive business is purchasing which accounts for 60% to 70% of total expenditure in manufacturing (Heberling, 1993). Both academia and the industry are considering supplier selection and actual cost purchasing strategies as integral issues for competitive businesses (Dogan & Aydin, 2011). Actual cost of purchasing including direct and indirect costs are often ignored by most of the traditional purchasing and supplier selection methods because of their frameworks which are based on quoted price selection (Mohammady Garfamy, 2006). Prior research demonstrates that 50% to 90% of production costs can be purchasing function costs (De Boer, Labro, & Morlacchi, 2001; Ellram & Siferd, 1998; Weber, Hiete, Lauer, & Rentz, 2010). In 2009, Michli et al focused on the company's internal relationship and suppliers because of reasons such as product lifecycle reduction, products and services complications increasing and complexity of the process in enterprises (Micheli, Cagno, & Di Giulio, 2009).

Total cost of ownership (TCO) is one of the purchasing tools in many enterprises and it is based on true cost of buying of peculiar products or services (Ellram, 1994). TCO's aim is to specify the actual costs of buying and owning of products and services. These actual costs can comprise order placement, order replacement, supplier selection, shipping, logistics, inspection, return, and disposal. Total cost of ownership is a consequential tool to support strategic cost management due to considering the impact of purchase decision on business costs as well as other cost parameters (Ellram & Siferd, 1998).

Figure 1. The relation between strategic cost management and TCO (Ellram and Siferd, 1998)

The TCO method notices extra expenses such as cost of order implementation, expenditure associated with searching activities and supplier qualification, insurance, warranties, and quality costs, exchange possibilities, downtime caused by failures, etc. (Afonso, 2012). Ferrin and Plank revealed that among 62% of their surveyed companies, TCO is used in less than 40% of the purchases (Ferrin & Plank, 2002) which supports Ellam's statement about the difficulty of TCO methodology application (L. M. Ellram, 1995). There are other methods which are close to TCO but have some weak points which make these unpopular among industries. Life-cycle costing ignores pre-purchase costs and target determination of the life cycle costs of the assets including operating, maintaining, and disposing and generally based on fixed assets (L. M. Ellram, 1995). Another method is zero-base pricing which is close to TCO but just considers the cost of running the business and a pricing framework for suppliers (Burt, Norquist, & Anklesaria, 1990). Cost-based supplier performance evaluation ignores the internal cost of business and only focuses on suppliers' external cost (Beamon, 1999).

There have been some models which emphasise TCO. Handfield and Pannesi are among the first authors who believe that overall life cycle of the product can be unrelated to the component of life cycle (Handfield & Pannesi, 1994). Modified cost ratio method is used by Carr and Ittner for identification of key factors which are the reason for costs increasing (Carr & Ittner, 1992). Caniato et al classified TCO models according to standard and ad hoc models (Caniato, Ronchi, Luzzini, & Brivio, 2015). According to the authors, standard models encompass all goods and services, whereas ad hoc models are just for a particular product. Agrawal and Graves define general standard TCO model for cost estimation (Agrawal & Graves, 1999) while Fornasiero, Zangiacomi, and Sorlini (2012) define an ad hoc model which particularly focused on truck's life cycle (Fornasiero, Zangiacomi, & Sorlini, 2012).

Ellram in her research develops the dollar-based model to value base model and puts emphasis on non-monetary measures hence, costs are classified to components, capital assets, maintenance and services which are not only for purchasing departments, but also for several departments such as? Asset management, engineering and operation management departments (L. Ellram, 1995). Another TCO model focusing the monetary quantification of all financial and non- financial attributes is widely developed and implemented by Morssinkhof et al (Morssinkhof, Wouters, & Warlop, 2011). They had an experimental setting for purchasing decisions between two brands which both specified by several financial attributes.

n order to optimise supply chain, Cavinato proposes a developed version of the TCO model based on reducing the costs and increasing the value even for the very last customer (Cavinato, 1992). There are other researchers regarding purchasing firm optimisation which first start by cost categorising based on product level, then defining overall purchasing process model and finally calculating TCO by implementing a three-axes matrix (Degraeve, Labro, & Roodhooft, 2000, 2004; Degraeve & Roodhooft, 1999; Degraeve, Roodhooft, & van Doveren, 2005). Buy class model is another type of TCO model which is based on the of the buy class/type of purchase and developed by Ellram (L. Ellram, 1994). This model can include both standard and ad hoc TCO models. F. Caniato propose nine classification variables for TCO models (Caniato et al., 2015).

- Goods and/or services
- Supplier and supply chain
- Efficiency and /or effectiveness
- Dollar and/or Value
- Ad hoc and/or standard
- Costing method
- Period
- Supplier
- Flowchart and/or matrix

After TCO model selection, TCO should be estimated/evaluated. Generally, there is no standard formula for calculating TCO due to the variety of procurement but it can be calculated as below (Ministry of Business, 2013):

P urchase price + Regular recurring cost + Irregular one-off costs − Income generated + Coast of disposal − Revenue on disposal

Eventually, Total Cost of Ownership can be determined as the following equation (Hines, 2014):

$$TCO = A + PV\sum_{i=1}^{n}(Ti + Oi + Mi - Rn) \tag{1}$$

Where:

TCO=Total Cost of Ownership

A=Acquisition cost

PV=Net present value

Ti=Training cost in year i

Oi=Operating cost in year i

Mi= Maintenance cost in year i

Rn = Recapitalisation value in year i

DATA & METHODOLOGY

The first step in this research will be a comprehensive literature review around Total Cost of ownership (TCO). The literature review will reveal the limitations of current trends and operation of TCO. It will construct a pre-framework for the TCO model along the supply chain and asset management. Much of the TCO literature involves only one case study firm. Hence, lack of sufficient data will be encountered. An exploratory research method is proposed for this PhD, involving surveys of companies and manufacturers within mining industries and case studies of mining organisations and their supply chain departments. The next step is data collection which includes the interview approach, data selection, and case study firm. Data collection will be accomplished through interviews with purchasing practitioners, supply chain employees or managers, maintenance service providers within minimum of two companies. Understanding all the direct and indirect costs paid by the industries which is the main pillar of the TCO model should take place at this step. A very small discrepancy in cost issues could have significant effect on estimation of actual cost that would lose million dollars. Due to small number of available case study firms and high accurate and non-accurate data like maintenance reports, cost reports and etc. correct data selection is very important.

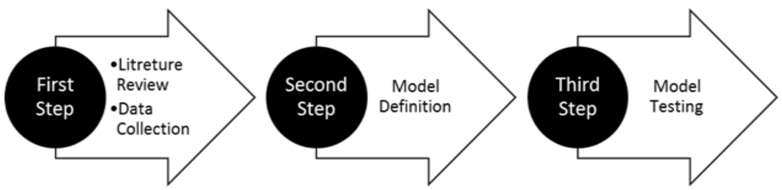

Figure 2 Research method steps

Systematic literature review and data collection enable our model to be defined. All relevant costs including direct or indirect will be identified and classified to be calculated and evaluated. The model will be tested and implemented with real data over a specific duration of time and then the result will be checked and analysed precisely.

CONCLUSION AND RECOMMENDATION

The purpose of this paper was to assess total cost of ownership through the analysis of published TCO empirical case studies and discuss the reasons for limited use of the TCO method in practice. Lack of an adequately determined TCO model can lead to losing enterprise's competiveness and profitability in the market due to poor cost estimation and poor purchasing decision making. TCO model helps the purchaser to choose the appropriate supplier and, allows sellers to improve their product and service offering. TCO supplier selection methodology in the mining industry is less well documented and analysed in the literatures. Hence, this research will be very valuable and significant for mining industries and mining supplier companies. The results of this investigation show some important limitations need to be considered. First, resource allocation including lack of reliable information systems and experienced personnel may be a challenge. Second, shortage of readily available data could be problematic for consistent data collection. Third, cultural problems like general resistance to change may inhibit data collection. Fourth, complexity of the TCO model may provide a barrier to take up of research model. Finally, the ability of both purchasing and supplying firms in sharing their data may be a barrier to data collection. The limitations identified in this paper are not exclusive of each other but rather can have a compounding effect (interactive effect) on understanding and valuing the TCO. There are key production and process improvements that will flow from TCO adoption and development, and the mining industry is a sector that is seeking optimised management and operations in the current difficult business environment.

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Cross-equity linkages between China and the U.S.: An application of GARCH-M-GED

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Abstract

This article examines joint distribution of returns and volatility between daily stock returns in China and the U.S. from January 2006 to April 2016 employing GARCH-M-GED. Compared with the previous empirical studies which used less recent data and which found negligible evidence of volatility spillover or only unidirectional return spillover to China, the results of this analysis reveal an existence of bidirectional spillover in terms of return and volatility even though the time of impact is different. This suggests there might be a major shift in the nature of cross-market dependence between these two countries.

Keywords**:** *Stock market linkages, GARCH-M, China.*

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INTRODUCTION

Stock market interdependence has attracted continuous attention from academics and economic experts due to its implications in several areas such as portfolio construction, asset allocation and financial risk management. Before the Asian Financial Crisis 1997 (AFC), one of the primary motivations for exploring this area is to reduce the total risks of an equity portfolio which can be attained by diversifying the portfolio into low correlated assets. It was believed that cross-border holdings offer a substantial benefit of risk reduction because there was little evidence of correlations between stocks in different countries (Cosset & Suret, 1995; French & Poterba, 1991; Solnik, 1995). However, these findings were drastically challenged during the AFC and recently the Global Financial Crisis 2008 (GFC). The common feature of these catastrophic events is that both of them originated from a domestic crisis and spread to the other countries rapidly and irrepressibly. It implies that volatility in one market can be transmitted to another. This theory has been well studied in existing literature and a significant increase co-crash probability internationally during a crisis period has been documented (Bekaert & Ang, 1999; Chiang, Jeon, & Li, 2007).

Among these studies, three major findings are an upward trend in market integration among different countries, volatility transmission and asymmetries in volatility responses. Firstly, in contrast to conventional wisdom in international diversification, increase in market synchronisation between the world stock markets namely the U.S., Japan and Hong Kong and other countries is evident especially after the AFC and the GFC due to a number of macroeconomic factors. China, being one of the most rapidly growing economies, has attracted much attention from academics and researchers. Empirical studies found that long-term co-movement between stock markets in China and other major economies including the U.S., UK, Hong Kong and Japan is evident from 1999 to 2008 based on Markov-switching models, whereas short-term impact of those global equity markets on the Chinese stock market is weaker during economic downturns and stronger during periods of speculation (Fan, Lu, & Wang, 2009). In addition, liberalization policies in China during 2008 to 2010 are one of the main factors contributing to an increase in market integration between China other markets in which the impact on the relationship with Hong Kong's market is most prominent[9] (Wang, Miao, & Li, 2013). Conflicting results are also found between China and the U.S. during 1993 to 2004 based on an autoregressive integrated moving average (ARIMA) model and a generalised autoregressive conditional heteroskedasticity (GARCH) model (Cheng & Glascock, 2005). Further, market interdependence in terms of return and volatility between the U.S. and BRIC countries (Brazil, Russia, India and China) are weakened after the GFC (Xu & Hamori, 2012). Evidence of market segmentation is also found among stock markets in the U.S., Hong Kong and China during 2001 to 2008 (Mohammadi & Tan, 2015).

Extending from previous literature, the main objective of this article is to review the linkages between the main stock markets in China and the U.S based on recent data in the last ten years. The S&P 500 was first introduced in 1957 and that comprises the 500 largest companies listed in the New York stock exchange which represent the U.S. stock market. It covers almost 80% of the total market capitalization of U.S. equities in major industries including information technology (21.6%), health care (14%), financials (13.3.%), consumer discretionary (12.5%), consumer staples (10%), industrials (9.7%), energy (7.2%), utilities (3.4%), real estate (2.9%), materials (2.9%), and telecommunication services (2.5%)[10]. Hence, it is widely recognized as a reliable indicator of the U.S. economy. The Shanghai Composite Stock Exchange (SSE) was published in 1997 that comprises all the listed stocks in China[11]. It is most commonly used to track for the China's stock market.

The remainder of this essay will be divided as follows. Section 2 presents the data analysis and discusses the results. Section 3 concludes.

[9] Wang, Miao and Li (2013) decomposed stock returns into long-term information (cash flow news) and short-term information (dividend news) and assessed them against major financial events in China during 2002 to 2010 including Qualified Foreign Institution Investors in November 2002 (a quota on China stock markets for foreign institutional investors), the non-tradable share reforms in May 2005 (removal of State or local government owned non-tradable shares that were issued to prevent privatisation of state-owned enterprises), increase in stamp duty in May 2007, the announcement of the 'through train' policy in mid-2008 to enable direct access for Chinese investors to Hong Kong shares, and the introduction of mainland stock index futures in April 2010.

[10] Information extracted from S&P500 Fact Sheet which is downloaded from the main website of the S&P Dow Jones Indices, retrieved November 8, 2016 from http://us.spindices.com/indices/equity/sp-500

[11] Information retrieved November 8, 2016 from http://english.sse.com.cn/indices/indices/introduction/info/.

DATA & METHODOLOGY

Data

The data comprises the daily prices of the SSE and the S&P 500 from Jan 02, 2006 to April 18, 2016 and is obtained from DataStream. Since daily stock prices usually exhibit non-stationarity and autocorrelation, daily returns are determined by taking first-order difference natural logarithm of daily prices of two consecutive days. A time series is stationary when its mean and variance are constant over the whole period under analysis, (Jondeau & Rockinger, 2006). Modelling non-stationary time series which is characterised by the unit root is challenging, therefore, non-stationary time series are usually transformed to stationary before conducting analysis. On the other hand, Autocorrelation is defined as the correlation between the residual factors and its own lags, which can be also referred as serial correlation (Fama, 1965). The presence of autocorrelation can invalidate the hypothesis tests using *t* and *F*-statistics which in turn leads to seriously misleading inferences if autocorrelation is not properly rectified or modelled (Gujarati & Porter, 2009). This is commonly observed in high frequency data where large (small) daily price changes tend to be followed by large (small) daily changes. Evidence of autocorrelation is found at price level but diminishes in converted time series. For expediency, only results for log-returns are analysed in this paper, although the results of daily prices for the studied sample in can be found in Appendix A.

Table 1 presents descriptive statistics for the first-order difference log-returns for two indices including the Jarque-Bera (JB) statistics over the full sample period – a commonly used method to test for normality in financial time series (Engle & Sheppard, 2001; Peng & Ng, 2012). The skewness is negative and the kurtosis exceeds 3, which indicates the distributions of two indices are fat tailed and skewed to the left. Similarly, p-values of the JB test for both series strongly reject the null hypothesis of normality at 1% significance level, meaning the returns are not normally distributed. Supporting evidence is found in the studies of Fang, Liu, and Liu (2015), Mohammadi and Tan (2015), Wang et al. (2013).

Table 1 Summary statistics for return series - full sample

	China	USA
Mean	0.000356	0.000193
Median	0.000224	0.000378
Minimum	0.090332	0.109572
Maximum	-0.092608	-0.094695
Standard deviation	0.017523	0.012804
Skewness	-0.628048	-0.326941
Kurtosis	7.003474	13.64529
Jarque-Bera test	1969.624 ***	127525.75 ***

Note: *** significant at 1% level.

Table 2 displays results of Phillips-Perron (PP) and Augmented Dickey-Fuller tests (ADF) for stationarity. It shows that the S&P 500 log-return contain a unit root, but not the SSE. After taking first-order difference, the results strongly reject the null hypothesis of a unit root for both time series at 1% significance level indicating significant evidence of stationarity. This finding is consistent with Boubaker and Sghaier (2013); Fan et al. (2009); Li (2007). For autocorrelation, the results of Breusch-Godfrey (BG) tests as shown in table 2 strongly reject the null hypothesis of no correlation at the 5% significance level for both markets, which is similar to the findings of Bohl and Siklos (2008), and Yang (2015).

Table 2 Serial correlation and unit root test - full sample

	Log-return		First difference	
Time series	**China**	**USA**	**China**	**USA**
Serial correlation				
Durbin Watson t-statistics	2.004555	1.999687		
Breusch-Godfrey p-values	0.0012	0.3035	0.0017	0.0029
Unit root				
Augmented Dickey-Fuller Test	-2.651877*	-0.627424	-51.13191***	-40.80066***
Phillips-Perron test	-2.679925*	-0.633335	-51.23338***	-58.2284***

***, ** and * significant at 1%, 5% and 10% level respectively.

GARCH

Model description

The bivariate GARCH model was originally proposed by Bollerslev (1986) with one equation for the conditional mean and one for the conditional variance of stock returns as follows:

$$r_{it} = \delta + r_{j(t-1)}\theta + \epsilon_t, \qquad \epsilon_t | I_{t-1} \sim N(0, H_t)$$

(1)

The model assumes the return of one market at time t, r_{it}, is a function of the return of another market at previous day t - 1, $r_{j(t-1)}$ and residual factors ϵ_t, which is governed by the covariance $H_{ij,t}$:

$$H_{ij,t} = \omega + \sum \alpha_{ij}\, \epsilon^2_{ij,t-1} + \sum \beta_{ij}\, \sigma^2_{ij,t-1} + Z'_t\pi \tag{2}$$

The covariance of the residuals is a function of three factors, a constant term ω, the past information about the volatility at time t - 1 measured by $\epsilon^2_{ij,t-1}$ aka the ARCH term, and the past variance at time t - 1, $\sigma^2_{ij,t-1}$ aka GARCH term. α and β are estimated coefficients. The analysis is also conducted on both the general GARCH model and the GARCH-in-mean (GARCH-M) model which was developed by Engle, Lilien, and Robins (1987), in which the variance of stock returns, $\sigma^2_{i,t}$, is added into the mean equation:

Conditional mean of GARCM-M (1,1): $$r_{i,t} = \delta + r_{j(t-1)}\theta + \lambda\sigma^2_{i,t} + \epsilon_t \tag{3}$$

λ and θ are estimated coefficients. The setting of the GARCH-M model specifies that the variation in stock returns is also explained by its expected risk measured by the variance. This assumption is strongly supported by economic implications because an expected stock return and expected risk are positively correlated under the risk-return trade-off theory (Summers, 1967). Higher volatility is more likely lead to higher expected returns since a rational or risk-averse investor will require an additional risk premium for every additional unit of risk. In other words, the expected return and volatility measured by risk premium or variance are positively related. According to the information criteria, the GARCH-M-GED is the best fit model to the data used for both markets among other models. As expected, the variances coefficients are significant for both models confirm correct specification. In addition, positive coefficients show a positive relationship between the return and the variances. This is consistent with the risk-return trade-off as previously mentioned.

Empirical results

Table 3 presents the estimated parameters for the coefficients for a general GARCH (1,1) and a GARCH-M (1,1) at three different error distributions i.e. Gaussian, student's t and Generalised Error (GED). The best fit model is selected based on the information criteria including Akaike Info Criterion, Schwarz criterion, and Hanna-Quinn Criteria. The smaller the value of those tests is, the better the model fits to the data used. It shows that GARCH-M with GED distribution with smallest value of the information criteria is the most fitted model to the data under review for both markets. For this reason, we will only analyse the results of GARCH-M model with GED distribution (in short GARCH-M).

There are four major findings relating to the nature of the linkages between the SSE and S&P 500. Firstly, p-values of λ and θ when the S&P 500 is the regressor are less than 0.01, which strongly rejects the null hypothesis at the 1% significance level, indicating the daily return of the SSE is influenced by its standard deviation and the past return of the S&P 500 which is consistent with the study of (Li, 2007; Mohammadi & Tan, 2015). In contrary, the p-values of those coefficients when the S&P 500 is the regressand are higher than 0.01 which fails to reject the null hypothesis at the 1% significance level. This result implies that the return of the S&P 500 is impacted neither by its standard deviation nor the past return of the SSE.

In the variance equation, p-values of all estimated parameters for the coefficients including the constants are less than 0.01 which strongly rejects the null hypothesis at the 1% significance level, confirming the robustness of the model in explaining the joint behaviour of volatility for these markets. Since the GARCH and ARCH terms (α and β) for both markets are statistically significant, the results suggest that the volatility in each market is not only explained by its own lagged volatility but also by past volatility in the other market. This is consistent with the findings of Fan et al. (2009) and Moon and Yu (2010), which found bidirectional volatility spillover between stock markets in China and the U.S. This is, however, contrary to most of the empirical studies that found little evidence of volatility spillover or co-movement between these two markets during 2004 to 2010 (Nieh, Yang, & Kao, 2012). Therefore, the results of this analysis demonstrate a major change in the relationship between stock markets in China and the U.S. in the last few years. One possible explanations could be the liberalised trading policies in China in the last decade which was found to be attributable to higher international integration of China (Chiang & Chen, 2016; Tam, Li, Zhang, & Cao, 2010).

The volatility persistent level estimated by the GARCH-M is 0.987 for the S&P 500 is lower than the SSE (0.995), implying that shock volatility in the U.S. is more short-lived than in China, in general. However, existing literature does not focus on driving factors of volatility persistence in different stock markets. Among relevant studies, Liesenfeld (2001) found "the rate of information arrival and market sensitivity to that information" are major factors explaining the persistence of volatility of the exchange rate markets. It suggests that market sensitivity is associated positively with the persistence in volatility (Berger, Chaboud, & Hjalmarsson, 2009). Hence the results may imply that investors in China are more sensitive to the information than in the U.S. market. It also shows that the sum of ARCH and GARCH parameters ($\alpha + \beta$) for both markets is close to 1, which implies the volatility shocks in those markets are quite persistent. In other words, past volatility has a significant part in forecasting the expected volatility in many periods ahead (Mandelbrot, 1963). This has also confirmed by the significance of all coefficients in the conditional variance model for these markets in different GARCH models.

Table 3 Estimated coefficient parameters and p-values for different GARCH models

Dependent variable: China (SSE)
Regressor: Daily returns of S&P 500 at one lag

	General GARCH			**GARCH-M**		
	Gaussian	**Student's t**	**GED**	**Gaussian**	**Student's t**	**GED**
Conditional mean equation						
δ (constant)	0.0003115 (0.2141)	0.000723 (0.0017)	0.000438 (0.0208)	0.000188 (0.812)	-0.0008 (0.2604)	-0.001044 (0.0772)
θ (past return of S&P 500)	0.218486 (0.0000)	0.187054 (0.0000)	0.112518 (0.0000)	0.218575 (0.0000)	0.18766 (0.0000)	0.112141 (0.0000)
λ (standard deviation of SSE)	N/A	N/A	N/A	0.009825 (0.8643)	0.112476 (0.0245)	0.113593 (0.008)
Conditional variance equation						
ω (constant)	1.90E-06 (0.0000)	2.47E-06 (0.0034)	2.14E-06 (0.0107)	1.90E-06 (0.0000)	2.51E-06 (0.0032)	2.21E-06 (0.0097)
α (ARCH)	0.055906 (0.0000)	0.066397 (0.0000)	0.062126 (0.0000)	0.055905 (0.0000)	0.067176 (0.0000)	0.063369 (0.0000)
β (GARCH)	0.938849 (0.0000)	0.932268 (0.0000)	0.933733 (0.0000)	0.93885 (0.0000)	0.931721 (0.0000)	0.932392 (0.0000)
α + β	0.994755	0.998665	0.995859	0.994755	0.998897	0.995761
Information criteria						
Akaike info criterion	-5.540409	-5.625418	-5.65092	-5.539674	-5.626491	-5.652512
Schwarz criterion	-5.529427	-5.61224	-5.637742	-5.526495	-5.611116	-5.637137
Hannan-Quinn criteria	-5.536436	-5.620651	-5.646153	-5.534907	-5.620929	-5.64695

Dependent variable: US (S&P 500)
Regressor: Daily returns of SSE at one lag

	General GARCH			GARCH-M		
	Gaussian	**Student's t**	**GED**	**Gaussian**	**Student's t**	**GED**
Conditional mean equation						
δ (constant)	0.000599 (0.0003)	0.000811 (0.0000)	0.000631 (0.0000)	-0.00011 (0.8124)	0.000169 (0.6742)	0.00017 (0.6596)
θ (past return of SSE)	-0.000141 (0.9868)	-0.000729 (0.9353)	0.0003212 (0.6973)	0.001342 (0.8758)	0.000348 (0.9692)	0.002175 (0.7932)
λ (standard deviation of S&P 500)	N/A	N/A	N/A	0.088849 (0.1000)	0.081361 (0.0832)	0.056829 (0.2119)
Conditional variance equation						
ω (constant)	2.23E-06 (0.0000)	1.65E-06 (0.0003)	1.90E-06 (0.0002)	2.22E-06 (0.0000)	1.67E-06 (0.0003)	1.91E-06 (0.002)
α (ARCH)	0.103724 (0.0000)	0.113084 (0.0000)	0.10928 (0.0000)	0.103783 (0.0000)	0.114782 (0.0000)	0.110224 (0.0000)
β (GARCH)	0.878584 (0.0000)	0.88377 (0.0000)	0.879577 (0.0000)	0.878664 (0.0000)	0.882137 (0.0000)	0.87861 (0.0000)
α + β	0.982308	0.996854	0.988857	0.982447	0.996919	0.988834
Information criteria						
Akaike info criterion	-6.431793	-6.483866	-6.50335	-6.431937	-6.484142	-6.503137
Schwarz criterion	-6.420811	-6.470687	-6.490172	-6.418759	-6.468768	-6.487763
Hannan-Quinn criteria	-6.427821	-6.479099	-6.498583	-6.42717	-6.478581	-6.497576

Note: The numbers in brackets are the p-values. The numbers in red are the coefficients that are statistically significant.

CONCLUSIONS AND RECOMMENDATIONS

This article investigated cross-equity linkages between the U.S. and China over the last ten years using a bivariate GARCH-M with GED distribution (1,1). The results suggest that the Chinese market is more sensitive to the information from the U.S. market than vice versa. Compared with the previous empirical studies which used less recent data and found negligible evidence of volatility spillover, the results of this analysis reveal a shift in the relationship between China and the U.S. from one-way to two-way which could be a result of various factors such as China’s liberalised capital policies. It creates an opportunity to expand the study sample to examine the relationship between China and other major economies and its neighbouring countries. It is also of interest to further study the changes in the volatility relations before and after those policies.

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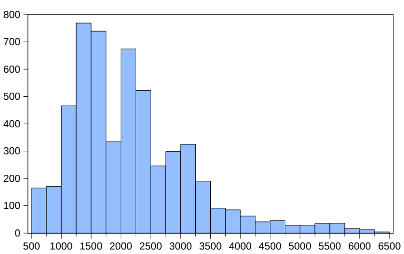
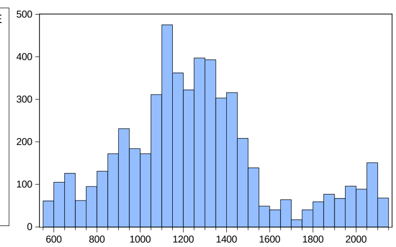
APPENDIX A

This appendix provides information about the distribution of stock prices for the SSE and S&P 500. The histogram for SSE prices are positively skewed with positive skewness of 1.2 and has fat tails with kurtosis of 4.75 which is higher than symmetrical distribution kurtosis of 3. The S&P 500 is slightly skewed to the right (skewness of 0.5) and very close to normal distribution (kurtosis is 3.14). However, the histogram shows that the observations are not symmetrically distributed and tend to clustered around the left hand side. Normality distribution can be tested using Jarque-Bera test. The p-value of 0.0000 of both price series rejects the null hypothesis of normality which indicates the price distribution is not statistically significantly normal.



Series: SHANGHAI_SE_A_SHARE	
Sample 9/01/1995 4/18/2016	
Observations 5382	
Mean	2168.497
Median	2033.566
Maximum	6395.754
Minimum	531.3800
Std. Dev.	1015.660
Skewness	1.201505
Kurtosis	4.757331
Jarque-Bera	1987.453
Probability	0.000000



Series: S_P_500_COMPOSITE	
Sample 9/01/1995 4/18/2016	
Observations 5382	
Mean	1261.865
Median	1229.695
Maximum	2130.820
Minimum	563.8400
Std. Dev.	354.1132
Skewness	0.567862
Kurtosis	3.143663
Jarque-Bera	293.8817
Probability	0.000000

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Gender and careers: Bottlenecks in the academic pipeline

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Abstract

The barriers confronted by female academics in the Australian academic career pipeline have been widely acknowledged and explored. A lack of knowledge is apparent, however, about the significant bottlenecks present between the two mid-level and two most senior academic levels in academic careers and the role that these bottlenecks play in the subsequent gender inequity at senior organisational levels. The role congruity and self-efficacy theories suggest that differences in career outcomes can be explained by socially stipulated gender roles, highlighting the importance of an investigation and understanding of these pressure points in order to unlock career opportunities for female academics.

Keywords**:** *Women and work, Equal employment opportunity, Gender in organisations.*

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INTRODUCTION

The workforce participation of women has increased substantially over the last few decades, but this has not resulted in an equal share of senior management positions. It has been suggested that the movement towards gender equity has come to a halt (Pedulla & Thébaud, 2015). Gender fatigue, or the loss of the will or ability to address gender inequity, may be partially responsible for the standstill in the efforts towards organisational gender equity. Australian academia is no different. It has been widely acknowledged that this industry is vertically segregated and that female academics are significantly less likely to progress to higher classifications in an academic career. The academic career trajectory has been referred to as the academic pipeline and consists of five levels commencing at level A (Associate Lecturer) and culminating at level E (Professor). Research further suggests that female academics are more likely to withdraw, or opt-out (Eddy & Ward, 2015), of academic positions in favour of private employment in an attempt to improve their work-life balance (WLB). Eddy and Ward (2015, p. 6) refer to this phenomenon as "the leaky pipeline". According to West and Curtis (2006, p. 4) this leakiness places "serious limitations on the success of educational institutions themselves" and Eversole, Harvey, and Zimmerman (2007, p. 2) warn that universities "may be losing some of the best and brightest women". Various barriers that contribute to the vertical segregation in academia and the "leaky pipeline" have been identified and are presented in the discussion of barriers to gender equity.

The pipeline theory proposes that the increase of women in the workforce will ultimately result in an equal representation of women in senior management positions (Gregory, 2003; Helfat, Harris, & Wolfson, 2006). The basis of the pipeline theory is the notion that the imminent retirement of the older, traditional male generation of managers in combination with an influx of junior women guided by younger, more progressive male successors, is likely to increase the career opportunities for women (Morison, White, & Van Velsor, 1992). Ezzedeen, Budworth, and Baker (2015, p. 356) and McCall, Liddell, O'neil, and Coman (2000) challenge this notion and suggest that the pipeline theory may be misguided, proposing that it does not appreciate barrier perceptions or "events or conditions, either within the person or in his or her environment that makes career progress difficult". Furthermore, the suggestion that younger men are more progressive in terms of gender equity is not supported by research with prior literature suggesting that younger men are more familiar with working women and may see them as more of a threat (Ezzedeen et al., 2015) and are consequently less likely to champion their career progression. By acknowledging that the injection of women into the workforce will not automatically result in gender equity at senior classifications, the importance of an understanding and exploration of barriers within the academic pipeline as perceived by female academics is emphasised.

Role Congruity Theory (Eagly & Steffen, 1984) postulates that differences in career outcomes can be explicated by socially stipulated gender roles. The role congruity theory proposes that when an incompatibility is perceived between a person's characteristics and the requirements of a role that a person aims to occupy, this situation creates incongruity and is therefore less likely to occur (Eagly, 2004). Female academics not progressing in equal numbers to men has been attributed to incongruity between their gender and the requirements of senior classifications. The data presented by the Department of Education and Training (2017) clearly indicates that female academics are progressing up to a certain classification at the same pace as their male colleagues, but not beyond. This situation may imply that role congruity exists in the lower classifications, but that advancing past a certain level may create incongruity.

Self-efficacy relates to an individual's beliefs about his/her capabilities to successfully "perform a given task or behaviour" (Betz & Hackett, 1997, p. 384). Self-efficacy can be argued to be interrelated with role-congruity, since cultural and organisational norms concerning congruity relating to gender and employment will directly influence women's self-efficacy beliefs, shaping their confidence in relation to promotions and career aspirations, particularly for non-traditional occupations (Betz & Hackett, 1997).

Research by Everett (1990) conducted 27 years ago is of particular interest as it found that male academics at eight Australian universities believed that equal opportunities had been attained, while female academics did not. Statistics clearly indicate that, to this day, equity has not been achieved, despite various Federal legislation and organisational policies. The lack of career progression for female academics has been widely acknowledged, both internationally, in countries such as Mauritius (Thanacoody, Bartram, Barker, & Jacobs, 2006), Iceland (Heijstra, Bjarnason, & Rafnsdóttir, 2015), England (Unterhalter, 2006), Israel (Toren, 1988), the United States of America (Su, Johnson, & Bozeman, 2015), as well as in Australia (Marchant & Wallace, 2013; Probert, 2005; Pyke, 2013). Data from the Department of Education and Training (2017) suggest that in Australian academia there are specific sticking points, or "bottlenecks" (Yap & Konrad, 2009, p. 593) or "hurdles" (Toren & Moore, 1998, p. 267), decelerating the career progression of female academics. According to the Department of Education and Training (2017) there is a 36% decrease in the number of female academics employed between levels B and C (Lecturer and Senior Lecturer) and a further 11% reduction between levels C and D (Senior Lecturer and Associate Professor). Research exploring these bottlenecks and their impact on gender inequity at senior academic classifications is, however, notably absent.

This paper will explore the challenges facing Australian academics, particularly in relation to gender equity at universities and present the barriers to the career progression of female academics identified in existing literature. The final sections will highlight areas suitable for further research and present options for universities and policy makers for future gender equity agendas.

CHALLENGES FACING AUSTRALIAN ACADEMIA

Australian academia has experienced drastic organisational changes over the last decades. The Dawkins reforms (Gamage, 1993) and the introduction of New Public Management (NPM) (Christensen & Lægreid, 2011) in the early 1980s drastically altered the demographics and operating procedures of Australian universities and resulted in the "corporitising" (Szekeres, 2006) of these organisations. The impact of these changes have been widely documented and explored (Bellamy, Morley, & Watty, 2003; Bentley, 2012; Christopher & Leung, 2015; Thornton, 2008) and will be discussed in the following sections.

The Dawkins reforms initially boosted the number of women, who had historically been underrepresented in academia, in the staff profile of the newly created 36 universities (Gamage, 1993). At this time academic positions were ranked into five levels (A = Associate Lecturer, B = Lecturer, C = Senior Lecturer, D = Associate Professor and E = Professor) introducing a new hierarchy of authority (Guthrie & Neumann, 2007). Globalisation, the growth of the internet and the upsurge in national as well as international demand for Australian tertiary education, resulted in an additional reshaping of Australian universities, particularly in combination with NPM's "new system of competition and demonstrable performance" (Marginson & Considine, 2000, p. 5). The Australian public sector was an early adopter of NPM in the 1980s (Parker, 2011). NPM refers to "the global wave of administrative reforms that has had an impact on many countries' public sector over the last 25 years" (Christensen & Lægreid, 2011, p. 1). Privatisation, competition and performance management (Christensen & Lægreid, 2011), decentralisation and increased competition (Christopher & Leung, 2015) are central characteristics of this management approach. As the majority of Australia's universities are publicly operated NPM directly applied and these organisations were therefore held to a new standard and expected to use their resources more efficiently. This new approach has been referred to as "academic capitalism" (Ferree & Zippel, 2015, p. 561). The focus on managerial authority and accountability resulted in the Australian Government implementing a funding cut, forcing universities to shift towards a consumer based market approach (Subramaniam, 2003). To increase external funding universities commenced marketing education as a commodity, competing with other universities to increase student numbers, particularly in response to the heightened overseas demand for tertiary education (Gamage, 1993).

The combination of changes to Australian academia has, according to Pratt and Poole (1999) altered universities from being local and insular to global and uncertain. The inherent tension between the traditional, collegial culture of universities with the newly enforced corporate culture were resolved by adopting an altered version of NPM or "pseudo-management approach" (Christopher & Leung, 2015).

Universities, forced to obtain alternative sources of revenue, increased student numbers, while simultaneously increasing the pressure on academics to conduct research (Baumann, 2002).The combination of these changes have resulted in a declining attractiveness of the academic profession (Dorman, 2000; Lafferty & Fleming, 2000) with an increasingly corporate environment usurping the historically collegial character of academia (Lafferty

& Fleming, 2000). According to Blackmore (2014) two-thirds of Australian academics indicated that work conditions have deteriorated. This finding is corroborated by a study comparing the job satisfaction of academics from 18 countries, finding that Australian academics reported significantly lower levels of job satisfaction than the majority of their international colleagues, as well as Australians employed in other industries (Coates et al., 2009). In light of concerns regarding the sustainability of the academic workforce as a result of the ageing workforce (Hugo, 2005) and the "opt-out" revolution (Eddy & Ward, 2015) the deteriorating appeal of academia has resulted in calls for early workforce planning to maintain and repopulate the academic workforce (Coates et al., 2009). In response to concerns regarding the loss of talent of the female academics who opt-out, August and Waltman (2004) propose that universities must retain female academics by creating a work environment that is conductive to their work and career satisfaction. In order for this to be achieved, research exploring the perceived barriers within the academic pipeline is required in order to identify and combat these pressure points in the academic pipeline, thereby unlocking practical career opportunities for female academics.

GENDER EQUITY

The economic impact of globalisation has resulted in an increase in employment opportunities for women, albeit predominantly in lower classifications (Moghadam, 2015). The disintegration of the Male Breadwinner Model (MBM) in Australia has further contributed to an increasing number of women entering the workforce over the last few decades (Pedulla & Thébaud, 2015). Women remain, however, clustered in lower classifications and are hugely underrepresented in senior positions (Glass & Cook, 2016). Various terminologies describe the career trajectories of women. A *threshold* is an obstacle located at the point of recruitment (Toren & Moore, 1998), while the *sticky floor* is a reference to the concentration of women employed at lower classifications without further career opportunities available to them (Yap & Konrad, 2009). *Hurdles* (Toren & Moore, 1998, p. 267), *funnelling* (Peetz, Strachan, & Troup, 2014, p. 7) and *bottlenecks* (Yap & Konrad, 2009, p. 593) refer to barriers that women face around middle management, rather than at lower classification or just before senior management positions. The *glass ceiling* is a widely used term that denotes the invisible, yet powerful, barrier that precludes women from reaching higher classifications (Powell & Butterfield, 2015).

Baxter and Wright (2000) suggest that the glass ceiling hypothesis proposes that the barriers faced by women in the workforce increase in severity as one progresses through the employment hierarchy. In the case of the academic pipeline, according to the Department of Education and Training (2017), this is not the case and the barrier that female academics face between levels B and C is in fact the most significant obstruction of their careers, resulting in the largest reduction in female academics employed between two consecutive classifications. For this reason, the term bottleneck (Yap & Konrad, 2009, p. 593), appears most exact in describing the (non) movement of female academics along the academic pipeline. This aspect highlights the realisation that, rather than a glass ceiling, female academics face several bottlenecks in their career progression, ultimately resulting in the glass ceiling and significant inequity at senior classifications.

BARRIERS TO THE CAREER PROGRESSION OF FEMALE ACADEMICS

The cause of the academic gender gap has been referred to as "complex and multi-faceted" (Aiston & Jung, 2015, p. 205). Ample studies have been conducted in an attempt to identify the barriers that are encroaching on the career progression of female academics, both in Australia and internationally (Abele & Spurk, 2009; Chesterman, Ross-Smith, & Peters, 2005; Heijstra, Steinthorsdóttir, & Einarsdóttir, 2016; Reilly, Jones, Rey Vasquez, & Krisjanous, 2016; Thanacoody et al., 2006). For the purposes of this paper, the author has summarised the previous literature and categorised barriers as cultural, organisational or individually formed. This summary is presented in Table 1.

Table 4: A summary of barriers to the career progression of female academics as identified in the literature

Cultural barriers	Organisational barriers	Individual barriers
Privileging men's careers (Baker, 2010).	Historic dominance of men (Baker, 2010) and university culture (Diezmann & Grieshaber, 2010).	Women publishing less (Aiston & Jung, 2015).
Gender expectations (Winchester & Browning, 2015).	Gendered organisation (Subbaye & Vithal, 2016).	Women teaching more (Angervall, 2016).
Gender stereotyping (Ropers-Huilman, 2000).	Pay inequity (Probert, 1998).	Family commitments (Winchester & Browning, 2015).
Ideal worker expectancy (Barnett, 2004).	Systematic bias against female researchers (North-Samardzic & Gregson, 2011).	Lack of career confidence (Subbaye & Vithal, 2016).
Mother mandate expectations (Lampic, Svanberg, Karlström, & Tydén, 2006).	Lack of mentor (Dever & Morrison, 2009).	Choice and aspirations (Probert, 2005).

According to Peetz et al. (2014) the existing barriers are "inter-related" and an examination of Table 1 highlights that various identified barriers affect and interact with other categories and barriers. To illustrate; gender stereotyping is categorised as a societal barrier, but will clearly present barriers at the organisational and individual levels too. A study by Diezmann and Grieshaber (2010) indicates that just one of these barriers can have a serious effect on a woman's career, highlighting the importance of additional research into this phenomenon.

CONCLUSION

An analysis of the literature regarding the careers of female academics indicates that their careers progress at a significantly slower pace than those of their male colleagues. The specific bottlenecks identified in data from the Department of Education and Training (2017), however, appear largely ignored in previous research. Thus far, international charters, Federal legislations and various organisational policies have, as yet, not been successful in achieving gender equity at Australian universities. This lack of real progress highlights the importance of an investigation into the current bottlenecks faced by female academics as it suggests that current gender equity approaches are not achieving change at the source of the inequity. The author intends to conduct a qualitative case study to comprehensively explore the perceptions of female academics at various classifications about their career opportunities and factors inhibiting them from attaining higher classifications. The findings of such a study can provide policy makers and universities, both within Australia and internationally, with data regarding the dynamics at these pressure points. This knowledge can assist in devising a strategic approach to improving the career prospects of female academics, ultimately working toward creating an environment where female and male academics genuinely have the same career opportunities.

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Impact of corporate governance on capital structure of Pakistani firms

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Abstract

The purpose of this study is to empirically test the impact of corporate governance measures on the capital structure choices of oil and gas industry of Pakistan. Pooled Ordinary Least Square Model was employed to test the data is collected from PSE-30 index form 2006-2015 from their published annual reports. The results showed that number of committees at the board are positively and significantly associated with the financing decisions of the firms. However, board independence showed a negative but insignificant relation with the leverage ratio. Other explanatory variables showed no relation with the financing decisions. The control variables firm age and firm size are positively while profitability and shareholder equity are significantly but negatively related with the leverage ratio. The findings of this study will help corporate managers in the formulating the optimal capital structure. This study is significant for the policy makers to make new regulations to work more effectively in the corporate governance sector of Pakistan. It will also fill the gap of available literature on corporate governance in Pakistan.

Keywords**:** *Corporate Governance, Capital Structure and Leverage.*

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INTRODUCTION

The relation between corporate governance and capital structure is one of the topics in corporate finance that has received much attention from practitioners and scholars in the past couple of decades (Sheikh & Wang, 2012). Recent studies in the field of corporate governance in Pakistan advocates its impact on financial and non-financial performance of the listed firms. However, it is evident that financial performance is based over the financial decisions made by a firm (Butt & Hasan, 2009). The use of the available funding is the vital decision made by a firm to finance its assets.

A lot of research has been conducted in the modern and developed economies on corporate governance but little is known about the developing countries like Pakistan (Sheikh & Wang, 2012). The impact of corporate governance measures like board size, independence of board, proportion of female directors at board and number of committees at board etc. on capital structure choices of Pakistani corporate sector is very narrow. Impact of female directors on capital structure choices is the aspect of the corporate governance that has never been studied before in Pakistani corporate research. This study will also fill the gap of available literature on Pakistan on corporate governance and capital structure choices.

Several studies have shown that the corporate governance measures that have influence on the financing decisions of the firms are board size, independence of board and number of committees at board (Abor, 2007; Christensen, Kent, & Stewart, 2010; Sheikh & Wang, 2012).

The rest of this paper addresses data collection and methodology adopted to test the hypotheses. Further, it will discuss the analysis and results followed by conclusions and recommendations.

DATA AND METHODOLOGY

The purpose of this research paper is to find out how the measures of corporate governance impact the financing decisions of the Pakistani firms. The measures of corporate governance incorporated in this paper are Board Size, Independence of Board, Number of Committees at board and Proportion of Female Directors on the board. The dependent variable used in this study is leverage.

Variables

This study employs leverage as dependent variable. The explanatory variables are board size, independence of board, number of board committees and number of female directors at board. In addition, the control variables are added into the econometric model i.e. firm age, firm size, shareholder equity and profitability. These variables are defined in the table I. The definitions of the variables are majorly adopted from the existing literature. All these variables' data is collected from the annual published reports so the book values of all the variables are incorporated in this study.

Table I Definition of Variables

Variables	*Definitions*
Dependent Variables	
Leverage (LEV)	Ration of Total Debt to total Equity
Explanatory Variables	
Board Size (BS)	Logarithm of number of board directors
Independence of Board (BI)	Percentage of independent directors to total number of directors
Number of Board Committees (COMM)	Natural log of the number of committees working with the board
Female Director at Board (FEM_DIR)	Percentage of female directors to total directors
Control Variables	
Firm Age (F_AGE)	Natural log of the age of the firm in years
Firm Size (FS)	Logarithm of total assets
Profitability (PROF)	Net Income after tax divided by total assets
Shareholder Equity (SE)	Log of difference between total assets and total debt

Data

The data was collected from the published annual reports of Pakistan Stock Exchange PSE 30 index companies excluding the financial firms over ten years i.e. from 2006-2015. The rationale to select 30-index is that this proportion of the market consist of 85% of the total volume of the market. Financial Reports are used to gather the financial data. Initially all 30 firms were selected. However due to the unavailability of the data only 22 firms have been selected for this study.

Methodology

This study employs panel data methodology as the data consist of number of cross sections over a period. Panel data methodology is more appropriate to identify the effect of cross section and time series data together. The basic regression model is given as under:

$$Y_{it} = \alpha + \beta_1 X_{it} + \mu_{it}$$

Where i =1……………….22, t =1………………….10

Where i represents the cross sections i.e. the firm of the PSX 30-index and t donates period or number of years the data has been collected to study. Y_{it} is the dependent variable for i cross sections for t periods i.e. capital structure measured by leverage-LEV, α is the intercept, β is the slope of the explanatory variables X for all cross sections over the period. The explanatory variables used in this study are BS, BI, COMM, FEM_DIR, F_AGE, FS, PROF and SE. μ_{it} is the error term defined as the unobservable variables that can create the disturbance in eq.

The Pooled Ordinary Least Square Method-OLS is used to analyze the data set and to estimate the regression coefficients. The following two OLS models were employed to investigate the impact of corporate governance on capital structure of Pakistani non-financial sector from 2006-2015.

$$LEV_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 COMM_{it} + \beta_4 FEM\_DIR_{it} + \beta_5 F\_AGE_{it} + \beta_6 FS_{it} + \beta_7 PROF_{it} + \beta_8 SE_{it} + \mu_{it} \ldots\ldots \quad (1)$$

Where, LEV_{it} is the leverage of *i* cross section over *t* periods. *BS* represent board size, *BI* denotes independence of board, *COMM* denotes number of board committees, number of female directors is denoted by *FEM_DIR*, age of the firm is denoted by F_AGE, firm size by FS, *PROF* denotes the profitability and *SE* denotes the shareholder equity.

RESULTS

Descriptive Statistics: Table II exhibits the descriptive statistics of all the dependent, explanatory and control variables used in this study. The mean value of leverage ratio is 1.02. It shows that the trend to use debt is quite higher as compare to the other developed and developing economies (Berger, Ofek, & Yermack, 1997; Sheikh & Wang, 2012). The concentration of independent director is only 6.66 percent which shows very low representation of minority shareholders on the board. In 73 percent cases there are several committees at boards, female directors mean value is 6.788. The profitability ratio is 8.7 percent.

Table II Descriptive Statistics

Variables	*Observations*	*Mean*	*St. Deviation*	*Minimum*	*Maximum*
$\boldsymbol{LEV_{it}}$	212	1.021686	6.586928	-8.567759	14.97840
$\boldsymbol{BS_{it}}$	212	2.240822	0.243842	1.791759	2.708050
$\boldsymbol{BI_{it}}$	212	0.666691	0.324742	0.000000	1.000000
$\boldsymbol{COMM_{it}}$	212	0.734733	0.555506	6.030490	10.42362
$\boldsymbol{FEM\_DIR_{it}}$	212	6.788726	9.506626	0.000000	42.85700
$\boldsymbol{F\_AGE_{it}}$	212	3.367906	0.833106	0.000000	5.094000
$\boldsymbol{PROF_{it}}$	212	0.087613	0.202265	-1.632757	0.770791
$\boldsymbol{FS_{it}}$	212	7.653575	0.647799	6.030490	10.42362
$\boldsymbol{SE_{it}}$	212	5.268006	1.553009	1.959120	11.54784

Correlation Matrix: Estimation of regression coefficients require to check for the multicollinearity among the variables. The data was checked and no genuine issue of correlation was found among the variables.

Table III Correlation Matrix

	BS	*BI*	*COMM*	*FEM_DIR*	*F_AGE*	*FS*	*SE*	*PROF*	*LEV*
BS	1.0000								
BI	0.3728	1.0000							
COMM	0.3130	0.3194	1.0000						
FEM_DIR	-0.1729	-0.0443	-0.0347	1.0000					
F-AGE	0.1432	0.2548	0.0770	-0.1141	1.0000				
FS	0.0570	-0.1263	0.2398	0.0909	0.0421	1.0000			
SE	0.0067	-0.0991	0.2992	0.1777	-0.0137	0.2984	1.0000		
PROF	0.1114	0.1498	0.3055	-0.0784	0.0277	0.1575	0.1978	1.0000	
LEV	0.1214	-0.0772	-0.1196	-0.1570	0.1635	0.0946	-0.2346	-0.2560	1.0000

Regression Results: Regression results of the model explained above are shown in the table IV. The results exhibit that the coefficient of number of committees are positively and significantly associated with the leverage ratio. Other independent variables i.e. board size, independence of board and number of female director on board showed no significant relation with the financing decisions. Control variables profitability and shareholder's equity are significantly and negatively related with the leverage ratio. However, firm size is significantly and positively associated with the leverage. Firm age showed no relation with the leverage ratio.

The OLS regressions have high adjusted R^2 i.e. 79.65 percent and appear to be able to explicate variations in the capital structure. Standard error of the regression is as lower as 9.07 percent. Moreover, the F-statistic confirms the significance of the estimation model.

Table IV Regression Results

Variables	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C	0.537209	0.072878	7.371393	0.0000
BS_{it}	0.013078	0.029591	0.441969	0.6590
BI_{it}	-0.028810	0.023356	-1.233500	0.2189
$COMM_{it}$	0.035433	0.013741	2.578655	0.0106
FEM_DIR_{it}	0.001002	0.000700	1.431200	0.1539
F_AGE_{it}	0.011962	0.008176	1.463034	0.1450
FS_{it}	0.680546	0.027794	24.48496	0.0000
$PROF_{it}$	-0.095404	0.019033	-5.012680	0.0000
SE_{it}	-0.295642	0.011994	-24.64887	0.0000

Notes: R^2 0.7965; Mean Dependent Var 0.1656; Adjusted R^2 0.7882; Std. error of Regression 0.0907; F-Statistic 96.8756; Prob. 0.0000

DISCUSSION

Board size is statistically insignificant related to the leverage ratio. This is inconsistent with the resource dependence theory that discusses that larger board sized used to incorporate more debt into the capital structure. These results may portray the lending nature of the corporate sector of Pakistani listed companies. However, several studies showed a significant and positive relation of board size and leverage ratio (Abor, 2007; Anderson, Mansi, & Reeb, 2004; Bokpin & Arko, 2009).

The coefficient for the board independence showed a negative value that exhibits and negative but insignificant relationship between independence of board and leverage ratio. It implies that apart from the vigilant monitoring role of the independent directors, Pakistani top 30 listed non-financial firms, independent directors do not tend to include more debt into the capital structure. This is may be due to the reason that most firms do not have a bigger proportion for the independent directors. Wen, Rwegasira, and Bilderbeek (2002) reported a negative but significant relationship between leverage and independence of directors. However, contrary results have been showed by a number of studies previously (Anderson et al., 2004; Berger et al., 1997).

Number of committees at board is positively and significantly associated with the leverage ratio. The findings are consistent with the previous literature (Sheikh & Wang, 2012; Yasser & Mamun, 2015). The results suggest that the board is more efficient if it comprises of several committees formed for specified tasks. Moreover, Female directors' presence at board is insignificant to the leverage. This is obvious as there is very low proportion of the female directors in Pakistani corporate culture.

The control variable, firm age, is insignificant, as there is no evidence of association between the age of a firm and its leverage ratio. The findings are consistent with the previous studies (Bokpin & Arko, 2009; Yasser & Mamun, 2015). Frim size is positively and significantly related to the leverage. These findings are consistent with the trade-off model of capital structure. It implies that in Pakistani top 30 non-financial companies the bigger the firm size the more is the need to finance the assets that lead to include more debt in the capital structure. The negative and significant relationship between profitability and shareholder equity are consistent with the pecking order hypotheses. This elaborates that the firms that have more profitability and are equipped with more shareholder equity tends to borrow very less as compare to the firms that are not much profitable and have lower shareholder equity.

CONCLUSION AND RECOMMENDATIONS

This study focused to empirically test the impact of corporate governance practices on the capital structure choices of Pakistani 30-index non-financial firm listed at Pakistan Stock Exchange-PSX from 2006-2015. The findings of this study revealed that board size, independence of the board and presence of female directors on the board are insignificant to the leverage ratio. However, the number of committees at the board are significantly associated with the financing decisions of the firms. The control variables like profitability and shareholder equity are significantly and negatively related to the leverage ratio. However, firm size is positively and significantly related to the financing decisions. The only control variable that was found insignificant in this model was firm age.

Although several steps have already been taken by Pakistan government to improve the corporate governance mechanism in Pakistan, Pakistani corporate sector still going through a weak governance mechanism as compared to other developing and developed countries. This study will surely provide an insight for the government officials, researchers and scholars to develop governance measures in relation to the capital structure of the firm in Pakistan.

Future research can be done to gather more results by including more corporate governance measures like managerial ownership, CEO duality, directors' remuneration, ownership concentration etc. Results can also be authenticated by including more firms into the sample with data of more than ten years.

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Interdependence of REIT market volatility under an E-GARCH-M framework

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Abstract

This study employs a bivariate E-GARCH-M model at one lag on weekly returns of major REITs markets in six countries including Australia, Hong Kong, Japan, Singapore, the UK and the US during and after the crises periods of the Sub-prime Mortgage Crisis, Global Financial Crisis and European Debt Crisis. The results found cross-market linkages vary with countries and changed significantly after the crises period. We find the returns of REITs in Australia, the UK and US to be segmented, and interdependence for Hong Kong, Japan and Singapore markets. In terms of volatility spillovers, the size effect impacts weekly volatility of the three Asian markets. We also find significant asymmetric effects of volatility spillovers between markets during the crises period, but this only persists for the Australian and Singaporean markets following in the post-crisis period. Past volatility has a persistent explanatory effect on current volatility in all the markets examined. Our findings have implications for investors looking to build a diversified portfolio of international real estate investments.

Keywords**:** *Volatility spillovers, E-GARCH, REITs.*

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INTRODUCTION

Real estate investment trusts (REITs) are securitised, publicly tradeable forms of real estate investments. REITs allow investors to access commercial real estate as an alternative asset class, thereby expanding the potential for diversification benefits beyond asset classes such as shares and bonds. In 2016, the global REIT market was valued at approximately US$1.7 trillion. The US dominates two-thirds of the global REIT market by capitalisation due to its maturity. Australia, Hong Kong, Japan, Singapore and the UK represent 30% of global REIT market share, and are also regarded as established, mature markets. The remainder of global REIT market capitalisation is spread across 25 countries, still considered nascent and emerging (EY, 2016). Low interest rates, steady income streams from tenants and the proliferation of managed institutional investments have contributed to the global growth in REITs. Real estate has been traditionally viewed as defensive assets against downturns in listed equity markets. However, REITs are listed and trade on the same exchanges as equities, therefore market shocks can have an impact on returns and volatility (Gyourko & Keim, 1992; Liu & Mei, 1994). Our paper aims to examine the transmission of volatility spillover between the six established and mature REIT markets, paying particular attention to the size impact of shocks, and the asymmetric effect of bad news from one market on volatility of another market compared to good news of the same size.

Studies on the integration of domestic real estate markets have focussed on REITs in the U.S., with equity, hybrid and mortgage types, due to the availability of long-term time series data. REIT markets were found to be interdependent over the long-run (Payne & Mohammadi, 2004; Chong, Krystalogianni & Stevenson, 2012). When there is an increase in the volatility of joint distributions of two markets caused by an unexpected shock in one of the markets, this is commonly known as volatility spillover. Ezzati (2013) found in the short-term, there are volatility spillovers between REIT markets even if long-run cointegrating relationships cannot be determined. Moon and Yu (2010) examined the dynamics of correlations between markets over time and found that correlations between REIT sub-sectors were time varying and significantly increased after 1990, especially during periods of market distress.

Two major areas have been studied in terms of the joint behaviour of REIT markets across different countries. The first area examines the co-movement of REIT returns. Wilson, Okunev, and Webb (1998) examined the market prices of REITs in the US, the UK, and Australia and found these markets to be integrated. Yunus, Hansz, and Kennedy (2012) found evidence of cointegration in the long-run between public and private REIT markets of Australia, the UK and the US, and contemporaneous causality between returns in the short-run from public to private markets. Liow, Ho, Ibrahim, and Chen (2009) also found correlated returns between REIT markets of the US, the UK, Japan, Singapore and Hong Kong, though to a lesser degree than the general stock markets of these countries.

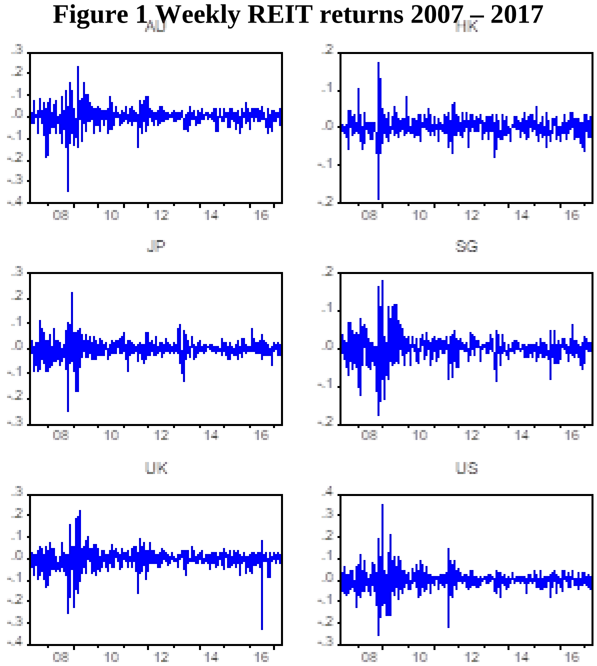
The second area of study aims to investigate the joint dependence of volatility. Most studies found significant evidence of spillover effects among major markets especially during periods of financial crises. Hoesli and Reka (2013) determined the degree of domestic and international spillovers from US REITs to the UK and Australian markets are higher than from these markets to the US. Robust risk spillover was also observed between the US, the UK, Japan, Australia, Hong Kong and Singapore in which cross-market volatility dynamics are more homogenous during periods of downturns than periods of upturns (Zhou, 2013). The relationship between correlation and volatility has also received much attention. Markets are less segmented during periods of increased volatility such as the Global Financial Crisis (Liow & Chen, 2013). Using a model to test for asymmetric effects of positive and negative changes to REIT returns, Pham (2012) also found similar patterns of volatility behaviour from developed Asian REIT markets of Japan and Singapore and Hong Kong, into Malaysia, Taiwan, Thailand and South Korea.

Our study will extend the existing literature of REITs volatility by examining the asymmetrical behaviour of joint dependence between the six major markets by employing a bivariate exponential GARCH-in-mean (E-GARCH-M) model. Zhou (2016) tested various models on intra-day and daily data and found that high-frequency data can be noisy, contain excessive volatility, and interferes with the forecasting of daily volatility of REIT returns. For this reason, we use weekly data to avoid overstating the bivariate volatility relationships between countries.

DATA & METHODOLOGY

Data

Figure 1 Weekly REIT returns 2007 – 2017



Weekly returns of Standard and Poors REIT indices for Australia, Hong Kong, Japan, Singapore, the UK and the US were determined as the log differences between closing index values from one week to the next. The full sample period from the start of January 2007 to the end of April 2017 was divided into two sub-periods. The first sub-period extends from January 2007 to April 2012 and includes the US Sub-prime Mortgage Crisis (SPMC), the 2008 stock market crash and ensuing Global Financial Crisis (GFC), and the height of the European Debt Crisis (EDC). It can be seen on the weekly return diagrams of Figure 1, that the magnitude of weekly price changes were much larger before 2012 than after. So the first sub-period is named the crisis period in this study. The second sub-period extends from May 2012 to April 2017 and is named the post-crisis period. Each sub-period contained approximately 260 weekly observation. One of the primary restrictions of GARCH models is that they enforce a symmetric response of volatility to positive and negative shocks of equal magnitude. However, the E-GARCH-M model provides an alternative view of the volatility-feedback on the conditional variance specification.

E-GARCH-M

To capture cross-market relationships, a combination of the Nelson (1991) E-GARCH model and the Engle, Lilien and Robins (1987) GARCH-in-mean (GARCH-M) model is employed for each pair of markets. A bivariate E-GARCH-M model has two equations, the conditional mean and the conditional variance-covariance equations. The conditional mean of return of a market in relation to the return of another market is governed by a bivariate E-GARCH-M model with a one period lag for the mean and variance-covariance terms, and can be expressed as:

$$R_{i,t} = \alpha + \beta R_{j,t-1} + \gamma\sigma_t + \epsilon_t, \qquad \epsilon_t | I_{t-1} \sim N(0, H_t) \tag{1}$$

where $R_{i,t}$ is a 6×1 vector of weekly returns of market *i* at time *t* and α is a constant. The estimated coefficient, β is a 6×6 vector associated with one-period lagged returns of market *j*. The diagonal elements, β_{ii} measures the effects of own lagged returns while the off-diagonal elements, β_{ij} captures the relations between returns in one market and the past returns of another market. If β_{ij} is different from zero, there is a return spillover effect from market *j* to market *i*. The impact of the standard deviation on the return of a market is denoted by γ, which is a 6×1 vector of estimated parameters. The error term ϵ_t, is a 6×1 vector of residual factors of the return of each market at time *t.* This represents the remaining factors that can explain the return of market *i* but not included in the model, which is also called volatility or strictly speaking unobserved volatility. The error term has a 6×6 variance-covariance matrix H_t which is defined as a GARCH process that is conditional to all available information *I* up to time $t - 1$. The 6×1 vector α, represents constants. The conditional variance-covariance H_t is defined as:

$$H_t = \log(\sigma_t^2) = \omega + \sum_{j=1}^{r} c\left|\frac{\epsilon_{j,t-1}}{\sigma_{t-1}}\right| + \sum_{i=1}^{6} g\left(\left|\frac{\epsilon_{j,t-1}}{\sigma_{t-1}}\right| - E\left|\frac{\epsilon_{j,t-1}}{\sigma_{t-1}}\right|\right) + \sum_{j=1}^{6} m\log(\sigma_{t-1}^2) \tag{2}$$

where ω is a 6×1 vector represents constants. The estimated coefficient, c, is a 6×6 vector represents the size effect of shocks measured by standardised residuals (the residuals estimated from equation 1 divided by past standard deviation or correlation in absolute value). The estimated coefficient g, is a 6×6 vector that captures the impact of sign of shocks which is measured by the difference between the actual standardised residuals and expected standardised residuals. If the difference is negative, it represents bad news, otherwise good news. If g is different from zero, volatility spillover is asymmetric. If g is negative, there is a leverage effect i.e. bad news from another market has larger impact on the volatility than good news of the same size. The GARCH effect coefficient is denoted by m is a 6×6 vector which captures the persistence of volatility.

RESULTS

Table 1 displays the summary statistics of weekly returns for the six established REITs markets over the full sample period. Average weekly returns the markets were negative or near zero, with the exception of Hong Kong. The weekly average variations of returns from the mean were largely similar, with Hong Kong's standard deviation being the lowest amongst all markets. This is not surprising, as the Hong Kong REIT market is relatively newly established (since 2005), with fewer REITs than the other markets, and had lower levels of gearing during the crises periods. The distribution of returns were all leptokurtic and left-skewed, thereby resulting in returns being non-normally distributed. Returns were then tested for unit roots using the Augmented Dickey Fuller and Phillips-Perron tests, and found to be stationary I(0) processes. The results of unit root testing are not reported here for brevity.

Table 5 Summary statistics of weekly REITs market returns for the full sample period.

	Australia	Hong Kong	Japan	Singapore	UK	US
Mean	-0.119%	0.177%	-0.056%	-0.043%	-0.180%	0.008%
Median	0.114%	0.206%	0.006%	0.155%	0.281%	0.331%
Maximum	23.676%	17.594%	22.547%	18.393%	21.973%	35.094%
Minimum	-34.785%	-19.310%	-24.797%	-17.587%	-32.809%	-25.802%
Std. Dev.	4.4452%	2.5516%	3.5810%	3.4917%	4.6256%	4.6706%
Skewness	-1.0266	-0.5771	-0.5656	-0.1589	-1.1046	0.2407
Kurtosis	13.1734	14.9741	12.7012	8.7611	12.5506	13.5382
Jarque-Bera	2338.30***	3141.44***	2070.81***	722.70***	2086.08***	2415.81***

Notes: Weekly returns were determined as the log differences of REIT index values from time $t-1$ to time t. The Jarque-Bera test for a normal distribution was employed, with *** indicating the null hypothesis of a normal distribution was rejected at the 1% level of significance.

Model estimation results for the full sample period are not reported here for brevity. Over the whole period, only the returns of stock markets in Australia, Japan and the US are impacted by its own lags. In terms of cross-linkages, except for the UK, there is significant evidence of return spillover among these countries. Australia, Hong Kong and Singapore markets are impacted by Japan, UK and US.

Tables 2 and 3 display the results of return and volatility spillover between the six REITs markets over the two sub-sample periods. The impact of past weekly returns from one market to another, along with the effects of volatility size, asymmetric leverage and persistence of spillovers will be discussed in the subsequent sub-sections.

Impact of past returns from one market to another

Our findings show that the REITs markets of Australia, the UK and the US. were segmented from other markets during the crisis period when weekly returns are examined. After the crisis, US REITs returns appear to be inversely related to the UK market. Australia appears to be positively affected by past returns from Singapore. Returns of UK REITs do not appear to be affected by past week returns of other markets at all.

Hong Kong REITs did display unidirectional return dependencies to the Australian and Singaporean markets through both sub-periods, and to the US after the crisis. Japanese REITs displayed return dependencies with Hong Kong, UK and US during the crisis, but post-crisis, with only with Australia and the UK. The Singapore REIT market was relatively segmented from other markets except for with the US during the crisis. Following the crisis, the Singapore market displays dependencies with all markets except with Hong Kong.

Volatility size effect from market j to market i

There were significant volatility size effects between markets during the crisis period. However, these were not detected for the Australian, UK and US markets in the second sub-period. During the crisis period, the size of volatility shocks have a deterministic impact on the stochastic volatility of each market. However, in the case of Hong Kong, volatility shocks of a larger magnitude in a preceding week were followed by lower conditional variances in the following week. This was also the case for Japan with regards to the magnitude of shocks in its own volatility. Following the crisis period, the size effect from other markets persisted for Japan and Singapore. Volatility shocks from the Australian and Singaporean markets continue to impact the Hong Kong market following the crisis period. Interestingly, large shocks in REIT markets did not appear to impact stochastic volatility for the Australian, UK, and US markets, presumably because the impact of the shock may have dissipated during the course of a week.

Table 2 Results from the E-GARCH-M model for Period 1

Australia		Hong Kong		Japan		Singapore		UK		US	
Panel A: Parameter estimation for conditional mean equations											
Constant											
α_1	0.0008	α_2	-0.0033^{**}	α_3	-0.0045	α_4	0.0058	α_{51}	0.0033	α_6	0.0032
Impact of past returns from market j to market i											
β_{11}	-0.1490^{**}	β_{21}	0.0609^{***}	β_{31}	0.0289	β_{41}	-0.0388	β_{51}	-0.0744	β_{61}	-0.0850
β_{12}	-0.1100	β_{22}	-0.0664	β_{32}	-0.1770^{**}	β_{42}	-0.0667	β_{52}	-0.0159	β_{62}	-0.0605
β_{13}	0.0903	β_{23}	0.0404	β_{33}	-0.2087^{***}	β_{43}	0.0633	β_{53}	0.0503	β_{63}	0.0440
β_{14}	-0.0489	β_{24}	0.0965^{***}	β_{34}	0.0215	β_{44}	0.0139	β_{54}	0.0431	β_{64}	0.1105
β_{15}	0.0430	β_{25}	-0.0014	β_{35}	0.0633^{*}	β_{45}	0.0003	β_{55}	-0.0097	β_{65}	-0.0299
β_{16}	0.0792	β_{26}	0.0060	β_{36}	0.1145^{***}	β_{46}	0.0669^{*}	β_{56}	-0.0063	β_{66}	-0.1719^{**}
Return dependency to past own errors											
Υ_1	0.0271	Υ_2	0.2884^{***}	Υ_3	1.3897^{***}	Υ_4	-0.1632	Υ_5	-0.0854	Υ_6	-0.0011

Panel B: Paramenter estimation for conditional variance equations					
Constant					
α_1 -0.3764**	α_2 -0.4053***	α_3 -0.0528	α_4 -0.2961*	α_5 -0.4605***	α_6 -0.5494**
Volatility size effect from market j to market i					
c_{11} 0.1867**	c_{21} -0.1556***	c_{31} 0.2616**	c_{41} 0.1987*	c_{51} 0.2262**	c_{61} 0.2671**
c_{12} 0.1516*	c_{22} -0.1342***	c_{32} 0.2637**	c_{42} 0.1908*	c_{52} 0.2120**	c_{62} 0.2887**
c_{13} 0.8273**	c_{23} -0.1088***	c_{33} -0.0829**	c_{43} 0.1921*	c_{53} *0.2107***	c_{63} 0.2880**
c_{14} 0.1756**	c_{24} -0.1162***	c_{34} 0.2441**	c_{44} 0.1938*	c_{54} 0.2186**	c_{64} 0.3025**
c_{15} 0.1944**	c_{25} -0.1657***	c_{35} 0.2456**	c_{45} 0.1968*	c_{55} 0.2132**	c_{65} 0.2950**
c_{16} 0.2021**	c_{26} -0.1699***	c_{36} 0.1781**	c_{46} 0.2043**	c_{56} 0.2126**	c_{66} 0.2714**
Asymmetric leverage effect from market j to market i					
g_{11} -0.1571**	g_{21} -0.2652**	g_{31} -0.2767***	g_{41} -0.1562***	g_{51} -0.1504***	g_{61} -0.2042***
g_{12} -0.1773**	g_{22} -0.2166**	g_{32} -0.2371***	g_{42} -0.1542***	g_{52} -0.1537***	g_{62} -0.2069***
g_{13} -0.1979**	g_{23} -0.2459**	g_{33} -0.1246***	g_{43} -0.1619***	g_{53} -0.1535***	g_{63} -0.2101**
g_{14} -0.1795**	g_{24} -0.2802**	g_{34} -0.2712***	g_{44} -0.1586***	g_{54} -0.1539***	g_{64} -0.2188***
g_{15} -0.1960**	g_{25} -0.2426**	g_{35} -0.3011***	g_{45} -0.1576***	g_{55} -0.1516***	g_{65} -0.2004**
g_{16} -0.2112**	g_{26} -0.2411**	g_{36} -0.1724***	g_{46} -0.1572***	g_{56} -0.1529***	g_{66} -0.1859**
Persistence of volatility spillovers from market j to market i					
n_{11} 0.9634***	n_{21} *0.9173****	n_{31} -0.1115	n_{41} 0.9807***	n_{51} 0.9511***	n_{61} 0.9459***
n_{12} 0.9652***	n_{22} 0.9325***	n_{32} -0.2763*	n_{42} 0.9804***	n_{52} 0.9522***	n_{62} 0.9407***
n_{13} 0.9468***	n_{23} 0.9161***	n_{33} 0.9839***	n_{43} 0.9782***	n_{53} 0.9522***	n_{63} 0.9379***
n_{14} 0.9597***	n_{24} 0.9034***	n_{34} -0.1107	n_{44} 0.9796***	n_{54} 0.9513***	n_{64} 0.9349***
n_{15} 0.9501***	n_{25} 0.9231***	n_{35} 0.0070	n_{45} 0.9801***	n_{55} 0.9526***	n_{65} 0.9425***
n_{16} 0.9454***	n_{26} 0.9216***	n_{36} *-0.4265****	n_{46} 0.9776***	n_{56} 0.9519***	n_{66} 0.9472***

Notes: Table 2 presents the estimated coefficients of Equations 1 and 2 during the 2007 – 2012 crises periods. Subscripts denote the markets: 1 = Australia, 2 = Hong Kong, 3 = Japan, 4 = Singapore, 5 = the UK, and 6 = the US. ***, ** and *** denote statistical significance at the 1%, 5% and 10% levels respectively.

Asymmetric leverage effect from market j to market i

Comparisons of the asymmetric behaviour of each market's REITs return volatility can be made in response to positive and negative shocks of the same size, by examining the $g_{i,j}$ coefficients of Tables 1 and 2. During the crisis period, all the coefficients were significant and negative. This indicates the presence of asymmetric leverage effects, where a bad shock (news) had a greater impact on increasing REITs return volatility than a good shock (news) of the same size. This continues in the post-crisis period for Australian and Singaporean REITs, but the leverage effect is not significant for weekly REITs return volatility in Japan, the UK and the US. The findings of the Hong Kong market are also a little peculiar in comparison to the other REIT markets. The volatility transmission reveals good news outweighs bad news of the same size.

Persistence of volatility spillovers from market j to market i

The coefficient $m_{i,j}$ in Tables 1 and 2 indicate the persistence of past volatility in explaining current volatility. This is apparent during the crisis period for five out of the six REITs markets, where the autoregressive parameter has a large coefficient (close to 1) and statistically significant at the 1% level. The persistence of past volatility in explaining Japan's current volatility is also significant, but the impact of past volatility of Hong Kong and US returns on Japan displays mean reversion. The persistence of past volatility in explaining current volatility for Australian, Singaporean, Japanese, UK and US markets decreases in the post crisis period. In the case of Hong Kong, past volatility of the Australian and Singaporean market is significant, and no persistence was detected within its own market.

Table 3: Results from the E-GARCH-M model for Period 2

Australia	Hong Kong	Japan	Singapore	UK	US
Panel A: Parameter estimation for conditional mean equations					
Constant					
α_1 -0.0021	α_2 -0.6619	α_3 -0.0005	α_4 0.1246**	α_5 -0.9501	α_6 0.0024
Impact of past returns from market j to market i					
β_{11} -0.0504	β_{21} 0.1207**	β_{31} 0.0989**	β_{41} 0.1176**	β_{51} 0.0873	β_{61} 0.0487
β_{12} 0.1089	β_{22} 0.6209**	β_{32} 0.0268	β_{42} 0.0279	β_{52} 0.0309	β_{62} 0.0713
β_{13} 0.0769	β_{23} 0.0601	β_{33} -0.0497	β_{43} 0.1118***	β_{53} -0.0645	β_{63} -0.0185
β_{14} 0.1479*	β_{24} 0.1258**	β_{34} 0.0430	β_{44} -0.6338***	β_{54} 0.0836	β_{64} 0.1044
β_{15} -0.0419	β_{25} -0.0642	β_{35} -0.0723**	β_{45} -0.0784***	β_{55} 0.5602***	β_{65} -0.0691*
β_{16} 0.0711	β_{26} 0.1126*	β_{36} 0.0362	β_{46} 0.1396**	β_{56} 0.0812	β_{66} -0.0572
Return dependency to past own errors					
ʅ1 0.3559	ʅ2 24.9593	ʅ3 0.0383	ʅ4 -1.1938	ʅ5 10.9705	ʅ6 0.3503

Panel B: Paramenter estimation for conditional variance equations					
Constant					
α_1 -1.3981**	α_2 -8.4317***	α_3 -1.1821**	α_4 -5.5738***	α_5 -7.3953***	α_6 -0.7967
Volatility size effect from market j to market i					
c_{11} 0.0397	c_{21} 0.0659***	c_{31} 0.3209***	c_{41} 0.2273**	c_{51} 0.0084	c_{61} 0.0771
c_{12} 0.0299	c_{22} -0.0062	c_{32} 0.3451***	c_{42} 0.2112**	c_{52} 0.0143	c_{62} 0.0417
c_{13} 0.0205	c_{23} -0.0048	c_{33} 0.3710	c_{43} 0.1768*	c_{53} *0.0221*	c_{63} 0.1009
c_{14} 0.0222	c_{24} 0.0580*	c_{34} 0.3449***	c_{44} 0.0397	c_{54} 0.0097	c_{64} 0.0653
c_{15} 0.0235	c_{25} -0.0095	c_{35} 0.3854***	c_{45} 0.2157**	c_{55} -0.0004	c_{65} 0.1444
c_{16} 0.0339	c_{26} -0.0025	c_{36} 0.3433***	c_{46} 0.2151**	c_{56} 0.0085	c_{66} 0.1401
Asymmetric leverage effect from market j to market i					
g_{11} -0.2671***	g_{21} 0.0568***	g_{31} 0.0021	g_{41} -0.1041**	g_{51} -0.0395	g_{61} -0.1121
g_{12} -0.2697***	g_{22} -0.0360	g_{32} -0.0045	g_{42} -0.1181**	g_{52} -0.0382	g_{62} -0.1214
g_{13} -0.2716***	g_{23} 0.0017	g_{33} -0.0194	g_{43} -0.1221**	g_{53} -0.0419	g_{63} -0.0931
g_{14} -0.3209***	g_{24} 0.0564***	g_{34} -0.0045	g_{44} -0.2405***	g_{54} -0.0442	g_{64} -0.1334
g_{15} -0.2629***	g_{25} 0.0063	g_{35} -0.0275	g_{45} -0.1200***	g_{55} -0.0365	g_{65} -0.0512
g_{16} -0.2876***	g_{26} 0.0003	g_{36} -0.0046	g_{46} -0.1156**	g_{56} -0.0344	g_{66} -0.0569
Persistence of volatility spillovers from market j to market i					
n_{11} 0.8200***	n_{21} -0.9249***	n_{31} 0.9222***	n_{41} 0.9251***	n_{51} 0.5502***	n_{61} 0.8500***
n_{12} 0.8162***	n_{22} -0.0791	n_{32} 0.9015***	n_{42} 0.9140***	n_{52} 0.6049***	n_{62} 0.8358***
n_{13} 0.8080***	n_{23} -0.0549	n_{33} 0.8803***	n_{43} 0.9140***	n_{53} 0.6185***	n_{63} 0.8822***
n_{14} 0.7350***	n_{24} -0.9256***	n_{34} 0.9040***	n_{44} 0.2949***	n_{54} 0.5828***	n_{64} 0.8126***
n_{15} 0.8233***	n_{25} -0.0785	n_{35} 0.8697***	n_{45} 0.9116***	n_{55} -0.0149	n_{65} 0.9113***
n_{16} 0.8035***	n_{26} -0.0418	n_{36} 0.9040***	n_{46} 0.9197***	n_{56} 0.5481***	n_{66} 0.9106***

Notes: Table 2 presents the estimated coefficients of Equations 1 and 2 during the 2012 – 2017 post-crises period. Subscripts denote the markets: 1 = Australia, 2 = Hong Kong, 3 = Japan, 4 = Singapore, 5 = the UK, and 6 = the US. ***, ** and *** denote statistical significance at the 1%, 5% and 10% levels respectively.

CONCLUSION AND RECOMMENDATION

There are four main findings in our study. We find past returns of one market do not explain the returns of another in the case of Australia, the UK and the US, leading us to conclude that returns in these markets are segmented and will provide diversification benefits for a global REIT investor. In comparison, returns of Hong Kong, Japan and Singapore REITs are affected by returns of other markets. Second, we find during the crisis period large shocks in one market affects other markets. After the crisis period, only the Hong Kong, Japan and Singapore markets are affected by large shocks of other markets particularly from Australia, the UK and the US. However, these latter three markets are not affected by large shocks in the global REIT market at all. Perhaps the relative size and maturity of these markets allow the dissipation of the impact of such shocks during a trading week. It would be worth examining the attrition rate of large shocks in these markets in a further study using daily data. Third, we find bad news have a greater impact than good news during the crisis period but this only persists for the Australian and Singaporean markets post-crisis. Both markets share similarities over this time period in dealing with reducing leverage levels and the shift towards internally managed corporate structures. Last, we find past volatility persistently explains current volatility for all markets during and after the crisis periods, outlining the importance of modelling volatility in the stochastic error term of a returns process.

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The influence of brand equity on repurchase intention: The moderating effects of justice perceptions and attribution

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Abstract

This paper examines how brand equity could have effect on Chinese consumers' behavioral intentions towards telecommunications brands by applying justice theory. The interaction effect between brand equity and recovery justice / consumer attribution are also analyzed. Hypotheses were tested using PLS-SEM technique from a sample of 600 complained Chinese consumers for their telecommunications service. The findings indicate that distributive and interactional justice strengthens the relationship between brand equity and repurchase intention; however, the stability of attribution negatively moderates the same relationship. This is the first study to empirically investigate perceived justice / attribution as moderators for the Eastern consumers.

Keywords**:** *Brand equity, Repurchase intention, Distributive justice, Interactional justice, Attribution.*

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INTRODUCTION

According to the Best Global Brands report (Interbrand, 2015), the 13 technology brands represent more than a third (33.5 percent) of USD $1.7 trillion from 100 companies, making technology as the leading sector by value. Branding becomes a crucial factor to technology services providers as service is intangible by nature (He & Li, 2010). Buil, Martı´nez, & Chernatony (2013) indicated that there are numerous assertions concerning the positive relationship between brand equity and consumers' purchase intention in the past literature. Nevertheless, Chen, Nguyen & Klaus (2013) argued that it is crucial to recognize that Chinese customers may be influenced by their perception of brand fairness, which refers to the customer perception of justice towards a brand after service recovery. Moreover, the stable attribution on poor quality should have a negative effect on brand perception, as quality is a central part of the benefit component of the value construct (Zielke, 2014). Campbell (1999) asserted that consumer infers positively or negatively towards a firm's recovery effort, and develop fairness perceptions towards corporate brand based on their attributions. Customer may be more likely to search for causal explanations for a bad reputation, such as long, slow and bureaucratic processes in dealing with customer requests, when the event is surprising or negative in a service failure (Nguyen & Simkin, 2013). Thus, besides than service recovery justice, attribution for a quality service is also an important consideration that would influence customer perception of brand fairness. Despite significant interest in perceived justice and attribution in the past studies, very few studies empirically examine their moderating roles in service recovery context. Therefore, this research would take a further step in this direction and make contribution to academic research. By portraying the conceptual model, it aims to examine the relationship between perceived brand equity and repurchase intention under the moderating effect exerted by service recovery justice and attribution. Since Chinese consumers appear to be more likely to relate branded products due to their high face-consciousness (Siu, Kwan & Zeng, 2016), it is crucial for this study to understand how Chinese consumers evaluate brand equity through service recovery justice and attribution for repurchase purpose. For the practical managerial advice, the study's findings are intended to offer insight into how to maintain high degree of repurchase intention for the management of telecommunication service operators of Chinese communities.

LITERATURE REVIEW AND CONCEPTUAL DEVELOPMENT

Brand Equity and Repurchase Intention

Branding theory indicates that the cache of positive association enjoyed by a high equity brand predisposes favorable responses to it. The positive association derived from high equity brand may offset the negative impacts of service failure and enhance the effects of service recovery (Keller, 1998). Consumers usually have greater product evaluation for brand products with high name recognition (Huang, Yen, Liu & Chang, 2014). Hence, past literatures have found a positive effect of brand equity on consumers' brand preferences and purchase intentions (Aaker, 1991; Buil *et al*., 2013). Ebrahim *et al*. (2016) indicated that the repurchase intention reflects the customer's intention of repeating the behavioural action of buying the same brand. Research commonly aims to predict that firms can recover from almost any failure and preserve a customer's intent to repurchase from the firm in the future due to better branding (Oh, 2002). Hence, brands with higher equity usually generated greater purchase intentions.

H1: Brand equity is positively related to consumer's repurchase intention.

Perceived Distributive Justice

In a service failure, the outcome should offset the costs caused by the failure (Kim, Ok & Canter, 2012). Classic inequity arises when an individual believes the outcome is inadequate given the inputs from a distributive justice perspective. This leads service organizations to offer various combinations of refunds, credit, discounts, upgrades, replacements, and free gifts, for instance in a service guarantee programme (Prasongsukarn & Patterson, 2012). Chen *et al*. (2013) discovered that customer perceptions of distributive justice will have a positive influence towards corporate brand, when a recovery strategy of distributive justice (such as service guarantee) is implemented. Wording in the guarantee and timeframe of purchase decisions are critical that may influence the effect of service guarantees on purchase intentions (Jin & He, 2013). As a result, we argue that a high level of perceived distributive justice exhibited among Chinese customers strengthens the effect of perceived brand equity on repurchase intention. Thus, the following hypothesis has been formulated:

H2: Distributive justice moderates the relationship between brand equity and repurchase intention.

Perceived Interactional Justice

Interactional justice in recovery from failure always concerns the fairness of the recovery process itself and the interactional aspects of the encounter (Hoffman & Kelley, 2000). It is argued that courtesy and empathy (Tax

Brown, & Chandrashekaran, 1998), politeness, concern, and neutrality (Sparks & McColl-Kennedy, 2001) influence customers' overall perceptions of justice. Typical examples of ways to encourage favorable evaluations are apology, acceptance of blame, politeness, providing a candid explanation, recovery effort, courtesy, and expressing empathy or concern (Smith, Bolton, & Wagner, 1999). Chen *et al*. (2013) discovered that customer perceptions of interactional justice will have a positive influence towards corporate brand, when a recovery strategy of interactional justice (such as courtesy and respect towards customers) is implemented. The emotions of Chinese customers provoked by service failure would be diminished due to perceived interactional justice (Smith & Bolton, 2002). Chinese collectivists tend to be affectively dominated customers (Hofstede, 2001) because their purchase decisions are usually influenced by their social networks, such as friends and relatives. Recovery efforts might have a stronger impact on repurchase intention to affectively dominated customers who have a higher interactional justice. As a result, we argue that a high level of perceived interactional justice exhibited among Chinese customers strengthens the effect of perceived brand equity on repurchase intention. In view of this, we hypothesize that:

H3: Interactional justice moderates the relationship between brand equity and repurchase intention.

Attribution

Folkes (1984) indicated that one of the most significant causes of attribution is stable, which predominately lead to product or service failure. Moreover, Weiner (2000) concluded that the stability of attribution is one of the most salient for understanding postconsumption reactions or behavior intention. Hence, this study only focuses on stability. By using the attribution categorization system of Weiner (1980), customers will seek to determine stability, or the likelihood the problem to be recurred. Liao & Cheung (2002) discovered that the stability of attribution will have a negative influence towards corporate brand if the failure is perceived to be stable rather than unstable. For instance, if the customer decides a telecommunication service provider has not provided good service due to the weak digital signal, then the customer has attributed the failure to the service provider and determined the cause to be stable. In view of this, we hypothesize that:

H4: Attribution negatively moderates the relationship between brand equity and repurchase intention if the failure is perceived to be stable.

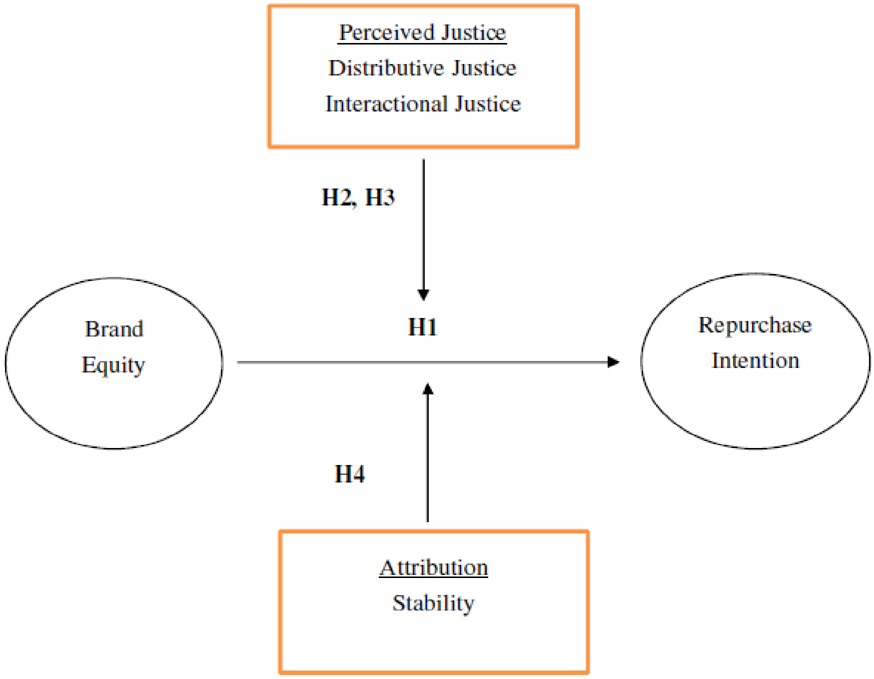

Figure 1: Conceptual framework

METHODOLOGY

Sample

The data collection was through face-to-face interviews and the respondents were asked to describe a telecommunications service failure experience that had happened within the last 3 months. The valid sample size of 50 in the pilot test and 600 in the mass survey ensures the statistical power of the significance testing and the generalizability of the results (Hair, Hult, Ringle, & Sarstedt, 2014). The targeted respondents were also required to be older than 15, Hong Kong's legal age for full-time employment. About 63% of the targeted respondents were aged less than 30. Approximately 40% of the targeted respondents were male and 60% were female that is similar to gender distribution in Hong Kong (Hong Kong Fact Sheet, 2016). The target respondents were intercepted from Monday to Sunday for 4 consecutive weeks. The same number of questionnaires had been distributed in each of the six shopping malls. 828 questionnaires were eventually distributed and 600 were successfully completed.

RESULT

The data were analyzed using the SmartPLS software package, version 2.0. Cronbach's alpha and composite reliability coefficients exceeded the recommended level of 0.7, indicating satisfactory internal consistency in all five constructs. All constructs also showed an average variance extracted (AVE) value of 0.50 or greater, which indicates unidimensionality and good convergent validity (Gerbing & Anderson, 1988). The square roots of the AVEs were all greater than the off-diagonal elements in their corresponding row and column in relation to the Fornell-Larcker criterion. Collinearity problem is not of a concern as the VIF value of all constructs is less than the recommended cut-off value of 5 (Hair *et al*., 2014).

Moderation – Distributive Justice (DJ)

As shown in Table 1, the main effect in Step 1 and the two-way interaction term in Step 2 were assessed for evidence of the proposed moderating effect. The path coefficient of the interaction term ($\beta = 0.052$, $p \leq 0.1$) suggests that DJ is a significant moderator. DJ strengthens the relationship between Brand Equity (BE) and Repurchase Intention (RI) as H2 proposes.

Table 1: Result of Moderation Test of Distributive Justice (DJ) in the Brand Equity (BE) and Repurchase Intention (RI) Relationship

	Dependent Variable: **Repurchase Intention (RI)**	
Step 1: Main Effects		
Brand Equity (BE)	0.618***	
Distributive Justice (DJ)	0.598***	
Step 2: Two–Way Interaction Term		
Brand Equity (BE)		0.429***
Distributive Justice (DJ)		0.349***
Brand Equity (BE) X Distributive Justice (DJ)		0.052*

The values were calculated through bootstrapping with 600 cases and 5,000 samples.
* indicates significance at the p ≤ 0.1 level of confidence
** indicates significance at the p ≤ 0.05 level of confidence
*** indicates significance at the *p* ≤ 0.01 level of confidence

Moderation – Interactional Justice (IJ)

As shown in Table 2, the main effect in Step 1 and the two-way interaction term in Step 2 demonstrate a moderating effect of IJ. The path coefficient of the interaction term ($\beta = 0.531$, $p \leq 0.01$) suggests that IJ is a significant moderator. IJ strengthens the relationship between BE and RI as H3 proposes. A high level of IJ reinforces the positive relationship between BE and RI.

Table 2: Result of Moderation Test for Interactional Justice (IJ) in Brand Equity (BE) and Repurchase Intention (RI)

	Dependent Variable: **Repurchase Intention (RI)**	
Step 1: Independent Variables		
Brand Equity (BE)	0.618***	
Interactional Justice (IJ)	0.601***	
Step 2: Two–Way Interaction Term		
Brand Equity (BE)		0.029
Interactional Justice (IJ)		0.140*

Brand Equity (BE) X Interactional Justice (IJ)	0.531***

The values were calculated through bootstrapping with 600 cases and 5,000 samples.
* indicates significance at the *p* ≤ 0.1 level of confidence
** indicates significance at the p ≤ 0.05 level of confidence
*** indicates significance at the *p* ≤ 0.01 level of confidence

Moderation – Attribution (AT)

As shown in Table 3, the main effect in Step 1 and the two-way interaction term in Step 2 confirm that AT negatively moderates the relationship between BE and RI, based on the path coefficient of the interaction term ($\beta = -0.060$, $p \leq 0.1$). AT negatively moderates the effect of BE on RI. H3 is thus supported.

Table 3: Result of Moderation Test of Attribution (AT) in the Brand Equity (BE) and Repurchase Intention (RI)

		Dependent Variable: **Repurchase Intention (RI)**
Step 1: Independent Variables		
Brand Equity (BE)	0.618***	
Attribution (AT)	0.450***	
Step 2: Two–Way Interaction Term		
Brand Equity (BE)		0.527***
Attribution (AT)		0.147***
Brand Equity (BE) X Attribution (AT)		-0.060*

The values were calculated through bootstrapping with 600 cases and 5,000 samples.
**indicates significance at the *p* ≤ 0.01 level of confidence
** indicates significance at the p ≤ 0.05 level of confidence
*** indicates significance at the *p* ≤ 0.01 level of confidence

CONCLUSIONS AND RECOMMENDATIONS

First, this study adds to the literature of justice theory by elucidating the moderating role of service recovery justice and attribution. It intends to cover the research gap by investigating their moderating role in the relationship between brand equity and repurchase intention that has not been investigated in the previous literature. All four hypotheses are well accepted. Second, firms should provide solutions for congested telecommunications network due to customer traffic for distributive justice. Third, customer services should focus on the interpersonal treatment clients experience during the conflict resolution process to provide the best service for Chinese communities. Reading the affective states of customers may allow customer service representatives to adapt their own affective states leading to greater customer satisfaction for repurchasing (Hennig-Thurau, Groth, Paul, & Gremler, 2006). Fourth, since attribution predicts the perceived reason for a service failure influences the level of customer satisfaction (Hocutt, Chakraborty and Mowen, 1997), firms should avoid to create the perception that the failures of firms are stable.

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How boards of not for profit organisations make decisions

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Abstract

What can an organisation put in place to improve its board's decision making? Existing research tends to focus on how issues such as board size, experience and diversity affect governance (Bai, 2013; Coombes, Morris, Allen, & Webb, 2011; Fama & Jensen, 1983) but a clear knowledge gap is described by (Tricker, 2015) who calls for investigation of the boardroom interaction of directors. This study proposes to use a case study research design to observe the boards, interview the individual board members for their perspectives and examine historical records. This study seeks to explore the behaviour of not for profit boards by direct observation.

Keywords**:** *Boards, decisions, not for profit, governance, director.*

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INTRODUCTION

This study seeks to discover how not for profit boards make decisions and the elements that may affect these decisions as well as suggesting mechanisms that boards can adopt to improve their future decision making. Specifically, this study examines:

1. How do boards of not for profit organisations make decisions?
2. How does the personal background of a board member affect how they make a decision?
3. How can non-profit boards improve their future decision making?

LITERATURE REVIEW

Boards exist to provide governance to organisations in areas such as strategy, policy, monitoring of performance and appointment of chief executives (Mallin, 2013) as well as strategic direction and assurance of compliance (Dulewicz & Herbert, 1999). The need for boards of governance began in the late 17th or early 18th centuries as a direct result of the increase in separation of ownership caused by public investment in companies

(Tricker, 2015). As separation of ownership increased, a phenomenon necessary for companies to evolve from the family business to the joint stock company of today, so did the risk that investors were being exposed by lack of direct control over the organisation (Fama & Jensen, 1983).

By far the most predominant theory relating to boards is that of agency theory but two others that are also relevant are stewardship theory and resource dependency theory (Payne, Benson, & Finegold, 2009). Agency theory suggests that executives cannot be trusted to put the interests of the owner above the interests of themselves and stewardship theory suggests that the very reason for the great success of the joint stock company is that directors are able to protect the interests of distant owners (Mallin, 2013). Johnson, Ellstrand, & Daily (1996) propose the possibility that all three theories may be correct at the same time, suggesting that directors be chosen for a particular role such as governance (agency theory), service (stewardship) or access to critical resources (resources dependency theory).

Tricker (2015) suggests that the methods of historical research that have formed the backbone of studies into boards and lend themselves to the promotion of agency theory in particular and may account for the dominant position of that theory. Most studies have been undertaken at the organisational, rather than board level due to accessibility problems but if access can be gained to the board or to individual directors a better understanding of how politics and power may affect board decisions (Tricker, 2015) may become evident. Regardless of the exact structure of the board, the purpose is similar, to provide guidance to the organisation in matters of management and governance (Mallin, 2013; Tricker, 2015) and although board structure has been shown to have little effect upon company performance there is a positive correlation to quality of governance (Md Kassim, Ishak, & Abdul Manaf, 2013; Wan & Ong, 2005).

Boards are not keen to expose their inner workings to outsiders and have been described as corporate black boxes (Payne et al., 2009); Coombes et al, 2001). Directors may see risk in permitting outsiders to view the inner most secrets of a corporation and may even see a risk to share prices (Finegold, Benson, & Hecht, 2007; Payne et al., 2009) and as a result access to board information is never easy to obtain (Daily, Dalton, & Rajagopalan, 2003; Payne et al., 2009). This difficulty in gaining access to boards and the fact that most research has been completed using historical data (Tricker, 2015; Wan & Ong, 2005) leads to problems gaining data that is comprehensive and reliable (Payne et al., 2009).

Although Wan & Ong (2005) agree that difficulty in gaining access to boards is the cause of the lack of research relating to board processes, they join the call for observationally based board research as a board's processes appear to be of greater significance than their structure. The majority of research into boards has been historical with many authors (Dulewicz & Herbert, 1999; Payne et al., 2009; Tricker, 2015; van Ees et al., 2009) calling for more research to be conducted into the practice of boards rather than more analysis of historical data. Two of the very few studies of not for profit boards that have utilised primary research for qualitative exploration (Parker, 2007, 2008) were conducted on two Australian trade associations. One study found that Australian not for profit boards consider strategic thinking as one of their most important roles and yet conclude that, at least in the study sample, strategising by the board was only undertaken on an ad hoc basis and that strategic plans were used more for "ceremonial or comfort reasons" (Parker, 2007).

In relation to Australian not for profit boards it seems that as much strategy is developed informally as it is formally (Parker, 2007) and this aligns with the findings of informal decision making in relation to paid boards (Huse & Solberg, 2006). Two observations put forward: that not for profit directors showed "exhibited a variable but significant commercial orientation" (Parker, 2007. p 1476) and that decisions made by directors align with their own familiarity with the organisation (Parker, 2008). This familiarity with the organisation may well be the cause of some claiming that non-executive directors are less able to participate in the more operational aspects of the board. Tricker

(2015) suggests a balance between the numbers of executive and non-executive directors and boards will need to be aware that even new executive directors may be affected.

The design of the board varies slightly around the world with countries such as Australia, New Zealand, the United States and United Kingdom using unitary boards, boards that oversee both the executive and governance functions of an organisation (Tricker, 2015). Unitary board membership may comprise either executive or non-executive members. Executive board members are those responsible for the operational aspects of the organisation whilst non-executive directors are concerned with the governance aspects (Mallin, 2013). It is not uncommon to find smaller unlisted private companies board's made up completely of executive directors and not for profit boards completely of non-executive members (Tricker, 2015).

Board decision making

The volume of literature relating to decision making is substantial and as a result, this paper will concentrate only upon that literature relating to boards. Models of decision making generally consist of several steps such as identifying the existence of a problem, developing various possible solutions and selecting the best solution available (Kao, 2005; Vasilescu, 2011).

Of the possible influences upon decisions, the effect of groupthink, although well researched, has had little study in relation to its possible affects upon the board decisions of a not for profit organisation. Groupthink is described by Robbins, Judge, Millet, & Marsh (2008) pp 317 as " a phenomenon in which the norm for consensus overrides the realistic appraisal of alternative courses of action". Research shows that groupthink, values and knowledge are key to any decision made by a board but it is of concern that groupthink and values seem to have a greater effect upon a board's decisions than knowledge (Maharaj, 2008). Suggestions to limit the effects of groupthink are the careful selection of board members using a skills matrix to ensure that directors are selected for their knowledge and skills as well as possibly having a variety of behavioural characteristics desired which may lead to more effective board decisions (Maharaj, 2008). The use of turn taking, where each member is offered a chance to speak as well as provision of adequate time for debate (Bezemer, Nicholson, & Pugliese, 2014) are also recommended. Corporate values that foster the need for heterogeneous boards that are aware of the dangers of groupthink (Maharaj, 2008) should assist boards to make better decisions which are a positive for any organisation.

Events of the past seem to influence how the decisions of the future are made with the decision-making ability of organisations being affected by the past context in which decisions relating the future are made (Amason & Mooney, 1999; Kauer, Tanja, & Schäffer, 2007; Papenhausen, 2006). The past is also shown to have an effect upon the strategy of smaller organisations that appear to be at a disadvantage in relation to decision making, as the views of even their top managers are reported to be influenced by their generational membership or other personal characteristics or experiences (Balta, Woods, & Dickson, 2010, 2013; Steptoe-Warren, Howat, & Hume, 2011). Not only are the board decisions affected by the personal history of the directors who make the decisions but also by the values of the corporation concerned (Maharaj, 2008).

Emotions and visceral behaviours in leaders are shown to have a negative effect upon decision making abilities and are identified in four forms, all of which have a negative effect (Shear, Kakabadse, & Kakabadse, 2013). The four forms are described as: "the immature leader: one who is emotionally driven and impulsive; the stubborn leader, who is rationally driven and impulsive; the weak leader: one who is rationally driven and but a weak decision maker and the unpredictable leader who is emotionally driven and a weak decision maker." Whilst their study examines only a very small sample, it does seem to have consensus with other studies that seem to link emotions with poor decision making (Balta et al., 2010, 2013; Steptoe-Warren et al., 2011) and although unable to suggest a means to prevent visceral behaviour, if in fact it can be prevented, they do recommend awareness of it in both one's self and others. As well as the effect that personal or organisational values or history have upon the decisions made there is also research suggesting a link to the speed at which such decisions are made (Wally & Baum, 1994).

In one of the few studies that used primary observed data and qualitative methods, Brundin & Nordqvist (2008) provide a valuable insight into the effects that emotions have upon board members. Their study, whilst only targeting chief executive officer's claims that the findings may also relate to other board members. Whilst only based upon observations of two board meetings this study explores how emotions affect the chief executive officers in question in relation to their power and ability to influence the board (Brundin & Nordqvist, 2008).

A second important finding was that both positive and negative emotional energy is stored in a "bank" for later use (Brundin & Nordqvist, 2008). Once a board member has their emotional energy drained, such as in the case of public loss of face in the boardroom, that board member will be in a lower power position at the next meeting due to this emotional banking effect. It seems that experienced board members may well be aware of the extended negative effects of negative emotional energy and will, by skilful use of language in the board room avoid placing fellow board members in such a position (Samra-Fredericks, 2000a). It seems that in the board room at least winning an argument is important, but winning and leaving your opponent emotionally intact may be even more important to avoid a dysfunctional board.

A third important discovery made by Brundin & Nordqvist (2008) was that board members who feel undervalued by others fall into a low energy state and allow themselves to become controlled. In other words, we all like to have our voice heard but it seems that, at least in relation to board members, failure to be listened to may cause the speaker to become withdrawn and easy to manipulate. This withdrawal may affect the director's decision-making ability.

As explained previously decisions may be subject to influences, not all of which will improve the decision. Use of a decision making model in board decisions would ensure that many outside influences were eliminated but, whilst decision making models do exist, research shows many may be of limited use in the real world with decision makers needing to judge for themselves what type or even mixture of models suits their application (Harrison, 1993). Simon (1979) supports this sentiment by stating that a decision-making model is only of use if it helps the user to make a decision. The difficulty of creating a model suitable for advising on a complicated strategic decision in an ever changing, uncertain environment is clear.

Researching boards

The vast majority of research into the field of boards and governance of organisations has been historical with some (Bezemer et al., 2014; Brundin & Nordqvist, 2008; Huse & Solberg, 2006; Huse & Zattoni, 2008; Machold & Farquhar, 2013; Parker, 2007; Samra-Fredericks, 2000a, 2000b) conducting primary research to observe if and how the process of board decision making occurs.

Much of the past research conducted has been targeted to explore the alignment between the activities of a board with one or more of the existing theories explored earlier in this paper such as agency, resource dependency or stewardship theories. It is suggested by Machold & Farquhar (2013) that none of these theories alone are capable of explaining the inner workings of a board due to the hugely complex nature of the board and its actors. The board itself is forever changing with Huse & Zattoni (2008) describing how an organisational life cycle, comprising stages such as "start-up", "growth" and "crisis" as various stages that an organisation may go through during its life time all requiring or causing behaviours of the board or its members to change how they operate.

METHODOLOGY

This study seeks to discover how not for profit boards make decisions and identify the factors that may affect the decision making process as well as suggesting mechanisms that boards can adopt to improve the quality of future decision making.

This study provides an alternative to the juxtaposition of the interpretive versus positivist philosophies (Saunders, Lewis, & Thornhill, 2012) and will take a pragmatic epistemological position, one that will allow the study of both how and why boards make decisions would enable the research questions to be answered. Little research exists in this field and due to this and the need for the research to be phenomenon rather that theory driven (Eisenhardt & Graebner, 2007) an abductive research approach will be required. An abductive approach is one that moves between inductive and deductive positions depending on the phase of the research in the manner is described (Saunders et al. 2012) as one that collects data, uses the data collected to either add to existing, or create new theory and then retest this new theory by further data collection.

This will be a qualitative study using a case study research design in order to gain a deeper insight into the issues which affect board decision making. A case study is defined by Yin, (2014, p16) as “an empirical inquiry that; investigates a contemporary phenomenon in depth and within a real world context, especially when the boundaries between phenomenon and context may not be clear”. Use of the case study method for this research is indicated by the form of the research question, one that seeks to ask how and why decisions are made and also due to the lack of control required over behavioural events and study of contemporary events (Yin, 2014).

A case study protocol will be developed and multiple case study research will collect qualitative data by three means: analysis of historical documents to discover the type of decisions made, direct observation and in depth interviews which will inform why and how such decisions were made and identify any issues influencing them as well as providing triangulation (Eisenhardt, 1989). Direct observation of boards will also capture any informal decision making (Parker, 2007). The three methods, historical analysis, observation and face to face interviews will form a part of each case study conducted and will serve as a combined data collection method (Eisenhardt, 1989; Yin, 1981). In the past research relating to boards has generally been conducted by historical document analysis and researchers have recommend (Tricker, 2015; van Ees et al, 2009) that future board research be carried out using first hand empirical data collection such as questionnaire surveys, interviews and participant observations, ideally from multiple respondents (van Ees et al. 2009).

The three proposed methods within each case study: examination of historical board documents, observation of board interactions and interviews with board members will be conducted as part of each of the case studies that form part of the multi case study Yin (2014). All three methods of data collection will need to maintain consistency as several case studies will be conducted simultaneously and will require replication logic (Eisenhardt, 1989). Historical data obtained from the boards in the form of minutes, using the board as the unit of study will be used to try and gauge the type of problems faced by the board and the decisions made or objectives set to deal with these. Direct observation, the second method will be used in order to gain first hand evidence of decision making and objective setting as well as some of the pressures that can be brought to bear by any political coalitions. Both direct observation and the third method, semi structured interviews will use the individual as embedded case studies in order to add rigour to the data by triangulation of the material gained (Eisenhardt, 1989) in the same manner, document analysis, observation and interviews as described by other researchers (Woodside, 2010) enabling the researcher to seek explanations of any observed behaviour.

Sampling

A multiple case study (Eisenhardt, 1989) research design will be required in order to answer the research questions. Multiple case studies, such as those proposed by this study are preferable (Yin, 2014) as they provide more compelling evidence and greater rigour. Normally a board will comprise of somewhere between eight and twelve members with one board comprising each case study. Six boards will be selected for study in order to reach theoretical saturation. Guest et al. (2006) suggest that in cases of high homogeneity such as not for profit boards a sample as small as six will discover about 80% of the required material and as high as 92% with a sample of twelve.

Case studies are used for this research, firstly to provide an understanding of the reasons behind the decisions made by boards but also in the hope that contribution can be added to the sparse theory relating to this field in a manner suggested by Eisenhardt, (1989) who describes the case study method, backed up by comparisons of multiple case studies as in this case as ideal for identification of possible new theories. The use of several boards will also permit use of the case comparison approach (Yin, 1981) which will be used for both historical and observed data from the boards to compile aggregate rather than individual data that will be found more critically acceptable (Yin, 1981). The effect of context will be minimised by the use of theoretical sampling (Eisenhardt, 1989).

Analysis of data

Once the qualitative data has been collected by review of the historical data provided in the form of board minutes it will be coded and analysed. For this part of the study thematic analysis (Liamputtong, 2013) will be used as a means of identifying themes within the data and these will be permitted to form as they appear as by (Bryman, 2012 in Liamputtong, 2013). Once themes being produced have reached saturation, that is no new themes are being produced, content analysis will be used in order to try to identify any patterns within the data as suggested by (Liamputtong, 2013).

Analysis of the second part of the study, which deals with the observation of the boards themselves during their meetings, will be achieved by similar means to that used for the historical data. The themes identified during the thematic analysis described previously will be used as codes for this second stage and analysed in an identical manner to that described for the historical data. The purpose of this apparent duplication is to provide rigour by identifying if the sample boards selected for observation align with those in the historical data. This will be used to write a case study report for each case study.

The case study reports will be used to conduct within case study analysis (Yin, 2014) for the individual level directors interviews, and board observations initially. This will be followed by a cross case analysis in order to answer the research questions.

RESULTS

This study is in the early stages and although results from the fieldwork are not yet available, from the review of the available literature it is apparent that very little research has been conducted into the decision-making processes of boards and specifically in relation to not for profits this research is almost non-existent. From the researchers own board experience it is anticipated that most boards will not use any formal process for their decision making.

The literature provides support for a study into board decision making and in particular how directors interact with each other to make decisions (Tricker, 2015). This study proposes research to add to the body of knowledge in relation to this subject by the use of first hand empirical data collection such as interviews and participant observations, ideally from multiple respondents (van Ees et al. 2009).

CONCLUSIONS AND RECOMENDATIONS

This study will advance the current level of knowledge on the subject and has managerial, theoretical and methodological significance.

From a managerial level, if not for profit boards have a greater understanding of the issues that affect how they make decisions because of this study exploring the qualitative reasons behind board decisions they will be better equipped to select board members and processes that position them to make better decisions (Maharaj, 2008) and as a result provide better governance.

The study has theoretical significance as insights into boards are needed that do not lend themselves to the promotion of agency theory (Tricker, 2015). This study will examine the reasons and meaning behind the evidence from the historical perspective and will give a better understanding of how politics and power may influence board decisions.

This research has methodological significance as the methodology used by nearly all studies of boards has historically been that of analysis of historical board documentation. This study is one of only a handful to use case studies in a longitudinal study involving actual observation of boards as called for by many (Dulewicz & Herbert, 1999; Payne et al., 2009; Tricker, 2015; van Ees et al., 2009) to investigate the deeper reasoning and process used by boards to make decisions.

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The first-line manager's role as a facilitator of change and regular work activities during radical organisational change: A social exchange perspective

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Abstract

Radical organizational change (ROC) often has negative impacts on employees. The psychological contract between employee and employer is likely to be violated, resulting in a negative work climate. The negative impacts on employees 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. Furthermore, FLMs also need to ensure that a consistent standard of service is provided to external clients during the ROC. This means the FLMs are expected to manage the current operations as normal and at the same time facilitate the radical change requirements. As these circumstances of dual expectations suggest, the FLM needs considerable relational expertise.

There is limited research on FLMs and their role in both the organizational change and social exchange processes. Social Exchange Theory (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. SET may help to develop an understanding of how FLMs can enact their role in a way that meets the dual expectations of facilitating change whilst managing day-to-day operations. This is because FLMs primarily handle the people management aspects of daily operations and in this process build social exchange relationships with the employees. My study will explore the nature of social exchange relationships between FLM's (as intermediary agents), staff, and senior managers, in a ROC context. It is anticipated that my research findings will help managers execute more effective and efficient ROC programs, thereby reducing the negative impacts on employees.

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

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INTRODUCTION

Change management literature has generally highlighted the importance of people management through involving and valuing employees while undertaking organizational change. However, the role of social exchange/s between different parties to facilitate and strengthen the change process has rarely been considered (Coyle-Shapiro & Neuman, 2004; De Ruyter & Wetzels, 2000; Coyle-Shapiro, 2002; Eisenberger et al., 2001; Eisenberger et al., 1987). This is despite the fact that social exchange is a fundamental element of relationships, including in the workplace (Coyle-Shapiro & Shore, 2007). SET posits that a series of interactions between two or more individuals builds expectations from one another by attaching values to these expectations (Blau, 1964). Social exchange—consisting of mutual benefits and trust—aids in establishing strong relationships. Relational transactions that are fair and respectful tend to result in positive employee attitudes and eventually more effective work (Cropanzano & Mitchell, 2005).

In a change management scenario, such respect in social exchanges can ultimately aid in facilitating radical organizational change (ROC). ROC represents an occasional change that is typically revolutionary and swift (Fullan, 2006). French, Bell, and Zawacki (2005) defined ROC as the type of change that “seeks to create massive changes in an organization’s structures, processes, culture, and orientation to its environment” (p. 8). During a ROC, all aspects of an organization are affected at the same time as the whole organization is being transformed (e.g. Barker & Duhaime, 1997; Paton, 2003; Cornforth & Paton, 2004; Jas & Skelcher, 2005). Indeed, 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 (e.g. Lowe et al., 2008; De Jong et al., 2016; Sravani, 2016). This can put pressure on FLMs to achieve the required outcomes for change planned by senior managers. Furthermore, FLMs also needs to ensure the same standard of service provided to external clients is maintained. This means the FLMs are expected to run the current operation as normal and concurrently facilitate the radical change requirements and needs (Tushman & O’Reilly, 1997). As these circumstances of dual expectations suggest, FLM needs considerable relational expertise. As such, SET may help to inform how FLMs can enact their role in a way that meets these dual expectations. The use of SET as a theoretical lens might be more appropriate than other theories because FLMs primarily handle the people management aspect of the daily operation, and they tend to build social exchange relationships with the employees. These social exchanges in the work place in turn influence the performance of the organization.

FLMs are a critical group—intermediaries between those initiating the change and those implementing it at the operational/ground level. While SET literature has highlighted the use of SET to understand and interpret many facets of organisational behaviour, scant attention has been given to using it as a framework to examine the role of FLMs as an intermediary agent, and as a facilitator of both change and regular work activities. Similarly, these ambidextrous challenges have not been investigated, particularly in the context of ROC (e.g. De Ruyter & Wetzels, 2000; Eisenberger et al., 2004; Eisenberger et al., 1987; Hannah & Iverson, 2004; Allen, Shore, & Griffeth, 2003; Rhoades & Eisenberger, 2002; Wayne, Shore, & Liden, 1997).

Research questions

My research addresses the question: “How might SET help to explain the FLM’s role as a facilitator of change and regular work activities during ROC?”. Three secondary questions are as follows:

1. What is the nature of social exchanges between FLMs, employees, and senior managers?
2. How do FLMs manage the dual roles of facilitating both change and regular work activities during major ROC events?

3. What contributions, if any, do social exchanges make to FLM's performance of the dual roles as the major ROC events unfolded?

My research will use Meeker's (1971) social exchange rules as a basis to investigate the nature of participation in social exchange relationships within the case study organisation. The rules include reciprocity, rationality, altruism, group gain, status, consistency and competition. These rules encompass factors that stimulate individuals to participate in social exchanges relationships.

IMPORTANCE OF RESEARCH AND IMPLICATIONS

As this proposal has set out, my study will explore the nature of social exchange relationships between FLMs (being intermediary agents), staff, and senior managers, in a radical organizational change context. My research aims to explore the impact of ROC on the role of FLM, particularly while preexisting social exchange relationships are being impacted. My research will investigate how employee psychological wellbeing and engagement, and organization's climate can be maintained through changing and strengthening the social exchange relationships at the workplace. The study will make two main theoretical contributions:

- Inform the literature and gain an in-depth knowledge about the FLM's role during ROC from the lens of SET.
- Develop a framework to help change management scholars to incorporate effective organizational change practices into the literature. The framework will use the FLM's contribution as key to healthy organizational change.

My research also aims to improve managers' understanding of how to consider and mobilise social exchange to generate positive impact on employees while also achieving financial targets. This mobilisation of social exchanges will help senior managers, HR managers, and radical change specialists to execute more effective ROC strategies. There are two main practical contributions of my study:

- Help senior managers to see FLMs as key contributors during ROC. Seeing FLMs as a positive force for change may result in positive outcomes for employees.
- Help managers to understand the importance of SET at the workplace, which will reflect on improving the efficiency and effectiveness of the change process.

LITERATURE GAP

While SET literature has highlighted the use of SET to understand and interpret the workplace context, no attention has been given to the perspective of SET about the role of FLMs as an intermediary agent and facilitator of change and regular work activities, particularly in the context of ROC (e.g. Eisenberger et al., 2004; Eisenberger et al., 1987; Hannah & Iverson, 2004; Allen, Shore, & Griffeth, 2003; Rhoades & Eisenberger, 2002; Wayne, Shore, & Liden, 1997). Although change management literature has generally highlighted the importance of involving employees and treating them with respect while undertaking change management activities, very little has been mentioned about the importance of social exchange/s between different parties to facilitate the change process. Indeed, the nature of social exchange between three parties has not been thoroughly investigated, while literature of SET was mainly focused dyadic relationships. In contrast, in my research, I will focus on social exchanges between three parties, while the implications of this exchange and impact on one another is unknown. For instance, what does it mean for FLMs when senior managers engage in social exchange relationships with front-line operational employees who are non-managers and potentially undermine FLMs?

ROC is considered an immediate form of change. Many existing ROC studies mention ROC commonly employed practices, but there is limited knowledge about the impact of these practices on the effectiveness of change results (Pandit, 2000). Consequently, researchers have expressed concerns about the limits of our knowledge of ROC and its negative implications (Schoenberg, Collier, & Bowman, 2013; Pandit, 2000; Liou & Smith, 2007).

My study identifies FLMs as a critical group—intermediaries between those planning the change and those implementing it at the operational level. Current ROC studies emphasize the role of external practitioners and senior managers in the ROC process (e.g. Fullan, 2006; Pillay, 2013; Paton, 2003; Cornforth & Paton, 2004; Jas & Skelcher, 2005), but little is known about the role of FLMs as those who manage and guide operational staff and may therefore make or break a ROC initiative. FLMs typically may well have more credibility and influence with employees than senior managers, who tend to be head office employees having little interaction with operational staff (Renwick, 2006; Larsen & Brewster, 2003; Whittaker & Marchington, 2003). Therefore, FLMs' views on ROC and its relation to people management are expected to be more realistic and pragmatic than those of the senior managers or external experts featured in previous studies. This pragmatic views of FLMs will be reflected in the interviews of my research and it is anticipated that insights gained from analysis of the interviews will make a significant contribution to the knowledge of change management and social exchange literatures.

METHODOLOGY

As there is no previous research on which to base testable hypotheses, my study will adopt an exploratory approach, using qualitative semi-structured interviews to understand FLMs' experiences with the ROC process. Qualitative methodologies are chosen because they can provide an in-depth understanding of social phenomena (Neuman, 2006; Creswell, 1998), and are more appropriate to exploratory research than quantitative methods, which may confine responses to existing frameworks (Flick, 2006). Furthermore, Qualitative research allows a deeper study of individuals' experiences, perspectives, and context (Yin, 2011). Patterns emerging can later be tested for generalizability within a quantitative paradigm. Qualitative research is increasingly used to understand the ROC process (e.g. Armenekis & Bedeian, 1999; Lim, 2006; Pillay, 2013). Indeed, many scholars believe that the implications of ROC have not been clearly defined (Pandit, 2000; Beeri, 2012; Panicker, 2015). Therefore, my study takes an exploratory approach, aiming to address this gap in research.

As such, in a case study the researcher uses data obtained from systematically studying a given group, individual, event, or instance. A case study analyses single or multiple instances and events as well as the resulting implications (Yin, 2009). With the help of a case study, the data gathering process is more focused. As a researcher, the research methodology of a case study approach proved to be the most appropriate choice. Through it, I will acquire a thorough comprehension of "social exchange at the workplace" (Saunders, Lewis, &Thornhill, 2007). In my research, I will be investigating a single case study through interviewing FLMs, employees and senior managers.

My study will consider FLMs in a single organization in the Australian aviation industry. The aviation industry in Australia is a competitive market which has forced a lot of organisations to either exit or employ a ROC. FLMs in this organization will be asked about their experiences with social exchange relationships during the latest three ROC events that happened in the last three years. I will focus on how FLMs enact in their role by facilitating change and regular work activities. I will also explore and frame these experiences through the lens of SET. As elucidated earlier, SET assists in analysing the relational elements in a given setting. As such, SET is an invaluable framework to employ in my case study.

The case study organization is a large ground-handling firm and part of a global organization. It recently underwent radical change, using multiple ROC strategies in airports across Australia. This ROC process involved changing company ownership, name, branding, organizational culture, structure, and leadership roles. Significant budget cuts required downsizing through forced redundancies.

Data analysis

Thematic analysis will be used to analyse the data. The interviews will be transcribed, then sorted and grouped through multiple readings in which meaningful units are identified by breaking down the data into smaller pieces of information reflecting the issues covered in the literature review (Bradley, 1993). These will be sorted and combined into thematic categories and sub-categories for each respondent, and relationships between these will be identified. Siedman (1998) suggested reading each transcript six times to systematise this categorization process, and to develop a profile of each participant.

To check the reliability and validity of this data analysis process, three transcripts will also be analysed by the researcher's two supervisors, and the resulting themes compared. The descriptive data will be coded using a content analysis approach. This will help identify how predominant various issues and themes are, in connection with a specific context. In order to facilitate the data analysis, NVivo10 software will be used.

CONCLUSIONS

When an organization undertakes ROC strategies, there will inevitably be negative impacts on employees which will affect the social exchange relationships in the workplace. While FLMs try to facilitate change and regular work activities simultaneously, ROC will have an impact on the dual role of FMLs. My research is concerned with understanding how FLMs can enact their role in a way that meets these dual expectations during ROC, from the perspective of SET.

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Role of social media in handling a crisis situation: A case study of Commonwealth Bank of Australia (CBA)

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Abstract

This research study explores how the Commonwealth Bank of Australia-CBA managed to respond to a recent online crisis caused by money laundering allegations levelled by AUSTRAC-Australian Transaction Reports and Analysis Centre. Employing the case study approach, this study has examined how CBA managed the crisis on social media. Findings suggested that media releases focused on five elements in crisis communication response i.e. acknowledgement and resolution of issue, reassurance of compliance and coordination, software error – cause of breaches, assurance of conveying information, and investment made in financial crime laws compliance. On the other hand, CBA's responses on social media follow knowledge transfer and assimilation elements, but lack in knowledge acquisition.

Keywords**:** *Social Media, Crisis Communication, CBA, AUSTRAC, Knowledge Management.*

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INTRODUCTION

A crisis may have serious consequences for an organization, which does not handle a crisis seriously. According to Coombs (2007), "an organizational crisis is the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes" (pp.2-3). The communication during and after the crisis can significantly increase or mitigate the implications of a crisis (e.g., Ulmer, Seeger, & Sellnow, 2007). Besides the complexity involved by the crisis communication itself, the digital technologies further complicate how the organizations manage and communicate the crisis (Veil, Buehner, & Palenchar, 2011). Apart from that, the social media, specifically, pose many challenges to organizations' way of devising and implementing crisis communication strategies.

This research study examines the crisis situation that the Commonwealth Bank of Australia (CBA) has been facing since August 3, 2017. CBA has been accused by the AUSTRACK (an Australian financial investigation agency) that it has breached the anti-money laundering laws for 54,000 times for the last 4 years and has failed to report suspicious transactions carried out through the banks' intelligent Automated-Teller Machines (ATMs). The purpose of this study is to find out how the CBA has tried to manage this crisis situation in an online context through meaningful crisis communication response while aligning the crisis communication response with the knowledge management paradigm.

The power of the use of social media today can either exacerbate a crisis situation or counteract the threats posed by the growing and fragmented media landscape (Barker, 2011). To handle a crisis situation, it is imperative to engage with the online community with an effective use of knowledge management through companies' wider online presence (on social media pages, websites, and virtual communities). While incorporating the safety and security-related messages makes customers feel confident about their online transactions/activities. The knowledge management is a multifaceted process of managing socio-technical process of communication encompassing various forms of knowledge. Three components i.e. technical, communication, and human have been used in this research study. The technical aspect has focus on the data gathering, data mining, and the construction of knowledge. The communication component refers to the sharing of information through social media platforms. The human component has focused on the human interaction in formal as well as informal online platforms in order to facilitate individuals and groups to allay their concerns.

Social media have profoundly facilitated the way information is generated in an online crisis situation. The crisis news are not monopolized by the giant mass media houses/channels anymore; instead, the news is also spread by social media users to a large audience in real time (Stephens & Malone, 2009). According to Baron (2010), in crisis management, the public participation has become the norm these days. Thus, the crisis communication experts are of the opinion that it is imperative that the organizations should prioritize the use of social media in a crisis situation and consider capitalizing on the virtual communities emerging through social media (e.g., Bruns, 2014).

This research study explores an effective way to manage a crisis situation. This study is important because today's digital media dominated era has compelled almost every organization regardless of its size and nature of business to have an online presence. This online presence makes it more complicated to respond to its stakeholders online, specifically, in a crisis-driven situation.

An online crisis communication response is the use of internet for an effective communication to manage, control and provide an immediate and customized response to the customers' reactions during a crisis event. The response from a company and the suitability of that response is critical for the company's image, which justifies the need for a proactive approach to be adopted by a company during a crisis situation (Anthonissen, 2009). It is an established fact that the success of an effort to deal with a crisis situation is highly dependent on what does an organization say (crisis response) during a crisis situation (Benoit 1997, Coombs 2004). A corporate response must be accurate, proactive for all the stakeholders, and must be addressed via organization's social media presence (Conway et al. 2007). Although there are several strategies mentioned in the extant literature regarding how to handle a crisis situation, yet a few studies have focused on the use of knowledge management paradigm with regards to crisis communication response online in order to effectively manage and control the messages to be sent to customers.

DATA & METHODOLOGY

This research is qualitative and exploratory in nature. The qualitative content analysis of the Commonwealth Bank's press releases and responses to its customers' reactions on Facebook since the emergence (August 3, 2017) of the money laundering issue has been conducted. The analysis has been conducted while referring to the knowledge management typologies (knowledge acquisition, knowledge transfer, knowledge assimilation) and the online crisis communication theory.

Data Collection

The press releases issued by the Commonwealth Bank with regards to the money laundering issue and the responses of the bank to its customers' reactions on its Facebook page were collected for analysis. The collection of data was aimed at looking into the type of approach (proactive or reactive) adopted by the CBA to develop online crisis communication messages.

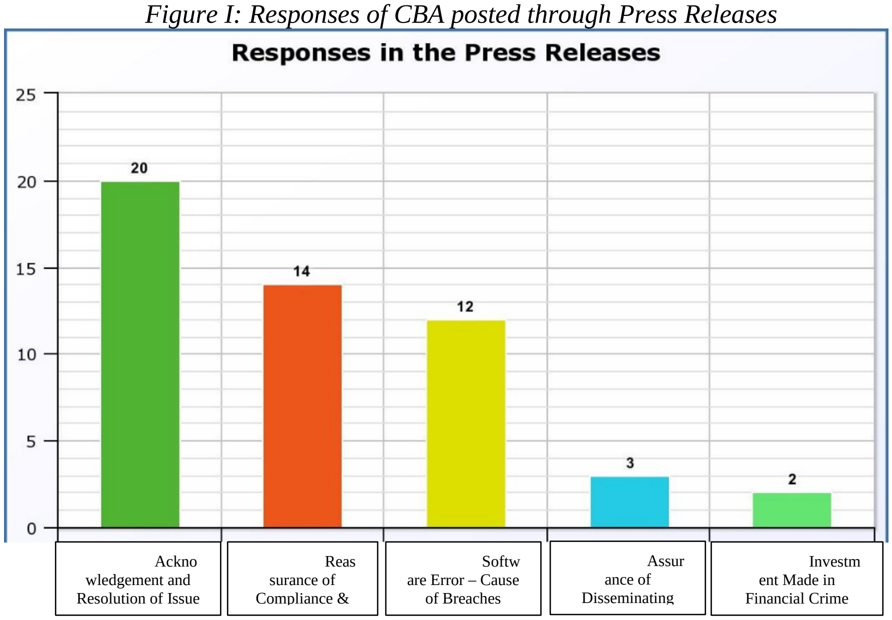
Sample Size

The comments were collected from the day (August 3, 2017) when the news regarding the money laundering started spreading into the print, broadcast, or digital/social media channels until 15th of September 2017. The data included four press releases and around a hundred responses of the bank to its customers' queries on its official Facebook page.

Data Analysis

Data were analyzed using coding in the MS Word and MS Excel Macros to identify the concepts of the knowledge management paradigm i.e. knowledge acquisition, knowledge transfer, and knowledge assimilation. The Facebook page of the Commonwealth Bank was monitored for around one and a half month (August 3, 2017 to September 15 2017) and almost all the relevant responses of the bank to its customers' reactions were collected. The media releases issued by the CBA regarding the allegations were also collected for analysis. Figure 1 shows the graphical representation of the responses made by the Commonwealth Bank to its stakeholders through the media releases for a period of one and a half month.

Figure I: Responses of CBA posted through Press Releases



The media releases which were posted on the Commonwealth Bank's website contained five types of messages dominantly. 1) acknowledgement and resolution of issue, 2) reassurance of compliance and coordination, 3) software error – cause of breaches, 4) assurance of disseminating information, and 4) investment made in financial crime laws compliance.

The table-I shows three theoretical typologies of knowledge management paradigm as taken from the responses posted to its customers' queries by the bank on its Facebook page. The *knowledge acquisition* typology was measured how the knowledge has been created i.e. through bank's official statements and sharing of the links in the comments to convey information to the people. The other typology that is *knowledge transfer* was observed in terms of bank's interactions and sharing of information regarding the issue and the bank's actions with regard to issue. The third typology *knowledge assimilation* has been examined in terms of ways/procedures through which the CBA has tried to let the customers know about the safety of information and funds of the bank's customers.

Table-I: Data Analysis with respect to Knowledge Management Typologies

Typologies	Characteristics	Activities
Knowledge Acquisition	Technical Aspect • Knowledge construction	• Sharing of the link of press releases • Sharing of the content of press releases
Knowledge Transfer	Communication Aspect • Creating messages • Direct interactions • Information sharing	• Direct interactions • Information sharing • Links sharing to the bank's website
Knowledge Assimilation	Human Aspect • Methods for reducing the customers' outburst	• Fact sharing • Elaboration on issue • Accommodating customers • Bank's practices to address crisis online

RESULTS

The results of this research study are based on the knowledge management paradigm as shown in the table-I and figure-I. This study has examined the applicability of the knowledge management typologies. The analysis of this study shows that the bank has tried to handle the crisis online, but not so effectively. In terms of reactive approach, the bank did good as it responded to the customers' reactions online. However, it did not have any proactive approach that could have made the customers aware of the anticipated problem (the money laundering allegations).

As mentioned in figure-I, the bank has responded to the issue by mentioning five elements that have been dominant in the press releases. Those elements are: 1) acknowledgement and resolution of issue, 2) reassurance of compliance & coordination, 3) software error – cause of breaches, 4) assurance of disseminating information, and 5) investment made in financial crime compliance laws. The first element shows that the bank has acknowledged the issue and tried to inform its stakeholders the issue will be resolved on priority. The second element has focused on the reassurance that the bank tried to show its stakeholders that it would comply with all the legal and regulatory requirements of the issue and coordinate with AUSTRAC on further proceedings. Third element shows that the ban has tried justify that the money laundering is not a deliberate attempt by the bank but us caused by the software error. In the fourth element, it has been ensured that the people will be informed for further proceedings concerning the issue. In the last element the bank has tried to show that it has invested significantly in the technology to ensure that the bank's practices comply with anti-money laundering and the counter-terrorism laws.

In the table-I, it has been shown that the bank's handling of the crisis is in accordance with the knowledge management typologies, through with a dominant reactive approach. From the table-I, it can be contended that the bank was consistently reactive and while responding to its customers' rants on social media i.e. Facebook. It also offered its customers for any help, if they required regarding their funds and information safety and even online transactions.

CONCLUSION & RECOMMENDATIONS

This research study has provided an idea that how the Commonwealth Bank of Australia (CBA) tried to handle the crisis caused by the money laundering allegations levelled against the bank by the financial intelligence and investigation agency AUSTRAC. The bank's efforts to handle the crisis are evident in its media releases and its official Facebook page. However, the efforts are not up to the mark, as the bank does not have an active presence on other social media platforms such as twitter, LinkedIn etc. Even though the bank tried to respond to the customers' reactions on Facebook, it did not do so on the other social media platforms, which affected the bank's efforts to handle the crisis online.

The results suggest that the bank's consistent interactions with its stakeholders online can significantly reduce the negative impacts of the online crisis. Moreover, if the bank's approach is proactive, it can have even better results in handling an online crisis.

It can be concluded that further quantitative studies can be conducted in order to obtain a deeper understanding of the management of how the messages should be composed and shared in an online crisis situation. The limitation of this research study is its lack of generalizability as it is case study of a single issue of an organization. However, the methodology of this study which adopts the knowledge management paradigm to study the bank's activities can be adopted to study the cases of similar kind.

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Mobile banking adoption by senior citizens in Perth

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Abstract

Mobile banking (M-banking) research in Australia have in the past focused on young and middle aged users, but little is known about the intentions of senior citizens (aged 55+) to use M-banking. This paper investigates the factors that affect the adoption of M-banking by using a TAM-UTAUT framework. Questionnaires were distributed amongst seniors in Perth and results indicated that performance expectancy, facilitating conditions and, perceived ease of use were significant factors that determined their use of M-banking. The study provides insights for academics, M-banking service providers, decision makers and stakeholders.

Keywords**:** *Mobile banking, Technology acceptance model, Unified theory of technology and use of technology, Perceived usefulness, Perceived risk.*

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INTRODUCTION

Mobile banking (M-banking) is a technological innovation provided by banks to meet its customers banking needs through smart phones by supporting activities such as transfer of funds, account and loan management, transaction history checks, and payment of bills (Crabbe, 2009). While traditional banking methods have shifted over the years to phone banking, automated teller machines (ATMs) and online banking as a result of advancements in technologies, M-banking has been widely adopted by users in many developed and developing countries, causing a significant impact on the market (Al-Jabri & Sohail, 2012). The use of smart phones for commercial transactions in Australia is high (Yeates, 2015) and a recent study by (Shaikh and Karjaluoto, 2015) found that 68% of 246 Australians surveyed used online banking services at least once a week. The growth in financial technology (Fintechs) trends such as micropayments, artificial intelligence, peer-to-peer payments and blockchain technologies have improved M-banking adoption in Australia (Bennett, 2016). Juniper Research (2016) stated that the expected rate of M-banking adoption in Australia is predicted to exceed 2 billion by the year 2020. While there are various studies that focus on online banking, there is a lack of investigation on M-banking adoption by senior citizens in Australia.

Australia has 6.66 million individuals who are over 55 years of age (ABS, 2016). Of these 6.66 million, 5.3 million own a smart phone but only 39% use their smart phones for banking transactions. According to Australian Institute of Health and Welfare (2015), Australians have improved life spans. As the Australian population ages, individuals might suffer from poor vision, hearing and mobility, thus making it difficult for them to participate in traditional banking activities such as standing in line, using ATMs, and reading paper-based bank statements. They often have to seek help from relatives, friends or caregivers to help them manage their financial and banking needs. The advancements of technology provide opportunities to assist individuals who suffer from poor health or disability and should be harnessed by banks to improve their customer services. By improving M-banking adoption rates, the lives of more senior citizens can be enhanced. The main purpose of this research is to investigate why and how current senior citizens in Australia choose to use M-banking. The study uses a framework that combines the theory of acceptance model (TAM) (Fred Davis and Bagozzi, 1989), and a unified theory of acceptance and use of technology (UTAUT) (Venketesh et al., 2003) to explain how users accept technology and the intentions and behaviours of users towards technology adoption. This research explores factors such as, perceived usefulness, perceived ease of use, performance expectancy, effort expectancy, social influence and, facilitating conditions. It is guided by the main research question that asks: What are the factors affecting the M-banking adoption by senior citizens in Australia? The study will provide a better understanding of user’s expectations and needs in order to encourage future M-banking adoption by senior citizens in Australia.

DATA AND METHODOLOGY

Development of a survey instrument

Based on literature, a survey questionnaire (Appendices 1) was developed for the study, which was consisted of three parts. Questions on current M-banking knowledge of users and non-users were included in the first section with a dichotomous question to identify whether the respondents were users or non-users of M-banking. The second part was about the constructs of TAM and UTAUT and five point Likert Scale were used to provide participants to select best options from the range of totally disagree to agree, according to their situations. Personal information about users and non-users such as, age, gender, occupation, marital status and, income were included in the third section.

Data collection

Data was collected from Western Australian seniors at randomly selected shopping centers, churches and through an initiative program of Edith Cowan University Enactus. Overall, 70 questionnaires were distributed (Users-32 respondents and non-users–38 respondents). Of these responses 6 were discarded due to the incompleteness. This gives a response rate of 91% which compares favourably with results of previous studies. However, as this was a pilot study, only a small sample size was approached. Theory suggests that when sample sizes are small, errors and validity of results can potentially occur. Additionally, as these findings are only based on a small sample size within Perth, its findings cannot be generalised and further research is required. Data was analysed by using statistical package for social sciences (SPSS). Demographic factors were analysed by using descriptive statistics and linear regression was used to analyse the significance of the TAM and UTAUT constructs with behavioural intention to use M-banking.

RESULTS

Demographic information of participants

To understand the demographic difference between users and non-users of M-banking, descriptive statistics such as frequency and percentage comparisons were conducted. Significant differences were found between users and non-users based on their gender, age, marital status, education, occupation and income levels. 58.6% of users were males between ages of 55-74 whereas 41.4% of users were females aged above 85. Married elderly customers with children were more likely to use M-banking compared to individuals who are single, married without children, separated, divorced, or widowed. Majority of users (70%) had attained a diploma or degree. 44.8% of users were retired from their jobs and had an annual income of AUD 40, 000 - 59, 999. 68.6% of M-banking non-users in Perth were observed to be female customers. The largest groups of non-users (51.4%) were also married elderly customers without children. 31.4% of non-users only had a high school level of education and 22.9% non-users were self-employed earning less than 19,000 per year.

M-banking usage characteristics

Of the 29 individuals that identified as users, more than 79% used M-banking for personal purposes whereas 20% used M-banking to conduct business activities. 41.4% of users identified the use of M-banking to check their account balances, while 48.3% used M-banking for other activities such as checking for new offers, interest rates and conduct international transactions. Only 1% used M-banking to pay bills for their utility accounts.

Users' behavioural intention towards M-banking

Table 1 presents responses from participants on the factors that persuade them to use technology. The factors surveyed were: performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), perceived usefulness (PU), perceived ease of use (PEOU) and perceived risks (PR). Each of the factors was recorded using a five-point Likert scale where 1 indicated strongly agrees and 5 indicated strongly disagree.

Table 6: Regression analysis users and non-users

		Users		Non-users	
Dimension		Unstandardized coefficients B	P value	Unstandardized coefficients B	P value
Item 1	PE	0.263	0.041	-0.291	0
Item 2	EE	0.247	0.057	-0.152	0.224
Item 3	SI	0.177	0.003	0.059	0.539
Item 4	FC	0.16	0	-0.155	0.022
Item 5	PU	0.371	0.004	-0.14	0.101
Item 6	PEOU	0.371	0.004	0.318	0.011
Item 7	PR	0.023	0.851	-0.571	0

Dependent variable: Behavioural intention, Note: *, **, *** mean significant at 1%, 5% and 10% respectively

In the specific context of older individuals, other studies have also found that performance expectancy could predict users' intention to use technology (Lian & Yen, 2014; Braun, 2013). Study results showed that performance expectancy and perceived advantages had a significant impact ($p<0.05$) on individuals' (both users and non-users) intention to use M-banking. Wang et al. (2009) identified that trust in M-banking is shaped by user experiences in performance benefits such as convenience, satisfaction, economic benefits and personal image. A study by Zhou et al. (2010) which focused on China Mobile and China Unicom customers found that prior experiences in using M-banking increased users' expectancy of future benefits when using the same technology. Therefore, user-friendliness of an application is vital to customers and will influence their decision to adopt or continuously use M-banking.

The results showed that effort expectancy (EE) and social influence (SI) also can significantly impact on senior users' behavioural intention to use M-banking (P < 0.05). These results were different from Oliveira et al. (2014)'s study, which showed that EE and SI had no significant influence on users' behavioural intention to use M-banking. However their sample were based on customers of various age groups in Portugal, where there is a high adoption rate of mobile phones and individuals had a high level of familiarity with technology. Therefore, individuals do not perceive M-banking as a difficult task and the impact of effort expectancy was insignificant on their behavioural intentions. While EE and SI influenced Perth's current senior users in continuous use of M-banking, these did not have an impact on behavioral intention to adopt M-banking amongst non- users.

Czaja (2007) observed that elderly customers will be interested in using technology if they perceive the technology as useful and easy to use. Similar results were observed by Oh &Yoon (2014); Pan & Jordan-Marsh (2010); Porter & Donthu, (2006) which supported the previous claim made by Davis (1989) that effort expectancy plays an important role in technology acceptance. Furthermore, this study's results demonstrated that social influence from family, colleagues, friends and relatives can impact on seniors' decision to use M-banking. As a majority of the user sample in this study were "married with kids", it can be argued that the influence of children can impact on seniors' adoption of M-banking. Data for this study were collected from shopping centers, churches, and Enactus, which is a program for elderly Australians to learn how to use smart phone technology. Responses from 50% of the participants indicated that they were encouraged to use M-Banking because of friend's recommendations. Being involved in gatherings or communities may further encourage discussion and encouragement to adopt new technologies. This result suggests that it is important to consider multiple actors who can influence an individual's cognitive behaviour. Oh & Yoon (2014) suggested that word-of-mouth communication is a strategic marketing approach when encouraging seniors to adopt and accept new technology.

Another predictor of seniors' behavioural intention to use M-banking is facilitating conditions. Results showed that their intention to use M-banking is reinforced by familiarity with technology and how well-equipped they currently are with resources and knowledge. Pan & Jordan-Marsh (2010); adopted an expanded TAM and observed that facilitating conditions were perceived as a factor that impacted seniors' acceptance and usage of the Internet. The results of this study also observed that facilitating conditions had a significant impact on both users and non-users' intention to use M-banking (P<0.05). They indicated that they have the necessary resources such as, smart phones, internet connection, and access to applications to use M-banking.

The results showed that senior users' intention to use M-banking is reinforced by application features that help them perceive a sense of ease when using the technology, usefulness, effectiveness, and ability to multi-task and save them time. The application needs to be clear, understandable, user-friendly, and not require a lot of mental effort to learn. Lee et al. (2003, p. 344) claimed that prior experience in technology "leads to positive expectations of one's personal abilities to use that or related technologies". This was also reflected in the study which observed that individuals who were already familiar with other technology were likely to perceive M-banking as easy to use and useful to their lives, which had a significant impact on their behavioural intention to use M-banking (P<0.05). The results are also consistent with the findings of Gu et al. (2009), which tested M-banking adoption by customers from Korea's WooriBank. Their study's sample had high levels of technology literacy and as a result, had high behavioural intentions to use M-banking and were comfortable with conducting M-banking transactions. For non-users, their behavioual intention to adopt M-banking is contingent on perceived usefulness but on perceived ease of use (P<0.05).

Perceived risk was found to not have an impact on behavioural intention to use M-banking among senior users. Only 10.3% expressed concern that their financial data could be hacked by unauthorised individuals and 13.8% expressed fear of using M-banking in public places. However, for non-users, perceived risk had an impact on behavioural intention to use M-banking ($P<0.05$). Featherman and Pavlou (2003) observed that customers with high M-banking literacy would have lower perceived risk levels. Perceived risks on behavioural intensions were also observed by other studies conducted by Cruz et al. (2010); Tobbin (2010); Aljabri and Sohail (2012); Caushen (2013) and, Silva et al., (2013), which shows that regardless of how developed a country is, literacy of individuals can make a difference to their adoption of technologies.

CONCLSION AND RECOMMANDATION

Conclusion

This study conducted to identify the M-banking adoption by senior citizens in Perth. The results provide implications for academia by providing a basis for further alteration of technology acceptance models. According to the academic theory, the proposed model described 70% of behavioural intention of users and non-users towards M-banking than the 40% of TAM studies (Venketesh et al., 2003). According to the descriptive statistics, although majority of users and non-users had a smart phone and were aware about M-banking, they did not use M-banking. Approximately one third of non-users of M-banking were scared of that M-banking would result in their financial information being revealed in a way that breaks their financial privacy. Furthermore, results indicated that performance expectancy, facilitating conditions and, perceived ease of use have an impact on, users to continuation of M-banking whereas non-users to adopt M-banking. However, some users expressed that M-banking is "not trustworthy". The meaning of trust is multi-dimensional and there is obscurity in identifying trust with banks, software application developers, service providers and, third party. Therefore, it is important to train seniors using M-banking application securely. This study provides insight for banks to identify the issues amongst seniors adopting M-banking. However, this study was conducted with a specific focus on west Australian senior citizens in order to explore the influences on why they would adopt or use M-banking. This target group has not been studied much by other researchers and little is known about their influences in academia.

Recommendations

The study results showed that marital status impact on M-banking adoption by seniors. Therefore, it is important to identify the lifestyles of seniors and its impact on M-banking adoption. This can be identified through anthropological study, which uses quantitative qualitative approach. Furthermore, banks should provide age-friendly M-banking service to their senior customers by training them how to use M-banking app. Banks should invest on research and development activities in collaboration with mobile phone companies and software application developers to develop user friendly M-banking app. This study surveyed senior users and non-users of M-banking in Perth, therefore the findings of this study cannot be generalise to the larger population. Furthermore, study considered behavioural intention than the actual behaviour of the users. It could be important to conduct a similar study is different countries and see the effect of national cultures and the purpose of using M-banking. The larger sample size and more variables would shed greater insight on this important topic.

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The effects of family ownership on capital structure of Vietnamese listed companies

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Abstract

This paper examines how family firms behave differently from non-family firms in making their funding decisions. By applying panel regression models for samples of Vietnamese listed companies in the consumer product and industrials industries over the 2008-2016 period, the authors find that family firms have higher debt ratios than non-family firms. Effects of business characteristics on financing decisions also differ from family firms and non-family firms. Particularly, asset tangibility appears to be the important influencing factor of the debt levels in non-family firms, whereas it does not have any impact on capital structure of family firms.

Keywords**:** *capital structure, family firms, listed companies.*

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INTRODUCTION

Since the irrelevance theory of Modigliani and Miller's (1958), several researchers have developed theories on capital structure. For example, the Trade-off theory proposed by Kraus (1973) suggested an optimal leverage that balanced the costs and tax benefits of debt. On the other hand, a financial hierarchy based on information asymmetric assumption was introduced in the Pecking order theory (Myers & Majluf, 1984). According to the latter theory, firms preferred retained earnings to external financing, and preferred debt to external equity. The agency theory of Jensen and Meckling's (1976) introduced the agency conflicts between owners and creditors, and the conflicts of interests between managers and owners as determinants of choosing capital sources. Grounded in the agency theory, this paper focuses on examining whether families, as a special type of blockholders, affect the choices of funding sources and how family firms differ from non-family firms in financing decisions.

Family shareholders are argued to be distinctive from other kinds of large shareholders because, beside economic wealth, they tend to maximize the reputation of the family and pass the business down through family generations (Claessens et al., 2002). Thus, they are long-term, undiversified investors with very strong control motives (Croci et al., 2011). Control intention leads family firms to avoid equity – a security that dilutes control. On the other hand, long-term survival considerations create a risk-averse nature in family shareholders. While incorporating debt increases risks of bankruptcy, family firms generally prefer equity (Anderson & Reeb, 2003).

Given their prominence in global economies, family firms and their financing behaviours have attracted the attention of many scholars all around the world. However, empirical research on the financing decisions of family firms has yielded inconsistent results. Al-Ajmi et at. (2009) and Ampenberger et al. (2013) found lower leverage in family firms compared to non-family firms in Saudi Arabia and Germany. In contrast, several researchers (e.g., Jain & Shao, 2015; Pindado et al, 2015; Baek et al, 2016) detected positive effects of family ownership on debt levels in listed companies in America and in Europe.

This paper contributes to the literature by constructing an updated dataset of Vietnamese listed family businesses. This paper also, breaks new ground by providing an insight into the financing behaviours of listed family firms in Vietnam. Family businesses in Vietnam also play an important role in the economy, generating 40% of the national GDP (General Statistics Office of Vietnam, 2017). However, they are different from family businesses in other countries. First, companies in Vietnam are younger than companies in America and Europe. Second, a large number of family firms in Vietnam were originally state-owned; then, they were equitised and became family firms, due to Vietnamese political history. Such companies had political connections that helped enhance their operations. Third, Vietnam has different settings and regulations for its financial system than other developed and undeveloped bank-based economies. The Vietnamese economy is still under strict control of the Government. Indeed, a positive effect of family ownership on leverage in Vietnamese listed companies, which was identified in this research, was in line with many other empirical results. However, the insignificant effect of tangibility and independent directors on capital structure illustrated the influenced of institutional characteristics of Vietnam on corporate financing decisions. The subsequent parts of this paper are arranged as follows: Section 2 is an outline of the data and methodology. Section 3 discusses findings and section 4 is the conclusion.

DATA AND METHODOLOGY

Data

The initial sample comprised of 397 companies in the consumer product sector and the industrials sector listed on the Ho Chi Minh Stock Exchange and the Hanoi Stock Exchange over a period the 2008 – 2016. The financial information of selected companies, with at least six consecutive annual reports, was extracted from the Bloomberg database. Ownership and corporate governance information were collected from annual reports and corporate governance reports published on companies' websites. Most companies in the consumer product sector and industrials sector are manufacturing and construction companies, which have more demands for external funds than other sectors such as services. Thus, financing decisions of these companies are more crucial to the companies' survival.

Family firm researchers have various ways of defining a family firm; however, scholars commonly used a threshold of family ownership to differentiate family firms from non-family firms. This research classifies a firm as a family firm if it has ultimate owners, who can be individuals or family members as a whole, holding at least 10% of the company. The Vietnam Enterprise Law 2014 gives shareholders holding 10% and more of companies more rights than other shareholders and they have influences on corporate decision making processes. This percentage is also in line with the choice of many family firm studies (La Porta et al., 1999; Croci et al., 2011; Santos et al., 2014). This ownership stake must be held for the whole sample period from 2008 to 2016. For instance, if a company was classified a family firm in 2009 through to 2015, but the percentage of family ownership declined under the 10% threshold and if a family member did not hold a director position, such companies would be excluded from the original sample.

A subsample of non-family firms was constructed from the remaining companies in the sample by pairing each family firm with a non-family firm. Comparison criteria were the industries, subsectors, market capitalization and total book assets.

Methodology

Model specification

The panel regression approach was used to examine the effect of family ownership on capital structure of Vietnamese listed firms because it had more advantages than the traditional Ordinary Least Square model. First, panel data deals with variables that vary in two dimensions: cross time and cross sections. Second, panel regression model allows to control for unobservable idiosyncratic differences that are consistent over time (heterogeneity). In this paper, the fixed effect model of the panel regression approach was preferred for the unbalanced dataset, which was also consistent with the methods used in many studies (Ellul, 2008; Jain & Shao, 2015; López-Gracia & Sánchez-Andújar, 2007). In addition, the random effect assumption that the individual specific effects do not associate with the independent variables is rarely held. The model specification, therefore, is as follows:

$$Lev_{i,t} = \beta_1 Fown_{i,t} + \beta_2 Size_{i,t} + \beta_3 Grow_{i,t} + \beta_4 Prof_{i,t} + \beta_5 Tang_{i,t} + \beta_6 InBo_{i,t} + \lambda_2 E_2 + \ldots + \lambda_n E_n + \delta_2 T_2 + \delta_t T_t + \mu_{it} \quad (1)$$

In which, Lev_{it} is a proxy of capital structure, leverage of company i at time t. E_n represents the fixed effects for cross section, T is to represents for time effects. λ, δ, β represents the coefficients of the variables. *Fown*, *Size*, *Grow*, *Prof*, *Tang*, *InBo* are independent variables. μ_{it} is the error terms. Separate regressions were run for two subgroups of family firms and non-family firms in order to with an important disadvantage of the fixed effect model, which could not estimate the coefficients for time-invariant variables such as dummies.

Variable definition

The dependent variable, *Lev*, is measured by the sum of book value of financial long-term debts and financial short-term debts to book value of total assets, following studies of Driffield et al.'s (2007), and Gottardo et al.'s (2014). This definition ensures the consistency in measuring the numerator and denominator because there is not an active debt market in Vietnam. In addition, the book value shows the actual monetary value of capital the company receives from financing activities.

Most researchers of family business studies (e.g. Amrad, 2016; Crespí & Martín-Oliver, 2015; Anderson & Reeb, 2003) used a dummy variable to represent the family ownership; this paper uses the percentage of total shareholdings by family members as a variable for family ownership (*Fown*) in the regression for family firms.
The second group of independent variables includes control variables that describe the business characteristics of companies: growth opportunities (*Grow*), profitability (*Prof*), firm size (*Size*) and tangibility (*Tang*). These firm-specific factors' effects on capital structure have been confirmed in capital structure theories and several empirical studies (Santos et al., 2014; Gottardo & Maria Moisello, 2014). In this research, sales growth is used as a proxy for growth opportunities. Profitability is defined as return on asset ratio that equaled net income divided by average of total assets. Tangibility is represented by the net fixed asset to asset ratio.

In family firms, the concern of corporate governance quality is strong due to the incentives of protecting minority shareholders and it can affect the supply side of capital resources (Shahzad et al., 2015). This paper introduces percentage of independent directors in the board as a variable for the board characteristics and corporate governance (InBo). Independent directors are non-family directors who did not involve in running the business.

RESULTS

Descriptive statistics

Table 1 shows the descriptive statistics of variables. The mean debt ratios of all firms were lower than 30%, which indicated that Vietnamese listed companies had majority of their assets financed by equity. According to this table, Vietnamese listed family firms and non-family firms did not have many differences in size and tangibility. This equality could be explained by the choice of comparable group of non-family firms that needed to have similar size and to be in the same industry as the family firms. However, leverage of family firms was higher than non-family firms, which was consistent with results of Croci et al., (2011); Gottardo et al. (2014). Family firms in the consumer goods and industrials industries enjoyed relatively high sales growth (mean equaled 0.819) during the 2008-2016 period. In contrast, profitability of family firm was lower than that of their non-family counterparts. A correlation matrix, although not shown in the paper, also exhibited a negative correlation between family ownership and profitability. However, all the independent variables did not show strong correlation with each other with 0.1973 as the maximum absolute value of correlation between two independent variables.

Table 1: Descriptive statistics

	Family firms				Non-family firms				
	Mean	Median	Standard deviation	Skewness	Mean	Median	Standard deviation	Skewness	T-test for means
Lev	0.293	0.305	0.186	0.151	0.231	0.217	0.185	0.733	5.176***
Size	3.416	3.273	1.453	0.344	3.428	3.128	1.945	4.608	-0.104
Grow	0.819	0.112	11.348	21.140	0.266	0.101	1.967	18.172	1.068
Prof	0.054	0.041	0.088	1.565	0.075	0.056	0.103	1.988	3.277***
Tang	0.260	0.228	0.174	1.127	0.242	0.194	0.176	1.099	1.637
InBo	0.310	0.286	0.174	0.198	-	-	-	-	
Fown	0.326	0.292	0.168	0.719	-	-	-	-	

***, **,*: significant at 1%, 5%, and 10% respectively

Regression results

The regression results for two subsamples are presented in Table 2. The family ownership has a significantly positive effect on the debt ratio, which confirms the increasing impact of family presenting as the largest shareholder on the corporate capital structure. This result aligns with many studies on family firms such as Driffield et al. (2007), and Jain and Shao (2015). However, this positive relationship contrasts with the conclusion of Ampenberger et al. (2013) about family firms in the German bank-based economy. Ampenberger et al. (2013) claimed that the lower leverage of family firms was a direct result of family management and the high creditor monitoring environment in the bank-oriented system in Germany. The banking system of Vietnam also plays a dominant role in the capital markets. In addition, all of the family firms in our sample had family members involved in the management board. Nonetheless, many large family firms in Vietnam have cross-shareholding in private banks. Moreover, unlike family firms in most previous studies, many of the family firms in Vietnam were originally state-owned enterprises. Due to the equitisation policies of the Government, these companies were taken over by families and became family firms. Thus, they had a long-term credit relationship with state-owned commercial banks. Family firms in Vietnam, therefore, may enjoy relatively low costs of debt, which encouraged them to borrow.

Although not presented here, robustness tests are also carried out by running regressions against these samples using random effects for cross section and period. The effects of determinant factors remain unchanged. A Chow test is also conducted to compare the coefficients between family firms' and non-family firms' regressions. The results also show the financing decisions of family firms and non-family firms are statistically different regarding business characteristics. Firm size shows a positive and significant impact on leverage across all the regressions. As expected, asset tangibility also exhibits a significant positive relationship with debt level in non-family firms. Firms in capital intensive industries such as the consumer goods and industrials sectors may require large amount of capital to invest in equipment. On the other hand, large firms often have more assets for collateral, which are used to secure the debts. Hence, firms with more assets, especially fixed assets can access debt more easily with lower costs. Moreover, Vietnam is a bank-based economy, the role of collateral in securing more debt is important. However, asset tangibility of family firms does not statistically correlate with leverage. This can be explained by the soft connection between family firms and banks through the ownership and long-term relationship mentioned above. The Chow test also shows that for family firms, size has less influence on leverage than non-family firms. Another significant factor is profitability, which is negatively associated with debt ratios in most samples except the subsample of family firms with ownership information. Firms with high profits had more internal capital, so they had less demand for external capital. This inverse relationship is stronger in non-family firms than in family firms, according to the Chow test. However, growth does not statistically impact on leverage regardless of ownership structure. The financing decisions of family firms are not impacted by the number of independent directors on the board because this variable showed no statistic relationship with leverage of family firms.

Table 2: Regression results

	Family firms (1)	Family firms (2)	Non-family firms (3)
Constant	-0.1364	0.0997	-0.176525***
Independent directors	0.0741	-	-
Family ownership	0.2165***	-	-
Size	0.06158***	0.0616***	0.111946***
Growth	0.0004	0.0001	0.001800
Profitability	-0.0857	-0.1786***	-0.458145***
Tangibility	0.0341	-0.0273	0.239462***
R-squared	0.90	0.82	0.73
Adjusted R-squared	0.87	0.79	0.69

Note: ***, **, and * mean significant at 1%, 5%, and 10%, respectively. Model (2) and (3) was run for all observations of family firms and non-family firms, with *Size*, *Grow*, *Prof* and *Tang* as independent variables. Model (1) was only for family firms from 2012 to 2016 due to the unavailability of family ownership and corporate governance information. Model (1) included *Fown*, *InBo* beside the variables used in the other two models.

CONCLUSIONS AND RECOMMENDATIONS

Previous researchers have paid little attention to Vietnamese family firms, though such firms are very different not only from their non-family counterparts but also from family corporations in other countries. In this paper, the authors analyse Vietnamese listed family firms and their financing decisions over the period of 2008 – 2016 and confirm these distinctions. Vietnam has a bank-based financial system and families are involved strongly in managing the companies; however, family firms in Vietnam exhibit a higher leverage ratio compared to non-family firms. This finding is counter to the conclusion of Ampenberger et al. (2013) in Germany, which is also a bank-oriented economy and their family firms are controlled tightly by the families. This result, nevertheless, is in line with other empirical research, which confirms the strong control motives of the family shareholders. In addition, the differences in effects of firm characteristics on capital structure between family firms and non-family firms also suggest the impact of the unique nature of family firms, particularly, the soft connection with the banks and politics and special establishment of listed family firms in Vietnam. These special characteristics create an avenue for future study to investigate Vietnamese family firms on a larger extent, for example, including all the listed companies and privately held firms.

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Corporate capital structure stability conundrum

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Abstract

Do firms have stable leverage? Lemmon, Roberts, and Zender (2008) present evidence that firm leverage ratios are stable. DeAngelo and Roll (2015) present alternate evidence that leverage stability is only a short-run phenomenon. The analysis in this paper demonstrates that these contrary results are a function of the methodology each paper uses. We find that DeAngelo and Roll's (2015) methodology, when compared to that of Lemmon, Roberts, and Zender (2008), is more reliable for investigating leverage stability

Keywords**:** *Capital Structure, Leverage Stability, Test Robustness.*

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INTRODUCTION

Lemmon, Roberts, and Zender (2008) (hereafter LRZ) provide evidence that leverage is stable over time and with persistent differences between firm's leverage over time. By sorting firms into four portfolios according to their initial leverage and assuming them stay in the same portfolios in subsequent years, LRZ find that, despite significant convergence in the short run, the *average leverages* of the four portfolios appear to be stable in the long run, which is reproduced in Appendix A. Based on leverage regressions, LRZ document the key role of initial leverage and firm fixed effects in explaining leverage variation. The initial leverage of firms is found to be a key feature influencing future leverage. More importantly, around 60% of leverage variation is explained by firm fixed effects. Combining with their earlier findings on long-run stable *average leverages*, LRZ draw the conclusions: "Time-invariant firm fixed effects generate stable capital structures over time. High/Low leverage firms remain as such for over two decades" (p.1575).[12]

[12] Such unique firm fixed effects also explain the persistent differences in cross-sectional leverage (the *average leverages* of the four portfolios) over time.

However, DeAngelo and Roll (2015) (hereafter DR) provide counter-evidence that stability in leverage is only a short-run phenomenon. As stated by DR, "capital structure stability is the exception, not the rule" (p.373). By assessing the explanatory power of leverage in current cross-sections in predicting leverage in future cross-sections based on the "average squared correlation coefficients"/R^2s, DR find that leverage over shorter horizons is closely related, but this phenomenon fades over longer time horizons, as presented in Appendix B.[13] Their findings seem to be contrary to the conclusions drawn by LRZ that cross-sectional leverage differences persist as high/low leverage firms would tend to remain in initial leverage positions over extended periods of time.

Given the two key methodologies used by LRZ and DR lead to the controversial conclusions drawn on leverage stability, the objective of this paper is to resolve the tension between the two conflicting methodologies. We believe it is of paramount importance to decide the optimal methodology for researchers to follow before any steps being taken to examine stability of leverage. By looking at *a posteriori* firm data, the stability issue of leverage cannot be resolved by LRZ's and DR's methods because we do not know what the true data generating process is. We therefore use simulated data to test the two methodologies as simulation method allows us to derive different samples with predetermined properties of data. In Section 3 of this paper, several simulation scenarios are constructed to verify whether their methodologies can produce results that are consistent with simulated data features. Our simulation analyses support DR's methodology. Using DR's methodology, the results always correctly match the data features.

However, with the use of LRZ's methodology, we always get the pattern supporting leverage stability in all scenarios, even though simulated leverage data is unstable.

This paper is designed as follows. Section 2 discusses the simulation framework. Section 3 discusses the data generating process and results from different simulation tests based on LRZ's and DR's methodologies. Lastly, Section 4 draws the conclusion.

SIMULATION FRAMEWORK

To generate simulated data, we specify the following model for leverage:

$$\boldsymbol{Y_{it} = \phi_0 + \phi_1 X_{it} + \phi_2 \eta_i + \phi_3 Y_{it-1} + \varepsilon_{it}} \quad \textbf{(1.0)}$$

With the $\boldsymbol{i}$ and $\boldsymbol{t}$ index firm and year respectively; $\boldsymbol{Y_{it}}$ is the dependent variable which is defined as the leverage of firm $\boldsymbol{i}$ in the current year $\boldsymbol{t}$; $\boldsymbol{X_{it}}$ represents the control variable which is assumed to capture part of variation in each firm's leverage; $\boldsymbol{\eta_i}$ are the firm fixed effects**;** $\boldsymbol{Y_{it-1}}$ is the leverage of firm $\boldsymbol{i}$ in the previous year; $\boldsymbol{\varepsilon_{it}}$ are random errors. Equation (1.0) can be divided into two parts: the static or cross-sectional component which is driven by three sources of variation: the constant ($\boldsymbol{\phi_0}$), independent (or control) variable(s) ($\boldsymbol{X_{it}}$), and the firm fixed effects ($\boldsymbol{\eta_i}$); and the dynamic component which is captured by the previous year's or lagged leverage ($\boldsymbol{Y_{it-1}}$)**.**

Three simulation scenarios have been generated and can be classified into two categories. The first category refers to stable scenarios where the focus is on cross-sectional variation, and the second category refers to unstable scenario where the focus is on time-series variation. In order to examine leverage stability over extended periods of time, we create 2,000 firms for each simulation scenario (i.e., N = 2000), with each of them having 20 years of data (i.e., T = 20).[14]

[13] DR measure the average R^2s between leverage in current cross-sections and leverage in future cross-sections. The significant decrease in average R^2s show the diminishing similarities in cross-sectional leverage as time goes by.

[14] To draw conclusion as to whether a particular methodology prevails in a particular scenario, we repeat the same simulation process for a certain number of trials (such as 200 iterations).

Our main focus is only on the key methodologies used by LRZ and DR, which are the portfolio sorting and averaging method used by LRZ to compute the *average leverages* and the average R^2s between leverage in cross sections (Appendices A & B). We follow LRZ's and DR's methodologies for each simulation scenario. For LRZ's methodology, we sort firms into four portfolios according to their initial leverage ratios and assume firms stay in their initial leverage portfolios over time. The *average leverage* for each portfolio will be calculated.[15] For DR's methodology, we plot the average R^2s over all pairings of leverage in a given year and future leverage (leverage after T years).[16]

DATA GENERATING PROCESS AND SIMULATION RESULTS

Scenario 1. Stable leverage due to significant firm fixed effects

We hypothesize that there is no time-series variation in the stable leverage model and leverage variation is only caused by the cross-sectional components in the model, which is shown in Equation (2.0).

$$\boldsymbol{Y_{it} = \phi_0 + \phi_1 X_{it} + \phi_2 \eta_i + \varepsilon_{it}} \quad \textbf{(2.0)}$$

We randomly draw firm fixed effects ($\boldsymbol{\eta_i}$) from a uniform distribution with interval [0, 0.8]. As argued by LRZ, firms have stable leverage over time due to the significant time-invariant firm fixed effects. Hence, a higher weight is assigned to the firm fixed effects ($\boldsymbol{\phi_2 = 0.8}$) to indicate its importance in generating stable leverage. The control variable ($\boldsymbol{X_{it}}$) is assumed to be uniformly distributed on the interval [-0.5, 1] (Elsas & Florysiak, 2015). A small coefficient is assigned to the control variable ($\boldsymbol{\phi_1 = 0.1}$) showing that it has a small effect on leverage as most of leverage variation has been explained by the firm fixed effects. The constant is set to be equal to 0.05 ($\boldsymbol{\phi_0 = 0.05}$). The error term ($\boldsymbol{\varepsilon_{it}}$) is assumed to be normally distributed with mean of 0 and standard deviation of 0.01.

Figures 1 and 2 present the simulation results generated according to LRZ's and DR's methodologies, respectively. We obtain stable *average leverages* with the use of LRZ's methodology without any convergence in the

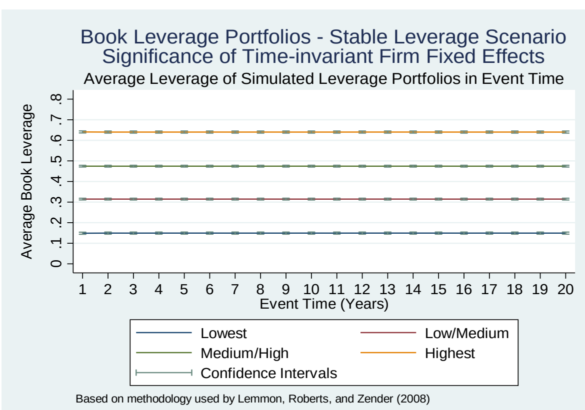

Figure 1. Scenario 1 with the use of LRZ's methodology. This figure presents the *average leverage* for each portfolio across 200 simulation iterations.

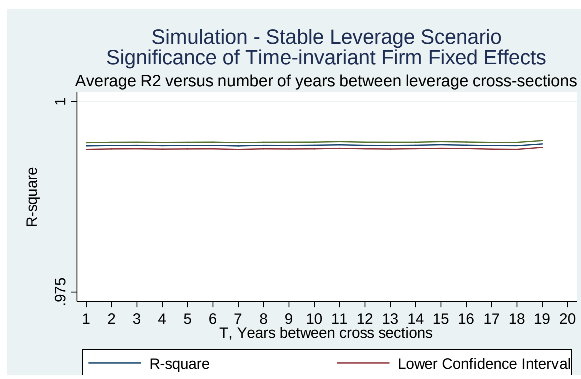

Figure 2. Scenario 1 with the use of DR's methodology. This figure presents the average R^2s between leverage in a given year and future leverage across 200 simulation iterations. Bias-corrected confidence intervals are generated based on bootstrap procedure with 500 replications.

[15] We compute the *average leverage* for each leverage portfolio across all simulation iterations (200 iterations).
[16] We compute the average R^2s over all pairings with T-year difference in leverage cross sections across all simulation iterations (200 iterations).

short-run as shown in Figure 1. In addition, the *average leverages* are extremely stable in the long-run. We also obtain stable average R^2s based on DR's methodology as shown in Figure 2. The average R^2s remain extremely high and unchanged which reflect the great degrees of cross-sectional leverage stability.

Scenario 2. Role of initial leverage and firm fixed effects

One of the key findings in LRZ is that initial leverage is closely related to future leverage. This further supports their argument that firms' leverage are stable over time and are driven by the time-invariant firm fixed effects. In addition, because firms follow their initial leverage paths, the differences in *average leverages* of all four initial portfolios persist over time, as shown in Appendix A. In order to take into account the role of initial leverage, we replace $\boldsymbol{Y_{it-1}}$ by $\boldsymbol{Y_{i1}}$ in Equation (1.0) and get

$$\boldsymbol{Y_{it} = \phi_0 + \phi_1 X_{it} + \phi_4 Y_{i1} + \varepsilon_{it}} \quad \textbf{(3.0)}$$

With the natural assumption that $\boldsymbol{Y_{i1}}$ = 0, Equation (3.0) implies that initial leverage is driven by cross sectional variation of control variable, fixed effect and noise in the following form:

$$\boldsymbol{Y_{i1} = \phi_0 + \phi_1 X_{i1} + \phi_2 n_i + \varepsilon_{i1}} \quad \textbf{(3.1)}$$

As we hypothesize that unique firm fixed effects are significant to firms' initial leverage ratios, we set a large coefficient for the firm fixed effects ($\boldsymbol{\phi_2 = 0.8}$). In addition, we also set a large coefficient for the initial leverage ($\boldsymbol{\phi_4 = 0.8}$) to indicate its significant explanatory power in explaining future leverage. As in Scenario 1, we assume that firm-specific control variable ($\boldsymbol{X_{it}}$) is uniformly distributed on the interval [-0.5, 1] and assign a low coefficient with $\boldsymbol{\phi_1}$= **0.1**. The constant is set being equal to 0.05 ($\boldsymbol{\phi_0 = 0.05}$). Error term ($\boldsymbol{\varepsilon_{it}}$) is assumed to be normally distributed with mean of 0 and standard deviation of 0.01.

Figures 3 and 4 present the simulation results generated according to LRZ's and DR's methodologies,

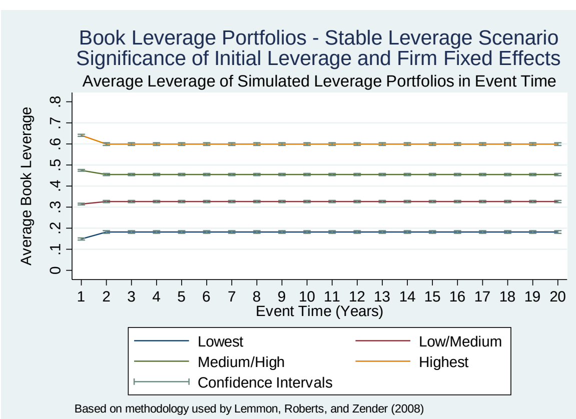

Figure 3. Scenario 2 with the use of LRZ's methodology. This figure presents the *average leverage* for each portfolio across 200 simulation iterations.

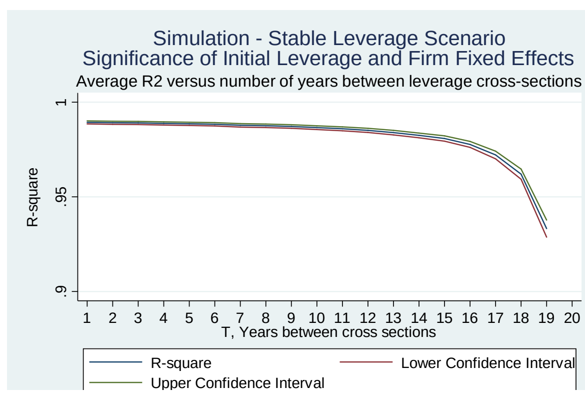

Figure 4. Scenario 2 with the use of DR's methodology. This figure presents the average R^2s between leverage in a given year and future leverage across 200 simulation iterations. Bias-corrected confidence intervals are generated based on bootstrap procedure with 500 replications.

respectively. Figure 3 shows that *average leverages* converge quickly (i.e., in event year 2). After the second event year, the *average leverages* remain constant with persistent cross-sectional differences; this result matches our data generating process. By applying DR's methodology, we obtain high average R^2s which decrease slightly and slowly over time (see Figure 4). In particular, the average R^2s stay above 0.8 for leverage with 19 years apart in cross sections. Such high average R^2s also reflect the great degrees of cross-sectional leverage stability.

Both stable simulation tests show that their results are consistent with our expectation. In particular, the results produced from both methodologies match the data features that strong stable leverage regimes should exhibit.

Scenario 3. Unstable leverage due to significant time-series variation

To reflect the extremely unstable leverage over time, we assume that firms' leverage are only driven by the dynamic or time-series variation. We modify Equation (1.0) by excluding the cross-sectional components, as shown in Equation (4.0).

$$\boldsymbol{Y_{it} = \phi_0 + \phi_3 Y_{it-1} + \varepsilon_{it}} \quad \textbf{(4.0)}$$

We use lagged leverage ($\boldsymbol{Y_{it-1}}$) to capture time-series variation in leverage. If firms' leverage are unstable over time, their leverage in current year should be not closely related with their leverage in previous year. We set a small coefficient to the lagged leverage ($\boldsymbol{\phi_3 = 0.2}$) to reflect leverage instability over time. The constant is 0.05 ($\boldsymbol{\phi_0 = 0.05}$). Error term ($\boldsymbol{\varepsilon_{it}}$) is assumed to be normally distributed with mean of 0 and standard deviation of 0.01.

Figures 5 and 6 present the simulation results generated according to LRZ's and DR's methodologies,

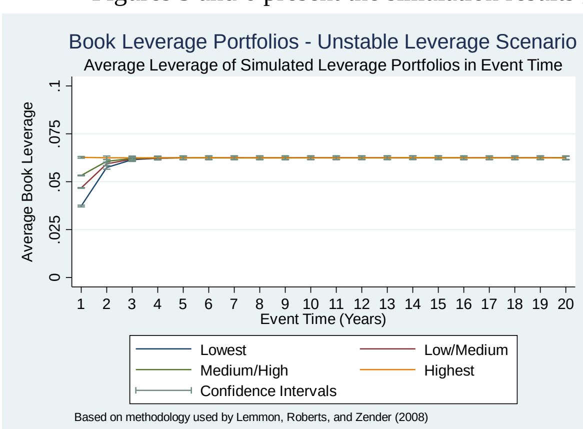

Figure 5. Scenario 3 with the use of LRZ's methodology. This figure presents the *average leverage* for each portfolio across 200 simulation iterations.

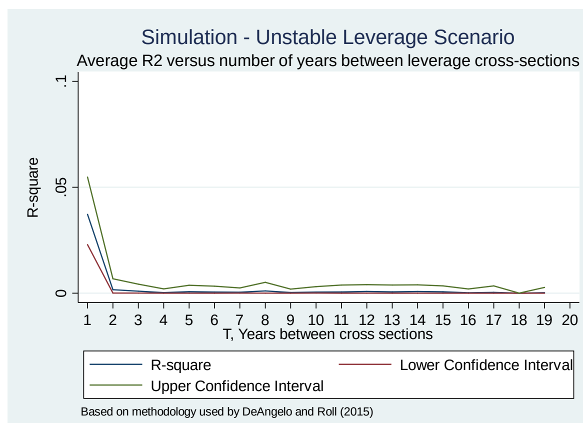

Figure 6. Scenario 3 with the use of DR's methodology. This figure presents the average R^2s between leverage in a given year and future leverage across 200 simulation iterations. Bias-corrected confidence intervals are generated based on bootstrap procedure with 500 replications.

respectively. Figure 5 clearly shows that the *average leverages* of the four initial portfolios almost converge to a single point after a shorter period of time and remain quite stable in the long run.[17] Figure 6 depicts that the average R^2s for leverage with one-year difference in cross-sections (leverage in adjacent years) are below 0.1, followed by a large decline in the average R^2s for leverage with two years apart in cross-sections. Despite the fact that all of the average R^2s are small, the significant decrease in the average R^2s is consistent with the pattern DR obtained with their own data (Appendix B), except it decreases faster from one-year lag to two-year lag difference in leverage cross sections. The result generated based on DR's methodology is consistent with the unstable scenarios, whereas the result produced with the use of LRZ's methodology appears to be not.

CONCLUSION

Lemmon, Roberts, and Zender (2008) and DeAngelo and Roll (2015) provide us two methodologies for examining leverage stability. We use simulation methods to test the reliabilities of both methodologies since we do not know the data generating process of real data. Based on the results from simulation tests, we find that the pattern we observe with the use of Lemmon, Roberts, and Zender's (2008) always supports leverage stability, even simulated leverage data is unstable. On the other hand, we find results from DeAngelo and Roll's (2015) methodology correctly match the simulated data features. We hence conclude that DeAngelo and Roll's (2015) methodology, when compared to that of Lemmon, Roberts, and Zender (2008), is more reliable and should be used in future study for investigating leverage stability.

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[17] Cross-sectional determinants are not included in Scenarios 3, which explains why there is no cross-sectional differences in the *average leverages* of the four portfolios (seem to converge to a single point).

Appendix A

Average leverage of actual leverage portfolios in event time

Figures are extracted from Lemmon, Roberts, and Zender (2008, p.1580).

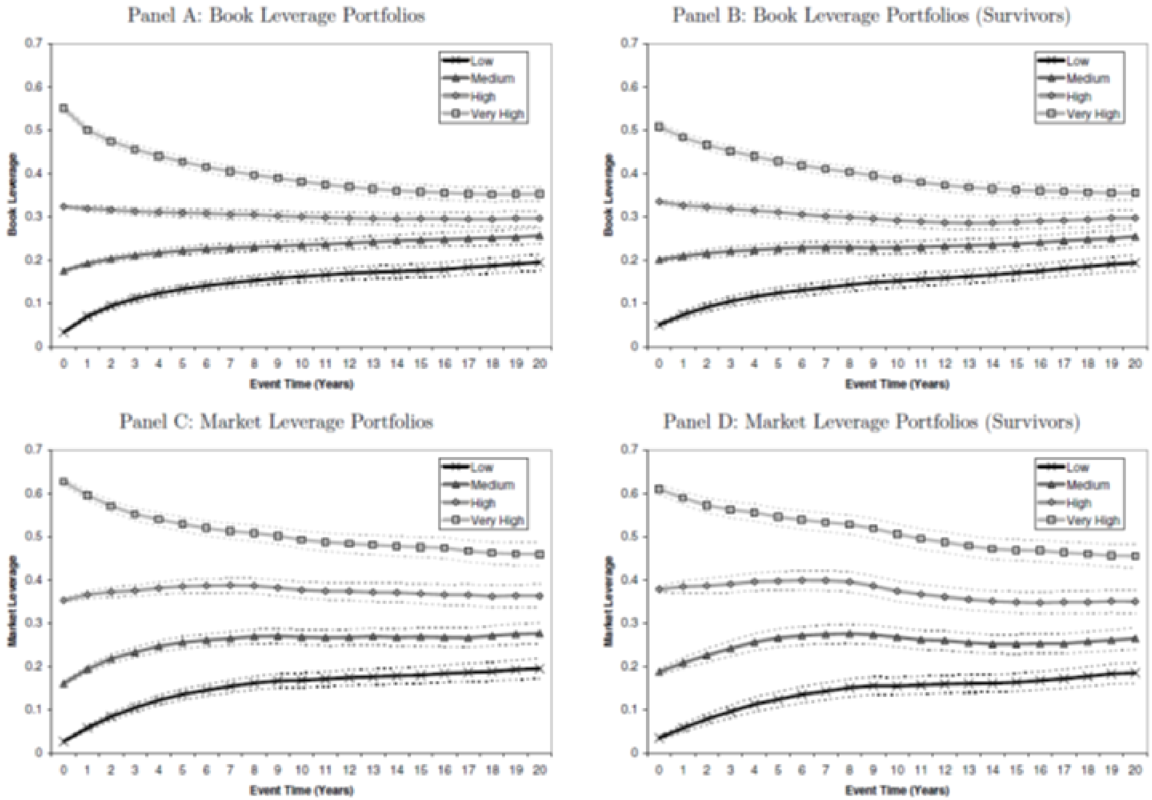

Figure 1. Average leverage of actual leverage portfolios in event time. The sample consists of all nonfinancial firms in the Compustat database from 1965 to 2003. Each panel presents the average leverage of four portfolios in event time, where year zero is the portfolio formation period. That is, for each calendar year, we form four portfolios by ranking firms based on their actual leverage. Holding the portfolios fixed for the next 20 years, we compute the average leverage for each portfolio. For example, in 1975 we sort firms into four groups based on their leverage ratios. For each year from 1975 to 1994, we compute the average leverage for each of these four portfolios. We repeat this process of sorting and averaging for every year in our sample horizon. After performing this sorting and averaging for each year from 1965 to 2003, we then average the average leverages across "event time" to obtain the bold lines in the figure. The surrounding dashed lines represent 95% confidence intervals. The results for book and market leverage are presented in Panels A and C, where book (market) leverage is defined as the ratio of total debt to total assets (sum of total debt and market equity). Panels B and D present similar results for book and market leverage, respectively, but for a subsample of firms required to exist for at least 20 years (consequently, we can only perform the portfolio formation through 1984 for this sample).

Appendix B
Extent of stability in the cross-section of leverage.

Figures are extracted from DeAngelo and Roll (2015, p.388).

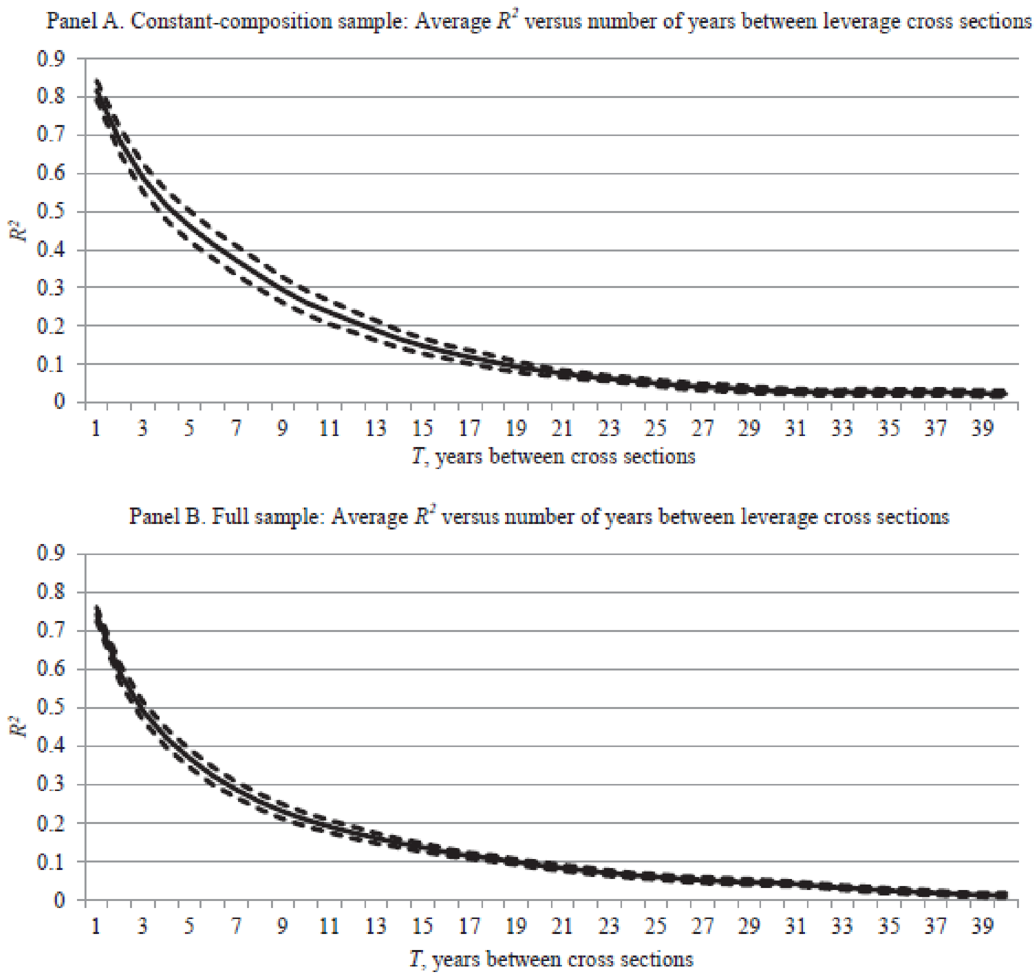

Figure 3. Extent of stability in the cross-section of leverage. These figures present average R^2s that measure the extent to which high (or low) leverage in a given year's leverage cross-section corresponds to high (or low) leverage in future years' cross-sections. Leverage is measured as the ratio of total debt to total assets in book value terms. Panel A is based on the constant-composition sample and Panel B is based on the full sample, with both using 59 years of data (1950 to 2008). The horizontal axis denotes the number of years between leverage cross-sections. The vertical axis plots the average squared correlation coefficient over all pairings of sample years that differ by the amount specified on the horizontal axis. For example, to generate the average R^2 for the one-year difference in cross-sections, we first identify all firms with leverage data in 1950 and 1951, and obtain the correlation between leverage in the two years. We repeat this process for 1951 and 1952 treated as a pair, then 1952 and 1953, and so on, and report in the figure the average R^2 across all pairings that differ by exactly one year. In general, to obtain the average R^2 for a T-year difference in cross-sections, we repeat this process using the following pairs of years: 1950 and (1950 + T), 1951 and (1951 + T), 1952 and (1952 + T), and so on. Confidence intervals (two standard error bands in dashes) are obtained with a bootstrap procedure, resampling with replacement the individual squared correlations for each value of T, and using 1,000 sample replications.

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Uncertainty and risk premium

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Abstract

Uncertainty can be described as a situation of missing or unknown information but is having a direct impact on the decision-making process. Particularly recently, during the last periods of turmoil, we were able to experience how uncertainty matters for economic decision-making and their impact on the financial market. The literature has proposed three main channels through which uncertainty potentially affects the real economy. This study focuses on the second channel that goes through the risk premium, as investors are likely to demand a higher risk premium. Using MIDAS approach, the relationship between one of the uncertainty measure the fear index VIX and the risk premium is studied. The data refers to the United States, as the country which has the most highly developed capital markets in the world. Its assumed that forecasting process is important for policymakers, especially during the period with a high level of uncertainty. This paper demonstrates that the forecasting process could improve by using the mixed-frequency sampling approach and by introducing uncertainty into the model using the fear index.

Keywords**:** *Risk premium, uncertainty, mixed-frequency sampling.*

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INTRODUCTION

Uncertainty can be described as a situation of missing or unknown information. At present it may be due to the excess of incoming information. The problem of uncertainty affects many different fields/areas including economics, information science, insurance, finance, sociology, etc.

Uncertainty has a direct impact on the decision-making process because many important problems involve decision making under uncertainty. That can be described as choosing actions based on often imperfect observations, with unknown outcomes (Kochenderfer, 2015). It should be noted that in each field the uncertainty is understood slightly differently. The mainstream of economics is understood as a decision problem in which certain decisions have different effects, depending on which of the possible states of affairs. Unlike the decision-making theory, economists generally assume that in such a situation most decision-makers know the probability distribution of certain states of things. Consequently, the most commonly accepted solution in the economics of uncertainty is to maximise the expected value, i.e. to choose the action whose expected value is the greatest. And this leads us to maximise the value of the expected value and here the theory of expectations (Muth, 1961).

Recent literature emphasises how uncertainty matters for economic decision-making and it is well documented that the situation on the financial market moves to a real economy. The literature has proposed three main channels through which uncertainty potentially affects the real economy. The first channel is through possible wait-and-see effects, as agents/firms might decide to postpone investment decisions. A second channel goes through risk premium, as investors are likely to demand a higher risk premium in the presence of higher uncertainty. And the third one is real options channel, and this effect is usually referred to as growth option effects. In our study, we focus on the second channel to study the relationship between one of the uncertainty measure the fear index VIX and the risk premium for the *United States* which has the most highly developed capital markets in the world.

MIDAS, Weighting Functions and Forecasts

In recent times, it has been observed the intensive development of one of the popular forecasting methods, which is characterised by the simultaneous use in the process of modelling variables of different frequencies. This approach originally was proposed by Ghysels, Santa-Clara and Valkanov (2004). A general framework called Mixed-Data Sampling (MIDAS) can be used to improve forecasts of less frequently observed monthly or quarterly variables (for example macroeconomic) by adding to the model some variables that are sampled at higher frequencies (for example financial).

Specifically, the general MIDAS model under consideration is:

$$y_t = X_t'\beta + f\left(\left\{X_{t/S}^H\right\}, \theta, \lambda\right) + \epsilon_t$$

where: y_t is the dependent variable, sampled at a low frequency, at date t; X_t is the set of regressors sampled at the same low frequency as y_t; $\left\{X_{t/S}^H\right\}$ is a set of regressors sampled at a higher frequency with S values for each low frequency value; f is a weighting function; β, θ, λ vectors of parameters to be estimated (Ghysels, Santa-Clara i Valkanov, 2004).

One of the most important element is „f" a function that describing the effect of the higher frequency data in, the lower frequency regression. We can find several different weighting functions that allow reducing the number of parameters in the model by placing restrictions on the effects of high-frequency variables at various lags (Foroni & Marcellino, 2013).

EMPIRICAL ANALYSIS

In our research, we use MIDAS model approach to forecast the risk premium with using the following weighting function: step and exponential Almon. We forecasted quarterly risk premium using its own lag and monthly VIX as an uncertainty measure. We used two variables as the risk premium: the return on a market portfolio (S&P 500) minus the Government Bond Yields 10-year (long-term) and respectively minimum Interest Rates, Government Securities, Treasury Bills (short term).

The problem of mixed sampling frequencies is shown in the graphs below. As typical, the monthly VIX observations fluctuate between quarterly S&P 500 Index and both Government Bond and Bills.

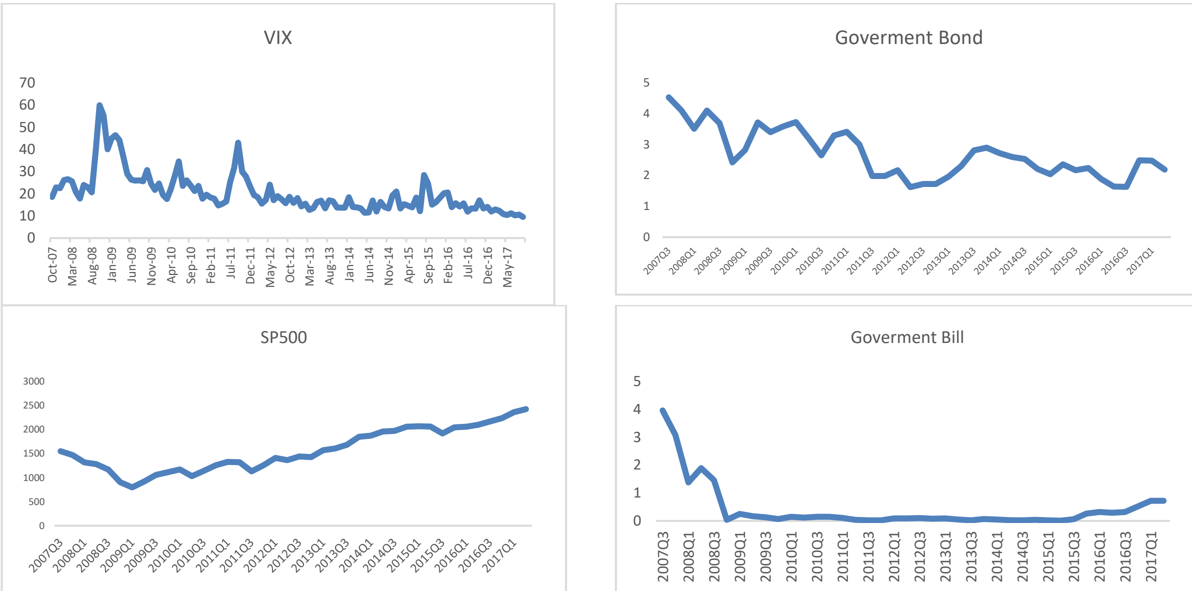

Figure 2: Mixed frequency datra: S&P500, Goverment Bonds, Govermetn Bills

First we estimated the model for two depended variables for both selected weighting procedure: step and exponential. Then, we compare forecasts of the quarterly long- and short-term premium (2 quarter ahead) using monthly predictor of the uncertaint VIX called fear index (Table 1). As we can see, the RMSEs are low for all models (a little better for the MIDAS with exponential Almon) and the estimation results showed that models MIDAS with exponential Almon have higher R2, lower standard error of regression (SE of regression) and the normal shape of the distribution of the residuals.

Table 7: Estimation and forecasting results

Diagnostic	Government Bond		Government Bills	
	Step	Exponential Almon	Step	Exponential Almon
R2	0.597	0.713	0.598	0.714
SE of regression	0.057	0.048	0.057	0.048
Normality test Jarque-Bera	68.517	3.795	67.788	3.742
RMSE	0.033	0.030	0.032	0.031

Forecasting is important for making a financial decision especially during the period with a high level of uncertainty. In our paper, we demonstrated that we could improve forecasting process by using the mixed-frequency sampling approach and by and by introducing uncertainty into the model using the fear index.

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How does financial distress affect accrual earnings management?

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Abstract

This paper investigates how financial distress influences accrual earnings management and how internal control quality moderates the above relation using a sample of listed firms from 2007 to 2013 in China. This paper finds a positive relationship between financial distress and accrual earnings management. Internal control exerts a moderation effect on the relation between financial distress and earnings management by restraining accrual earnings management. This study provides additional insights on earnings management and internal control in financially distressed firms from the perspective of an emerging economy.

Keywords**:** *Financial distress, Internal control, Accrual earnings management.*

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INTRODUCTION

Financial distress in enterprises has long been an issue of concern to investors, creditors, governments, and corporate managers. Conceptually, distress occurs when a firm's liquidation of total assets is less than the total value of creditor claims (Chen et al., 1995). This situation can take place at any stage of the firm lifecycle with direct implications for the firm's future performance (Avramov et al., 2013), and if prolonged can lead to bankruptcy (Fan et al., 2013; Koh et al., 2015). Studies have found that US firms in financial trouble have strong incentives to manipulate their earnings (Graham et al., 2005; Zang, 2012), but their ability to manipulate earnings has been increasingly restricted and thus the room for manipulating accrual earnings in developed countries has become increasingly small, mainly due to the introduction of new corporate laws and international accounting standards in recent years (Cohen et al., 2008). Considerably less attention, however, has been paid to the impact of new corporate laws and international accounting standards on corporate earnings management behaviors in financially distressed firms in emerging countries, which exhibit different capital market environments and management behaviors from its developed country counterparts due to its variations in history, politics, judiciary, culture, and social norms (Xiang et al., 2014).

In the United States, the Sarbanes-Oxley Act (SOX) was introduced in 2002 after the Enron's financial scandal and accordingly internal control has gradually been of attention. Ashbaugh-Skaife et al. (2008) and Doyle et al. (2007), among others, examine the relation between internal control and earnings management in the US and find that good internal control can inhibit accrual earnings management. In China, the China's Ministry of Finance (MOF), in conjunction with the China Securities Regulatory Commission (CSRC), the National Audit Office (NAO), the China Banking Regulatory Commission (CBRC) and the China Insurance Regulatory Commission (CIRC), issued the Basic Internal Control Norms for Enterprises in June 2008, which is seen as 'China's SOX'. A questions arises that whether internal control helps to restrain accrual earnings management in China especially after the introduction of the new internal control regulations.

This paper aims to investigate the relation between financial distress, internal control and earnings management in China's context. In our study, we specifically investigate (1) whether and how financial distress influences accrual earnings management behaviors after the introduction of the new accounting standards, and (2) under the new internal control regulations, whether and how internal control quality affects the relation between financial distress and accrual earnings management.

Our sample consists of all firms listed on either the Shanghai Stock Exchange (SHSE) or Shenzhen Stock Exchange (SZSE) with 11451 firm-year observations between 2007 and 2013 inclusive. We empirically investigate the impact of financial distress on accrual earnings management and the moderation effect of internal control on the relation between financial distress and earnings management. Our empirical findings indicate that financially distressed firms in China still tend to undertake more accrual earnings management. Internal control exerts a moderation effect on the relation between financial distress and earnings management by suppressing accrual earnings management behaviors in financially distressed firms.

Our paper contributes to the literature in two important ways. First, we provide incremental evidence on the impact of new corporate laws and international accounting standards on corporate earnings management behaviors in financially distressed firms in emerging countries. Second, a large body of literature has examined the relation between internal control and earnings management in the US (Altamuro and Beatty, 2010; Ashbaugh-Skaife et al., 2008; Doyle et al., 2007; Gao et al., 2009), but little is known about the relation between financial distress, internal control and earnings management especially in emerging markets, which has distinct market environment and internal control standards with the US. This paper fills this gap by investigating the effect of internal control on earnings management in financially distressed firms in China. Findings in this paper would have some implications on the assessment of the effectiveness of internal control regulations and practices in China as well as other emerging markets.

DATA & METHODOLOGY

Sample and data

Our sample consists of all publicly listed firms in China and covers the period of 2007-2013 inclusively. Our sample period can enable us to investigate the effect of the implementation of the new accounting standards and the subsequent supporting guidelines. Data used in this study are all sourced from CSMAR. Due to the specialty of the finance industry, firms in the finance industry are eliminated. We also eliminate the firms whose financial data or internal control data are missing. Applying the filters abovementioned yields our final sample consisting of 11451 firm-year observations.

Definition of key variables

Accrual earnings management

Following Zang (2012), we use discretionary accruals to proxy for accrual earnings management. Discretionary accruals are the difference between firms' actual accruals and the normal level of accruals. The latter is estimated using the following Jones (1991) model:

$$Accruals_{i,t}/A_{i,t-1}=\alpha_0+\alpha_1(1/A_{i,t-1})+\alpha_2(\Delta S_{i,t}/A_{i,t-1})+\alpha_3(PPE_{i,t}/A_{i,t-1})+\varepsilon_{i,t} \quad (1)$$

where $Accruals_{i,t}$ is the earnings before extraordinary items and discontinued operations minus the operating cash flows reported in the statement of cash flows of firm i in year t; and $PPE_{i,t}$ is the gross property, plant, and equipment of firm i in year t. The estimated residuals (AM), which capture discretionary accruals, are our proxy for accrual earnings management. Due to the fact that discretionary accruals could be positive or negative, this paper uses the absolute value to measure the level of accrual earnings management so that we can avoid the offset effect of the positive and negative numbers of earnings management. Therefore, the degree of earnings management can be reflected more precisely.

Financial distress

When a firm's cash flow is insufficient to pay back its existing debt or when the existing current assets and current liabilities do not match, the firm will face the threat of financial distress. Many researchers use the Z-score defined by Altman (1968) (e.g., Bugeja, 2015; Shahwan, 2015). Zang (2012), among others, uses the modified version of Z-score to proxy for a firm's financial health. Following Zang (2012), this study also uses the modified Z-score (ZSCORE) to measure financial distress.

Internal control

Following Doyle et al. (2007) and Ashbaugh-Skaife et al. (2008), and also considering China's regulation and practice on internal control deficiencies, this paper uses internal control deficiencies (ICA) to proxy for internal control quality. ICA is a binary indicator variable that equals one if a firm has internal control deficiencies, and zero otherwise. A firm is seen to have internal control deficiencies when either of the following criteria is met:

1) The firm is punished by the regulating bodies, like CSRC, due to its violation of the requirements of the regulating bodies in the current year.

2) There is a non-standard audit opinion issued by an accounting firm.

3) The internal control evaluation report discloses internal control deficiency.

METHODOLOGY

The models below are used to test our hypotheses:

$$AM_{i,t}=\alpha_0+\alpha 1DISTRESS_{i,t}+\alpha_2SIZE_{i,t}+\alpha_3OCF_{i,t}+\alpha_4OWNCON_{i,t}+\alpha_5MtoB_{i,t}+\alpha_6Big4_{i,t}+\alpha_7ROE_{i,t}+\alpha_8GROWTH_{i,t}+\alpha_9INV_{i,t}+\varepsilon_{i,t} \quad (2)$$

$$AM_{i,t}=\alpha_0+\alpha_1DISTRESS_{i,t}+\alpha_2ICA_{i,t}+\alpha_3DISTRESS_{i,t}\times ICA_{i,t}+\alpha_4SIZE_{i,t}+\alpha_5OCF_{i,t}+\alpha_6OWNCON_{i,t}+\alpha_7MtoB_{i,t}+\alpha_8Big4_{i,t}+\alpha_9ROE_{i,t}+\alpha_{10}GROWTH_{i,t}+\alpha_{11}INV_{i,t}+\varepsilon_{i,t} \quad (3)$$

Financial distress (DISTRESS) and internal control deficiencies (ICA) are the main independent variables. The dependent variable is the accrual earnings management (AM). A set of control variables is used. SIZE is the natural logarithm of total assets. OCF is cash flows from operations scaled by the total assets. OWNCON is a dummy variable taking the value one if the ownership of the Top 1 shareholder exceeds 50% and zero otherwise. MtoB is the market-to-book ratio. Big4 is a dummy variable that equals one if the financial reports are audited by one of the 4 biggest accounting firms and zero otherwise. ROE is the ratio of profits to the net assets in the current year. GROWTH is the sales growth rate. INV is the ratio of inventories to total assets. Year and industry dummies are also included to control for variations in general economy conditions each year and each industry.

RESULTS

Summary statistics and correlation analysis

Panel A in Table 1 shows the descriptive statistics of the variables. After being taken the absolute value, the mean and median of the accrual earnings management (AM) is 0.0830 and 0.0541, respectively. The financial distress measured by Z-score (ZSCORE) is -3.353 on average. The mean of internal control deficiency (ICA) is 0.1738. To eliminate the possible effects of outliers, all continuous variables are winsorized at the 1st and 99th percentile. Panel B in Table 1 presents the Pearson correlation coefficient between the main variables. There is a positive correlation between accrual earnings management (AM) and financial distress measured by Z-score (ZSCORE). There is also a positive correlation between accrual earnings management (AM) and internal control deficiency (ICA), which is statistically significant at the 1% level.

Table 1. Descriptive Statistics of Key Variables

Panel A. Descriptive statistics of the whole sample						
Variables	N	Mean	Median	Maximum	Minimum	Std
AM	11451	0.0830	0.0541	0.3234	0.0045	0.0839
ZSCORE	11451	-3.3530	-2.3837	-0.4687	-11.9247	2.9291
ICA	11451	0.1738	0.0000	1.0000	0.0000	0.3789
SIZE	11451	21.8065	21.6847	24.1797	20.0186	1.1366
OCF	11451	0.0520	0.0488	0.2185	-0.1046	0.0812
OWNCON	11451	0.2071	0.0000	1.000	0.0000	0.4053
MtoB	11451	3.5736	2.7673	10.3904	0.9366	2.4973
Big4	11451	0.0608	0.0000	1.0000	0.0000	0.2389
ROE	11451	0.0745	0.0717	0.2475	-0.1392	0.0881
GROWTH	11451	0.1661	0.1256	0.9185	-0.3074	0.2941
INV	11451	0.1707	0.1352	0.5575	0.0059	0.1440

Panel B. Pearson correlation coefficient

	AM	*ZSCORE*
ZSCORE	0.0149	
ICA	0.0275***	0.0541***

Note: The Spearman correlation coefficients are presented in Panel B. *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Baseline test

Table 2 presents the regression results on the relation between financial distress and accrual earnings management (Column (1)), and the moderaton effect of internal control on the above relationship (Column (2)). As shown in Column (1), ZSCORE is positively associated with the accrual earnings management measure (AM). The coefficient is 0.0022, which is statistically significant at the 1% level. This result suggests that the worse financial condition of a firm, the more accrual earnings management behaviors are conducted by the firm even after the new accounting standards were introduced. In other words, firms with greater financial distress have a higher level of accrual earnings management. This result is inconsistent with Cohen et al. (2008), which argues that the room for manipulating accrual earnings in developed countries has become increasingly small due to the introduction of new corporate laws and international accounting standards in recent years. This result may indicate that although the international accounting standards were introduced to China, they did not effectively restrain corporate earnings manangement behaviors as what it is in the developed countries.

Column (2) presents the regression results on the relation between financial distress, internal control and earnings management. In this section, an interaction item between financial distress (ZSCORE) and internal control deficiency (ICA) is created to investigate the moderation effect of internal control deficiency on the relation between financial distress and earnings management. A positive relation between accrual earnings management (AM) and internal control deficiency (ICA) is shown. The coefficient is 0.0163, which is statistically significant at the 1% level. Basically, higher internal control deficiency is the same as saying lower internal control quality and vice versa. This result therefore indicates that the lower internal control quality of a firm the more accrual earnings management behaviors are conducted by the firm, which provides the preliminary empirical evidence showing the restriction effect of internal control quality on the accrual earnings management. Furthermore, the coefficient of the interaction term ZSCORE×ICA is 0.0064, which is significant at the 1% level. The positive estimated coefficients for both $\alpha1$ and $\alpha3$ indicate that financially distressed firms with higher internal control deficiency tend to conduct more accrual earnings management behaviors. In other words, high-quality internal control can restrict accrual earnings management in financially distressed firms.

Regarding the control variables, our regression results show that firm size is negatively associated with the accrual earnings management, which is consistent with the study of Gong et al. (2013). OCF is negatively related to earnings management, which is consistent with the studies of Doyle et al. (2006). Big4 is positively but insignificantly related to earnings management, which indicates that auditing in China does not significantly restrict firms' earnings management. GROWTH is positively related to earnings management, which is consistent with the studies of Doyle et al. (2006), Doyle et al. (2007) and Gong et al. (2013), suggesting that firms with faster growth tend to conduct more earnings management behaviors.

Table 2. Financial Distress, Internal Control and Earnings Management (Baseline Test)

	AM (1)	AM (2)
ZSCORE	0.0022***	0.0020***
	(3.99)	(3.61)
ICA		0.0163***
		(3.36)
ZSCORE×ICA		0.0064***
		(3.22)
SIZE	-0.0065***	-0.0068***
	(-3.22)	(-3.35)
OCF	-0.0322***	-0.0325***
	(-2.68)	(-2.71)
OWNCON	-0.0007	0.0007
	(-0.17)	(-0.16)
MtoB	0.0027***	0.0028***
	(5.55)	(5.76)
Big4	0.0075	0.0076
	(0.86)	(0.88)
ROE	0.0449***	0.0474***
	(3.81)	(4.02)
GROWTH	0.0195***	0.0120***
	(6.88)	(6.97)
INV	-0.0431***	-0.0432***
	(-3.31)	(-3.13)
Intercept	0.2255***	0.2294***
	(5.04)	(5.12)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Adj R^2	0.0167	0.0179
Observations	11451	11451

Note: *T* statistics are reported in parentheses. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Robustness test

To make sure that our baseline results are not altered by the alternative measurement of accrual earnings management, we do the robustness check by using the modified Jones model proposed by Dechow et al. (1995) to estimate the accrual earnings management (AM_Mod Jones). The results show that when the accrual earnings management is estimated by the modified Jones model, the result remains similar to the baseline regression result. We also use alternative measurement of internal control deficiency to ensure that our baseline results are robust. We use the internal control index (IC_index), constructed by Shenzhen DIB Enterprise Risk Management Technology, to proxy for internal control deficiency. For illustration purpose, we multiply IC_index by -1 such that the larger the IC_index the higher is the level of internal control deficiency. Based on IC_index, we then construct a dummy variable IC_index_high that equals one if the IC_index of a firm is above the industry average, and zero otherwise. Our baseline results hold.

CONCLUSIONS AND DISCUSSIONS

Based on China's institutional background featuring the implementation of the new accounting standards and the increasing internal control provisions, this paper employs a sample consisting of all listed firms in China with 11451 firm-year observations between 2007 and 2013 inclusive to empirically investigate the impact of financial distress on accrual earnings management and the moderation effect of internal control on the relation between financial distress and earnings management. We find that firms with a higher level of financial distress tend to undertake more accrual earnings management. Although the introduction of new accounting standards makes it easier for accrual earnings management to be found by auditors and regulators, financially distressed firms in China still collectively show their tendency to conduct more accrual earnings manipulations. Second, internal control exerts a moderation effect on the relation between financial distress and earnings management by suppressing accrual earnings management behaviors in financially distressed firms.

Our finding that financially distressed firms conduct more accrual earnings manipulations has implications for regulators. It implies that increasing scrutiny or constraints over accounting discretion through introducing new accounting standards does not necessarily eliminate accrual earnings management activities. In addition, our finding on the moderation effect of internal control on the relation between financial distress and earnings management would have some implications on the assessment of the effectiveness of internal control regulations and practices in China as well as other emerging markets.

Having drawn these conclusions, it must also be acknowledged that this study does not study on the real earnings management activities. Future studies might need to investigate the relationship between financial distress and real earnings management activities.

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Islamic finance: Factors influencing the perception of muslim individuals in Perth

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Abstract

The purpose of this study is to investigate the factors that influence the perception of Muslim individuals living Australia of Islamic banking and Finance. A structured close-ended questionnaire was adopted to investigate the perception of Muslim individuals from the different suburbs of Perth with 300 usable responses received. Regression analysis was used to test the impact of Islamic knowledge, financial concepts and service quality on customers' perception toward Islamic banking. The findings of the study suggest that Religious inclination, understanding of Islamic financial concepts and brand image & quality has a significant impact on the respondent's perception. In addition, it is found that there is significant potential for Islamic banking and Finance in Perth due to increasing Muslim population and the current low level of utilisation. These findings can be helpful for Australian Islamic Financial Institutions to better target their potential market in Perth.

Keywords**:** *Perception, Islamic Banking & Finance, Perth.*

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INTRODUCTION

History of Muslims in Australia starts from 16th century. Mirza and Halabi (2003), states that "Some of Australia's earliest visitors were in fact Muslim fishermen from the island of Makassar from the east Indonesian archipelago". According to Cleland (2001), Afghan Muslims have played vital role is the exploration of central Australia in nineteenth century. In addition, population growth was needed in Australia after the Second World War; as a result, around 10,000 Turks came to Australia under an agreement between Turkey and Australia (Saeed, 2004). Currently from more than sixty countries Muslims have come to Australia and settled down. Majority of the Muslims came from the countries including Turkey, Lebanon, Indonesia, Iraq, Iran, Pakistan and India (Saeed, 2004).

According to the Australian Bureau of Statistics (2016 census), Australia has Islam as the second biggest religion after Christianity with a population of 2.6 percent. This increasing population comes to Australia with Islamic social and financial needs. Although, currently no major Australian bank is offering Islamic Finance option, several Islamic Financial institutions have been operating in Australia since 1989. These institutions include; MCCA (Muslim Community Co-operative Australia), ICFAL (Islamic Co-operative Finance Australia Limited) and Iskan Finance (Farrar, 2011).

The entrance of Islamic finance into the Australian market, it has been a difficult journey throughout because of the stiff regulations faced by Islamic Financial Institutions in Australia (Farrar, 2011). The study suggests that it is difficult for Islamic Banking and Finance (IBF) to penetrate in Australian market until the Australian government make legislative changes. However, the study of Sadiq and Black (2012), illustrates that there is continuous growth for Islamic Banking and Finance in Australia without having any amendments or alterations in legislation.

Keeping in mind that Islamic Financial System is relatively a new concept particularly in Australia, previous research on perceptions regarding Islamic Banking and finance in Australia is scarce. Rammal and Zurbruegg (2007), conducted their study in Adelaide on the behaviour of individual customers and found that there is a deficiency of awareness regarding Islamic banking products and Islamic financing ,however, real interest is shown by the practicing Muslim for the products of Islamic Banking. Jalaluddin (1999), examined the behaviour and attitude of total of 385 small businesses in Sydney regarding Profit and Loss Sharing (PLS) system. The study found that the respondents would be interested in PLS system if they have business support, shared risk between lender and borrower and default risk in interest-based banking.

There is a dearth in contemporary literature on Islamic Banking in Australia and this study is first to investigate the perception of Perth Muslims of Islamic Banking and finance. Furthermore, the study highlights the factors that influence the perception of Muslim individuals.

DATA & METHODOLOGY

Instrument

A self-administered questionnaire was used to collect the responses. The questionnaire was divided into four sections. The first three sections were based on the questions related to independent variables i.e. religious inclination, Islamic financial concepts and service quality. The fourth section was based on questions related to customer perception toward Islamic Banking and finance. The impact of independent variable on dependent variable was analyzed using regression analysis.

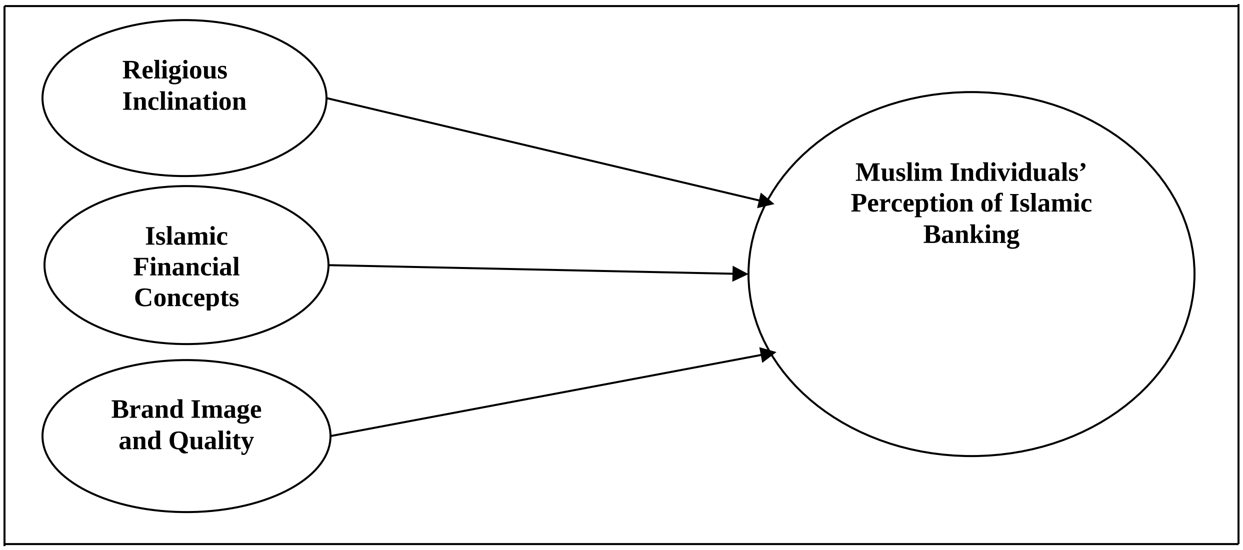
Data Collection

Random convenience sampling technique was used and respondents were contacted at the Mosques and Islamic centers in the different suburbs of Perth. For the higher probability of responses, respondents were approached after the prayer time at the mosques.

Sample

A structured questionnaire was distributed among 350 Muslims individuals residing in different suburbs of Perth. Only 318 were returned out of which 300 were selected for data analysis.

Figure I: Conceptual Framework



RESULTS AND DISCUSSION

Reliability Statistics

The instrument adopted for the data collection was tested for reliability. The value of Cronbach's alpha is reported as 75.5 percent that implies that the instrument used to test the customer's perception is reliable.

Table I: Reliability Table

Cronbach's Alpha	N of Items
.754	4

Item total statistics

The reliability of each variable in the table shows that service quality is the most reliable variable among all variables with the value .762 of Cronbach's Alpha followed by Perception. The values of individual Cronbach's alpha depict that all the variables formulated in the study are acceptable and reliable.

Table II: Item Wise reliability of the variables

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
REL_INCL	6.5509	3.623	.707	.625
CONC_OF_IF	6.4902	3.306	.608	.663
SERV_QUAL	5.7412	4.033	.423	.762
PERCEPTION	6.3473	3.582	.501	.727

Model Summary

Table 3 of model summary shows r=.619 and standard error of estimate = .684. The value of R square indicates that 38% of dependent variable can be explained by the independent variables.

Table III: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.619[a]	.383	.375	.68478	.908

a. Predictors: (Constant), SERV_QUAL, CONC_OF_IF, REL_INCL

b. Dependent Variable: PERCEPTION

ANOVA: The value of significance in table 4 is .000 which shows that the independent variables (Religious Inclination, Islamic Financial Concepts and Service Quality) can significantly impact the dependant variable (Perception of Muslims regarding Islamic Banking)

Table IV: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.220	3	23.073	49.205	.000[b]
	Residual	111.605	238	.469		
	Total	180.825	241			

a. Dependent Variable: PERCEPTION

b. Predictors: (Constant), SERV_QUAL, CONC_OF_IF, REL_INCL

Regression Results: The regression model showed a positive and significant relationship between religious inclination and respondents' perception toward Islamic banking. It means that the customers who are more inclined toward their religion tend to perceive Islamic banking more positively, as compared to those who are not that much inclined towards the religion. In addition, knowledge of concepts and different products of Islamic finance also have positive relation with perception. Brand image and service quality provided by the bank have significant but negative relation with the perception of Muslims about Islamic banking and finance. This contradicts the previous research of Dusuki & Abdullah (2007) who found brand image and service quality to be the most influential factors for choosing an Islamic bank in Malaysian customers.

Table V: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.915	.163		5.604	.000
	REL_INCL	.593	.082	.476	7.208	.000
	CONC_OF_IF	.317	.061	.318	5.207	.000
	SERV_QUAL	-.215	.067	-.195	-3.223	.001

a. Dependent Variable: PERCEPTION

CONCLUSIONS AND RECOMMENDATIONS

The literature presented in this study suggests that Islamic Banking and finance is still evolving in Australia. The purpose of this study was to focus on the factors that influence the perception of Muslim individuals about Islamic Banking and finance. On the basis of the findings, it can be argued that the religious inclination of respondents and knowledge about the concepts of Islamic finance had significant positive impact on the perception of the Muslims regarding Islamic banking and finance. In addition, there is a high potential for Islamic Banking and finance in Perth because of increasing population of Muslims. The results also indicate that more marketing is required done by Australian Islamic financial institutions to engage the more devout Muslim customers.

The findings suggest that if more clarity was provided on the concepts of Islamic finance provided by the Islamic Financial Institutions, it could impact positively on the perception of the Muslims, which may result in increased demand of Islamic financial products and services. In addition, targeting the more religiously inclined Muslims can also help capture the potential market.

The high potential for Islamic banking is significant for the Australian banks in a way that they may offer Islamic banking window to the Muslim customers. Further studies are needed to explore the customer perception and need of Islamic finance in Australia. In addition, studies to provide a better insight into the kinds of communication strategies relating to Islamic Financial products and services that will help Muslim customers to understand clearly the concepts of Islamic finance.

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Rethinking of talent management practices as an employee retention strategy in emerging economy

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Abstract

Emerging economies source talents locally and abroad to sustain their economic powerhouse. Nevertheless, employee turnover presents a great deal of challenges for organizations as a results of high replacement costs, training of new recruits, and diminishing pool of skilled labors. Thus, talent management necessitates an effective conjugation of employee-centric dimensions, and the delivery of these emphases. While the existing literature suggest a convergence of direct approach towards the talent management dimensions where an increase in the provision of management support, career development opportunities, and reward and recognition can positively affect the employee retention, the findings in this study challenges this dogma. Partial least square analyses on an aggregated and segmented dataset reveal different employee cohorts exercise their view of important dimensions differently. Rewards and recognition, and career development opportunity are generally important across all cohorts, an experienced group tends to put less value to management support as compared to the relatively new recruits. Therefore, a blanket policy treating the experienced and the new staff as singular homogenous units may not be an optimum solution to the talent management conundrum.

Keywords**:** *Talent Management Practices, Managerial Support, Employee Career Development, Rewards and Recognitions, Employee Retention, PLS.*

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INTRODUCTION

Employee retention presents many challenges for companies. Failure to retain a skilled workforce leads to high replacement costs, subsequent training requirements, loss of learning and experience effects, as well as reduced morale among the remaining members of the companies[1]. The effects are further compounded when the departing employees are those who have developed stable ties with important clients of the firms.

As companies increasingly view employees as valuable assets, efforts are made to reduce employee turnover. These efforts, collectively known as talent management practices (e.g.,[2]), include providing organizational support for the employees and career development opportunities.

Arguably the most important aspect to keeping skillful human capital within the firms is to introduce fair rewards and recognitions. The importance of rewards and recognitions as motivational measures[3] are very much entrenched in many firms where they propagate into the culture of organizations.

The plethora of literature mostly stands on a communal belief that, among other factors, employee retention is very much affected by conducive management supports, a clear and viable career development path, and fair rewards and recognition of their performance. For example, Lapointe and Vandenberghe[4] argue that skillful white-collar employees seek management supports and career development opportunities to advance their loyalty to a given company. Similarly, Masakure[5] finds that rewards and recognitions are intertwined into the fabric of employee retention domain.

Despite the abundance of literature on these talent management practices, our comprehension on how each dimension affects employee retention is somewhat limited. Hall and Smith[6] for example, argue that the literature to some extent, provides mixed results. The issue is more compelling in the emerging economies where talents are hard to source[7]. In order to be responsive to this paucity in extant research, our study investigates how three dimensions of talent management practices affect employee retention, in order to illuminate the intricate causal effects of talent management and employee retention.

TALENT MANAGEMENT AND EMPLOYEE RETENTION

It has been an intuitive belief that talent management practices which present satisfactory commitment to manage human capital can result in high employee retention. This is well illustrated in the work by Alias, Nor[8], Aruna and Anitha[9], and Oladapo[10]. While early literature in this discipline largely focusses on a managerial and performative agenda[11], an employee-centric approach has only begun to gain attention in recent years. From this perspective, talent management is concerned with optimizing epistemological congruence between what is offered by the employer and the expectations of the employees. Maximizing this congruence decreases dissent, resulting in high job satisfaction, increased motivation to work, and ultimately low employee voluntary turnover[12].

Efforts to maximize this congruence can be supported through efforts to foster and enhance three dimensions of talent management. These are management and supervisor support for the employees[13], career development opportunity[14], and reward and recognition[8] of commendable performances. Management support includes provisions of conducive organizational climate [15, 16] with a managerial control system that is effective but does not impede employee's potential. This favorable organizational setting can have a positive effect on employees' morale, hence their willingness to stay with the company. Employees seek a work environment and role in which their personal well-being is supported[17]. We therefore propose the following:

Proposition 1: Management support has a positive significant effect on employee retention.

Employees do not only seek jobs to earn incomes. Rather, they look for a career to support their economic and social stability, and ongoing career aspirations. While income is generally an alluring beacon to attract talents[8, 18], the career development opportunity[14] fosters loyalty to a company. Hence, we argue that:

Proposition 2: Career development opportunities have a positive significant effect on employee retention.

The employees are expected to appreciate rewards and recognition for commendable achievements within the workplace[19]. Some organizations achieve the congruence of this talent management dimension by embedding this element into their organizational culture. For example, insurance companies may reward their high achieving agents with oversea trips, on top of other monetary payouts. Other organizations engrain annual ceremonies to recognize laudable accomplishments of their members. The ceremonial acknowledgement motivates the employees to work harder[20, 21], and inspires other members of the organization to deliver, in spite of this recognition having no monetary incentive. This connotation therefore, prompts us to propose that:

Proposition 3: Rewards and recognitions have a positive significant effect on employee retention.

Collectively or individually, these three dimensions of talent management can result in enhanced retention of skillful employees when the disparity between expectations of the employees and the deliverables by the organizations are minimized. The employees anticipate management supports for them to carry out their tasks, expect achievable career development opportunities, and presume fair rewards and recognitions for their completed assignments. These expectations are generally possible within reasonable resourcing constraints of contemporary organizations, and hence, deliverable. As such, the interconnectedness of these dimensions unto the employee retention shall be investigated to allow the organizations to optimize their talent management emphases towards a sustainable retention, optimizing their resource allocation.

METHODOLOGY

The dataset for this study was a collection of self-administered questionnaires which were distributed to (Number) companies located in the central region of Malaysia Peninsular in (month, year). A total of 581 valid responses were received and used in subsequent analysis. (You need to say a bit more about the nature of these companies)

The questionnaire contains five sections, including a demographic section, with five-point Likert scales for items related to the variables of interest. These variables are managerial support (SUPPORT: five items), employee career development (CAREER: four items), reward and recognition (REWARD: five items), and employee retention (RETENT: four items).

Partial least square (PLS) structural equation modelling (SEM) was later run on the dataset using WarpPLS 5.0. A two-stage approach SEM[22, 23] was used in the analysis to test the propositions of this study. The first stage was to assess the measurement model where reliability and validity were examined. The structural model was later assessed to determine if the aforementioned propositions of this study were supported.

RESULT

The demographic data as summarized in Table 1 indicates that the sample was approximately balanced in terms of gender, age, and length of service. Male respondents made up to 48% of the total (female: 52%) with 55% of respondents 36 years old or younger. About half of the respondents (52%) had been working with the current company for five years or longer.

Table.1. Demographic characteristics of the respondents.

	Service		
	Less than 5 years	5 years and above	Total
Male	76	203	279
Female	168	134	302
Total	244	337	581
Age			
36 and	242	79	321
37 and	2	258	260
Total	244	337	581

The parameters of the measurement model indicate statistically sound estimates. The reliability of the constructs was confirmed by composite reliability of more than .70, and average variance extracted (AVE) of more than .50. Item loadings were also satisfactory with minimum loading of .753, and maximum crossloading of .283. The convergent and discriminant validity were supported with square-root of AVE of more than maximum shared variances among the latent constructs. Further, variance inflation factor (VIF) showed multicollinearity was not a concern in this study with the estimates were less than 3.30. Table 2 summarizes these parameter estimates.

Table.2. VIF, Square-root of AVE and Construct Correlations.

	IF	UPP ORT	ARE ER	EW ARD	R ETENT
SUP		.			
CAR		.	.		
REW		.	.	.	
RET		.	.	.	**.9**

Square-root of AVEs are in bold on the diagonal

The structural model in Figure 1 provides supports for two out of three propositions in this study with 59% variations in employee retention (RETENT) can be explained by three predictors in the model, $R^2 = .59$, *Adj*. $R^2 = .59$, $Q^2 = .59$. While career development, and reward and recognition were found to be statistically significant (CAREER: $\beta = .36$, $p < .001$, $f^2 = .25$; REWARD: $\beta = .44$, $p < .001$, $f^2 = .32$), thus supporting proposition 2 and 3, management support was not statistically significant predictor of employee retention ($\beta = .05$, $p = .10$, $f^2 = .03$).

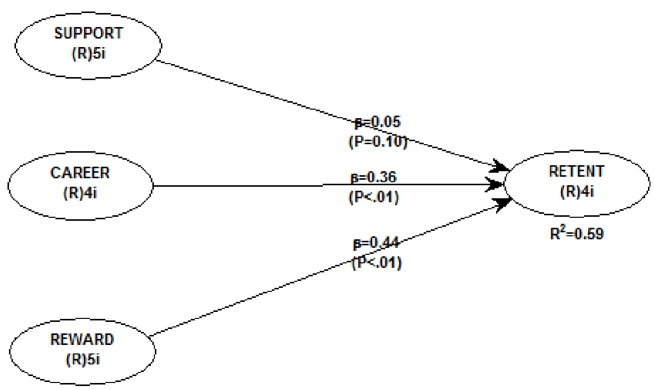

Fig.1. Structural model.

The finding that SUPPORT was not statistically significant challenges collective belief that management support plays an important role to keep the employees working with the company. Therefore, the dataset was split into two according to the tenure, in order to investigate further. These were more than five years ($n = 337$), and those with less than five years of service with the current employers ($n = 244$). A separate PLS analyses were later run on each subset with p-value was adjusted to Bonferroni correction ($p < .025$).

The PLS results of these two subsets suggests that for those who had been working for five years or longer (n = 337), SUPPORT was found to be statistically non-significant, $\beta = .02$, $p = .35$, $f^2 = .03$. On the second group (n = 244), SUPPORT was found to be significant contributor to RETENT, $\beta = .29$, $p < .001$, $f^2 = .17$. CAREER and REWARD remained significant for both subsets.

DISCUSSION AND CONCLUSIONS

This study investigates talent management practices to promote employee retention. Three key talent management practices were measured, with exploration of employee valuing of management support for the employees, career development presented for them, and reward and recognition exercises. All these three dimensions of talent management are known to be influential in securing and retaining the human capital of companies.

While for the most part our analysis supports previous findings in this area, it also offers novel findings that challenge the conventional beliefs in this area. Although proposition 2 and 3 are supported, which reinforces what is known, proposition 1, which suggests that management support is a significant contributor to retain the employees, is found to only be partially supported by the dataset. In a full dataset, this finding is further found to be inconsistent with previous research in this area (e.g., [24]).

To further investigate this unanticipated finding, the dataset was stratified based on employee tenure. Two separate analyses were later made which illuminated two hidden patterns. The first pattern that emerges from this analyses is that those who have served the companies for five years or longer tend not to value management support as an impetus for them to stay. For this cohort, it is the reward and recognition, and career development that become premia keeping them with the company. It is also reasonable to assume that this attitude could potentially be related to security evoked by longevity in the particular workplace.

The second pattern resulting from the segregated dataset is that those who have been working with the current employers for less than five years require all talent management dimensions to be exercised. It is not surprising that this group of employees need support from the management to complete assigned tasks and also to chart the path for their career development. This is because this cohort is relatively less experienced, requiring more supervision and guidance. It can also be surmised that they have also yet to fully establish themselves in the workplace, and achieve security associated with longevity.

In practical terms, management should engage these two cohorts slightly differently in their human capital initiatives. While rewards and recognition are the strongest contributors to employee retention, followed by career development, management support for the employees on the other hand, is more important for newly hired staff. A method such as coaching[4] is one of the many ways to put this talent management dimension into the onset of the workplace for the new cohort. For the highly experienced group, emphasis should be more geared toward fair rewards and recognition, and a better career development opportunity.

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A conceptual model of entrepreneurial competencies and business success in small and medium enterprises

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Abstract

Small and medium enterprises have to face tremendous challenges to compete in a global market so companies are constantly seeking new ways to improve their competitiveness to distinguish themselves from their peers. Recent decades has witnessed a boom in research into entrepreneurship, especially entrepreneurial competencies due to the significant role of entrepreneur to the success of the organisations. This paper will recommend a conceptual model in two levels: the individual level and the organisational level, in order to explore the relationship between entrepreneurial competencies with business success

Keywords: E*ntrepreneurial competency, quality management, organisation/firm performance, performance measurement, business success.*

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INTRODUCTION

Globalisation and fierce competition have forced companies to improve their competitiveness on a global scale. In today's market, competitiveness will not be achieved using only cost reductions because customers are requiring higher quality level products and services. As the client is the most important part of the service sector, the ability of companies to understand their customer's needs is becoming more and more compelling. To ensure customer satisfaction and loyalty, companies need to maintain the quality of their product and services and that they meet or exceed customer expectations.

To be competitive, companies are required to seek new and innovative approaches in order to distinguish themselves from their peers, especially small and medium sized enterprises (SMEs). Entrepreneurs play a more important role in SMEs as they need to identify business opportunities, build relationship with their stakeholders, and ensure the firm operate efficiently. In order to achieve that, entrepreneurs are required to be opportunity sensitive, to be good at relationship building, to be an efficient organiser, in order to survive in fierce competition (Li, 2009).

There is recent development in research on entrepreneurship and what makes them successful, largely due to the realisation that SMEs play a significant role in the country's economy. SMEs are seen as a mechanism to improve the distribution of income, to stimulate economic growth, reduce unemployment rate, alleviate poverty and social stability (Can (2017); Deijl, de Kok, & Essen, 2013). However, there is a lack of consistency in the literature regarding to the key factors that determine SME success despite its importance (Ahmad, 2007). While some scholars highlight the importance of external/environmental factors to the SMEs success (Olawale & Garwe, 2010; Scupola, 2003), there are also some studies which recognise the capability of individual (i.e. the entrepreneur) as a critical part of the survival, success, and failure of SMEs (Ahmad, 2007; Chi, 2016). Thus, inadequate attention has been paid to explain this impact in developing countries and transition economies (Chi, 2016).

While several studies tended to exaggerate and romanticise the individual characteristics of entrepreneurs contributing to the firm success, Wu (2009) states that entrepreneurs are in fact a social creature in an organisation. Therefore, this paper will propose a model which explores two approaches to business success of a firm: individual level approach of the entrepreneurs using entrepreneurial competency theories and firm level approach using quality management theories.

CONCEPTUAL MODEL

This proposed entrepreneurial competencies model is developed based on Man (2001) and Ahmad (2007) models as well as adopting quality management principle. In terms of the possession of traits, skills, and knowledge, researchers have attempted to define competencies and organise their entrepreneurial characteristics into key competency areas. The most common attempt is to separate competencies into different dimensions: management skills, industry skills, opportunity skills and technical skills (Baum, Locke, & Smith, 2001; Chandler & Jansen, 1992; Sony & Sandjojo, 2005). Specifically, Chandler and Jansen (1992) propose two competencies for entrepreneurs to function effectively: one is the ability to recognise and make use of opportunity while the other is the commitment to be successful after many failures which requires the willingness and capacity to put effort for long, hard hours. Also (Baum et al., 2001) differentiate specific and general competency by suggesting specifies specific competency including industry skills and technical skills, while general competency consists of organisation skills and opportunity recognition skills. Hence, the entrepreneurial competencies defined by (Man, Lau, & Chan, 2002) and later adopted by (Ahmad, 2007) as higher-level characteristics encompassing personality traits, skills and knowledge can be seen as the total ability of the entrepreneur to perform a job successfully. To be specific, various authors suggest that a successful entrepreneurs is required to be a "Jack of all Trades" having a balanced skill mix (Åstebro & Thompson, 2011; Silva, 2007; Wagner, 2006) which is "sufficiently skilled in a variety of areas to put together the many ingredients required to create a successful business" (Lazear, 2005, p. p.676).

Entrepreneurial Competencies

The first dimension proposed in the framework is entrepreneurial dimension which focuses on the individual aspects of the entrepreneurs regarding their development of strategic, conceptual, commitment, learning and relationship competencies which are built in Ahmad (2007) and Man et al. (2002) models.

Strategic

Strategic competency is the ability of "setting, evaluating, and implementing the strategies of the firm" (Man et al., 2002, p.132). Being the owner of the firm, the entrepreneur must possess a clear vision or picture in their mind for their business, clear goals to achieve, and the ability to formulate and implement strategies to achieve the vision and goals (Man & Lau, 2000; McClelland, 1973). Similarly, Ahmad (2007) describe in detail the strategic behaviours such as setting challenging but achievable business and goals; making strategic change and using tactics in business and devise strategies to achieve goals and success. It is the manager/entrepreneur's role to develop vision, mission, strategies, objectives and values of the firms. This strategic planning competency would facilitate the acceptance and support of employees, enhance their commitment and autonomy (Escrig-Tena & Bou-Llusar, 2005), which is proven to positively link to operational performance of a firm (Ahmad, 2007).

Conceptual

Conceptual competency relates to different conceptual abilities in making cognitive and analytical thinking, absorbing and understanding complex information, decision making and problem solving, innovating and oping with uncertainty and risk, (Bird, 1995; Man et al., 2002; McClelland, 1973). It represent a set of competencies which are not easily observable behaviours but are often considered to have stronger linkage with entrepreneurial traits (Wu, 2009). Both strategic and conceptual competencies require a more abstract level of abilities but conceptual competencies include resolving instant events or require intuitive responses (Man et al., 2002). Conceptual competency includes analytical and innovative domains which are supported in various quality articles, especially the innovation side of business due to its contribution to the ability of the firm to react faster to changes in demands and increase its flexibility (Escrig-Tena & Bou-Llusar, 2005; Man, 2001).

Commitment

Every entrepreneur has challenges when they start their business, therefore they need to commit themselves to long term goals, sustain effort, restart after failure to move ahead with their business (Ahmad, 2007; Man et al., 2002). Similarly, (Kyndt & Baert, 2015) measure the commitment competency in their study those items: “even after a setback or failure I continue with the task at hand” which correspondent to the item “refuse to let the business fail” of Man and Lau (2000). While Man and Lau (2000) suggest an entrepreneur needs to have an extremely strong internal drive, (Kyndt & Baert, 2015) compare their commitment by the item “Even if there is distraction, I keep on working in a concentrated way”. Therefore, successful entrepreneurs need to have a restless attitude to their work by committing, determining and dedicating, as well as taking proactive actions towards their responsibilities and duties (Chandler & Jansen, 1992; Li, 2009), to move ahead with the business (Li, 2009).

Learning

Learning competency is defined as the ability to “learn from various means, learn proactively, keep up-to-date in the related field, and apply learned skills and knowledge into actual practices (Man, 2001, p.304). Therefore, the entrepreneur needs to continuously learn to improve their knowledge and skills; both job specific skills, and techniques and tools.

Relationship

Man et al. (2002, p. p.132) describe the relationship competency as it relates to “person-to-person or individual-to-group-based interaction, e.g., building a context of cooperation and trust, using contacts and connections, persuasive ability, communication and interpersonal skill”. In business, the role of entrepreneurs/managers in the organisation is dealing with many people including supplier, employees, customers, competitors or other stakeholders. Therefore, they need to develop the willingness from everyone to work together (Wagner, 1995) to create cooperation and collaboration (Detert, Schroeder, & Mauriel, 2000). By sharing their vision, the entrepreneurs would be able to connect to their employees to improve both their processes and value (Chatman & Barsade, 1995; Detert et al., 2000). This relationship building ability is described as entrepreneurial bonding, not only for the creation of relationship but also for the restructuring of relationships involving everyone in the business (Bird, 1995). Entrepreneurs therefore, need to possess interpersonal and communication skills to work well together with their related stakeholders, especially in small firms due to their dependency on their networks (Li, 2009).

Functional competencies

Technical

As the economy develops, the need for not only conceptual skills but also technical skills is required for entrepreneurs to achieve superior performance. Chandler and Jansen (1992, p. 226) defined Technical competency as "the ability to use tools, procedures, and techniques of a specialised field". Scupola (2010) proposes the importance of technical skills as the knowledge competency both tacit and explicit. It is extremely important to acquire both explicit and tacit knowledge in learning how to use the system. Explicit knowledge is acquired through a formal one day training seminar while tacit knowledge can be gained through learning by doing (Scupola, 2010). Technical competency is recognised as being an important skill for entrepreneurs operating in SMEs as it is a crucial source of "expert" power that legitimises the entrepreneurs in their employee's eyes, and assists in the implementation of the entrepreneur's project (Ahmad, 2007; Baum et al., 2001; Chandler & Jansen, 1992). It is essential for entrepreneurs to acquire this competency to provide sustainable competitive advantage for their business (Ahmad, 2007).

Opportunity

Man et al. (2002, p. 132) described Opportunity competency as behaviour related to "recognising market opportunities through various means". An opportunity is defined as the chance to satisfy customer need through a creative combination of resources to deliver greater value (Schumpeter, 1952). Thus, one of the most important abilities of a successful entrepreneur is the ability to identify and select the right opportunities for his or her businesses (Bergevoet & Woerkum, 2006; McClelland, 1973). For small and medium firms with limited resources, they need to constantly identify, assess and seek business opportunities through various channels to expand not only their chance of success but also their networks and connections.

Personal

Personal competency relates to the ability to "maintain a high level of energy, motivate self to function at optimum level of performance, respond to constructive criticism, maintain a positive attitude, prioritise tasks to manage time, identify one's strengths and weaknesses and match them with opportunities and threats, as well as recognise and work on one's shortcomings" (Man, 2001, pp. 304-305). An entrepreneur needs to possess personal qualities such as self-confidence, self-awareness, self-motivation, self-management and positive mindedness to motivate themselves and other to achieve exceptional performance (Ahmad, 2007).

Organising and Leading

In Ahmad (2007) and Man (2001)'s model, they defined organising and leading competency as the ability to plan, organise, lead, motivate, delegate and control employees by "the organisation of different internal and external human, physical financial, and technological resources, including team building, leading employees, training and controlling" (Man et al., 2002, p.132). This group of competencies aim to develop the firm's capabilities through the entrepreneur's organising competencies in different area (Li, 2009). Similarly, Claver and Tarí (2003) support the Organising competency by suggesting the entrepreneurs/managers' roles of facilitating training and continued training for their employees in their quality management practices. They recommended that entrepreneurs need to develop an environment helping towards on-the-job training for their employees.

Moreover, Leadership is "the ability of management to establish, practice, and lead a long-term vision for the organization, driven by changing customer requirements, as opposed to an internal management control role" (Anderson, Rungtusanatham, & Schroeder, 1994 p.480). Leadership is one of the most important quality management factors and measured by some items such as how managers/entrepreneurs allow employees to make their own decisions; motivate them and help them to perform at a high level in their tasks; managers/entrepreneurs actively communicate a quality commitment to the employees (Claver & Tarí, 2003). Top management leadership plays a very important and critical role in direct supervision, planning and implementation of certain policy and serves as an important support for the entire organization. Top management is responsible for the creation of climate that ascertains the success of the program (Brah & Ying Lim, 2006). Similarly, Dinh, Igel, and Laosirihongthong (2006) define top management commitment as the degree of visibility and support that management provides in implementing a quality environment, which is critical to the success of the business. Based on these items, the roles of managers/entrepreneurs to organisational performance can be measured.

Ethics and Social Responsibility competencies

Ethics

According to Lewis (1985, p. 381), ethical competency has behaviours that indicate the use of “rules, standards, codes, or principles which provide guidelines for morally right behaviour and truthfulness in specific situations”. Similarly, Inyang (2004) state the definition of ethics as the rules and principles that define right and wrong, good or bad actions. It also concerns moral ability and obligations in the organisation. According to Inyang and Enuoh (2009), it is the entrepreneurs’ responsibility or obligations to adhere to high ethical standards, maintain a fair, honest and responsible attitude towards his employees and other stakeholders. Those ethical abilities will facilitate to operate effectively and achieve business success.

There are three clusters of ethical competency that Ahmad (2007) discovered within a commercial context and considered them important in running a business: (1) concerns for ethical business practices, (2) maintain honesty and integrity and (3) take responsibility and be accountable. The ethical side of running a business is common in Western research and practices but it is still a new area to explore in a developing nation perceptive. Specifically, the study by Ahmad and Ramayah (2012) proved the positive association of ethical practices with business performance in emerging countries like Malaysia. Another study done by Ogundele (2006) in Nigerian entrepreneurship has found similar results as the lack of disciplined behaviour by entrepreneurs would hinder successful entrepreneurial development.

Social and Environmental responsibility

Social responsibility has been referred to as “the positive activities a company undertakes in the society in which it operates” including responsibility towards customer, employees and the public (Fülöp, Hisrich, & Szegedi, 2000). The business entrepreneur has the responsibility to embark on certain projects within and outside its environment as part of its social responsibility because the business should not only be concerned about the quality of goods and services but also their contribution to the quality of life in their environment (Inyang & Enuoh, 2009). In small and medium businesses, the entrepreneur still must consider their social and environmental responsibilities, even if not on a larger scale like those undertaken by corporate organisations (Inyang & Enuoh, 2009).

In order to manifest and improve his or her social responsibility, an entrepreneur need to take into account the possible side effects of their plans to the environment or the social surroundings prior to the production or delivery of their products and services (Sadikoglu & Olcay, 2014). He needs to contribute to community development, product safety, generate employment, create educational activities like award of scholarships or apprenticeship training (Inyang & Enuoh, 2009).

This study adds Environmental Responsibility element in this competency from Kyndt and Baert (2015)’s study as they propose the item “pay attention to human and environmental issues in decision making” and “Collaboration with all types of individuals such as handicapped, high or low-qualified, migrants…”

Being socially responsible in handing a business may help entrepreneurs achieve far more by helping people around them, endearing the entrepreneur to his community, enhance his image and social standing (Inyang & Enuoh, 2009), which contribute significantly to his business success in the long term.

Familism

A new concept (Familism competency) developed by Ahmad (2007) puts forward its relevance to SMEs business success, especially in Eastern culture (Malaysia). Familism competency is defined as "affection and concern for family that is dominant and drives action and daily life" (Hee Park, 2004, pp. 8-9). By sharing resources and cooperating with each other, small and medium business owners can overcome difficulties in managing their business and achieve their goals of the business (Ahmad, 2007).

Quality Management Competencies

TQM provides a generic concept for continuous improvement in business performance (Sun, 2000). TQM looks at an organisation as a whole in which the manager/owner/entrepreneur will be the central focus of this study leading to successful firm performance. This study will determine how to develop skills and competencies of the entrepreneur, which will include managing and developing relationships with every stakeholder in the organisation as a major contribution for better performance.

In addition, the relationship between different quality practices in manufacturing and services sector was examined in studies by (Flynn, Schroeder, and Sakakibara (1995); Saraph, Benson, & Schroeder, 1989). Their work has played a significant role in academia, especially when concerning the development of holistic model or set of TQM practices as well as in examining the relationships among different QM practices. Lenka, Suar, and Mohapatra (2010) assert that quality management practices services firms are different from manufacturing firms as service organisations focus more on customer satisfaction. Factors like social responsibility and adoption of environmental management system are found more in manufacturing organisations. Service organisations replay more on customers' judgment on the quality of services and focuses on communication and interpersonal skills (Lenka et al., 2010).

This dimension will focus on exploring the operational competency of running the business, which has certain quality practices suitable for the service sector such as top management leadership, employee involvement, employee empowerment, training, customer focus and continuous improvement (Bon & Mustafa, 2013; Lenka et al., 2010).

Continuous improvement

In the organisational level, learning is "the organisational capability to recognise and nurture the development of its skills, abilities and knowledge base" (Anderson et al., 1994 p.480). Continuous improvement means a commitment of an organisation to constantly examine processes in search of better methods to achieve reliability and control in their operations, and in the meantime pursue learning and experimentation (Dean & Bowen, 1994; Sitkin, Sutcliffe, & Schroeder, 1994), to enhance organisational performance in all organisation functions, operations and departments, in several practices (Bon & Mustafa, 2013; Dean & Bowen, 1994; Zhang, Linderman, & Schroeder, 2014). It is the most effective means of improvement which involves following a systematic process of planning, implementation, and evaluation (Escrig-Tena & Bou-Llusar, 2005). Its principles are consistently providing customer satisfaction through relentless improvement of processes which create new products or services (Claver & Tarí, 2003; Dean & Bowen, 1994). Therefore, it is the organisation's responsibility to improve its performance through relentless learning for better performance.

Customer focus

Man et al. (2002, p. 132) described opportunity competency as behaviour related to “recognising market opportunities through various means”. For small and medium firms with limited resources, they need to constantly identify, assess and seek business opportunities through various channels to expand not only their chance of success but also their networks and connections.

Moreover, market opportunity means recognising customer requirements in order to achieve customer satisfaction which provides a common goal for all areas of activity within the company (Escrig-Tena & Bou-Llusar, 2005). Customer satisfaction is the ability to assess and meet customer expectations with the business performance (Anderson, Jerman, & Crum, 1998; Bon & Mustafa, 2013). Customer focus happens when well satisfied customers is the ultimate aim because customers are the ones who pass judgments on an organisation about their performance, especially in the service industry (Brah & Ying Lim, 2006). Customer focus competency can be achieved by setting goals aimed at meeting customer’s exceptions (Kull & Narasimhan, 2010, Albacete-Sáez et al., 2011); setting systems to link customer’s feedback and complaints to employees who can act on the information (Kull & Narasimhan, 2010) (Ahire, Golhar, & Waller, 1996) (Terziovski, 2006); increase personal contacts between the organisation and customers (Claver & Tarí, 2003) (Zhang, Linderman, & Schroeder, 2012); and managers and supervisors support activities improving customer satisfaction (Claver & Tarí, 2003). All the activities will be crucial for the business success, especially in the fierce competitive environment.

People Management Approach

The people management approach includes employee involvement, employee empowerment, teamwork, employee training which are important components for the success of a quality program (Sila, 2007). The focus of this factor is on training, development, communication, multi-skills, employee empowerment, employee involvement and commitment, education, employee satisfaction and employee performance and recognition (Brah & Ying Lim, 2006). In services industry, employees are critical because they are the ones who directly deliver services during interaction with customers (Yoon, Seo, & Yoon 2004). Therefore, in order to satisfy customers’ specific needs in the delivery or modification of services, it would be entrepreneurs’ responsibility to empower and fulfil employees.

Moreover, when under pressure to innovate, employees in services firms need to feel empowered to make prompt decisions to respond to customer requirement (Chan & Lam, 2011; Martin & Bush, 2006; Rafiq & Ahmed, 1998). Consequently, they will improve their self-confidence to make critical decisions as well as show initiative in offering customised solutions to customer requirements, either the delivery of the new product or services or the modification/refinement of current products and services (Escrig-Tena & Bou-Llusar, 2005; Gómez & Rosen, 2001; Martin & Bush, 2006; Sok & O'Cass, 2015).

Employee empowerment is the extent to which employees have a certain degree of autonomy in doing their work (Bon & Mustafa, 2013; Dinh et al., 2006), which leads to increased employee participation in the business improvement work processes, heightened awareness of responsibilities and equity among subordinates (Brah & Ying Lim, 2006). Employee fulfilment is “the degree to which employees of an organisation feel that the organisation continually satisfies their needs” (Anderson, Rungtusanatham, Schroeder, & Devaraj, 1995, p. 480), so they feel motivated, takes on responsibilities, and shows initiative. Employee involvement is the level to which employees are committed, included, and concerned with the business activities. (Dinh et al., 2006). In addition, training is the organisational commitment and actions to the development of skills, abilities and knowledge (Anderson et al., 1998; Bon & Mustafa, 2013).

Those elements involve the development of training, participation, and teamwork as important factors that will lead to an increase in worker job satisfaction and performance (Dinh et al., 2006; Escrig-Tena & Bou-Llusar, 2005).

Development of Conceptual model

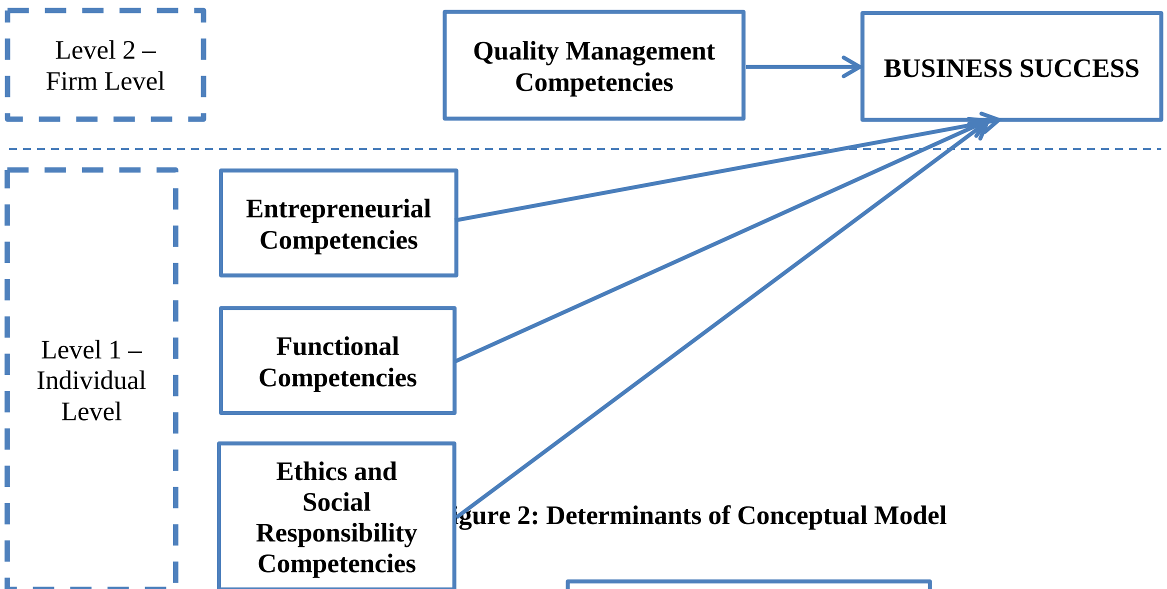
Due to their supposed association with business performance, and thereby with economic development, entrepreneurial competencies have been the center of attention in numerous works in the literature. They define them as traits or behaviours that make a person act entrepreneurially through the different phases of development of a business, and eventually lead to business success. On the one hand, a majority of research report the significant relationships between EC and firm performance in their empirical studies (Baum et al., 2001; Chandler & Hanks, 1994; Chandler & Jansen, 1992; Herron & Robinson, 1993; Ibrahim and Soufani (2002); Mambula & Sawyer, 2004; Man et al., 2002; Moreno & Casillas, 2008; Sony & Sandjojo, 2005). Particularly, in Man et al. (2002)'s model, entrepreneurial competencies play a key role in determining small and medium sized enterprises' owner-managers and their firms' performance. On the other hand, Ahmad (2007) proposed in her model that entrepreneurial competencies are build based on the features and traits of the entrepreneurs, therefore, the success of the business is defined by the success of the entrepreneurs.

Drawing largely on Man (2001) and Ahmad (2007) models, the present study endeavours to develop and utilise a comprehensive model of competencies and examines its causal link with business success in small and medium enterprises. In doing so, it focuses on the entrepreneur as the unit of analysis in the individual level, following McGregor and Tweed (2001, p. p.280)'s argument that, in smaller firms, "the core competencies of the enterprises of the enterprises become virtually synonymous with the competencies of the manager (entrepreneurs as owner-managers)".

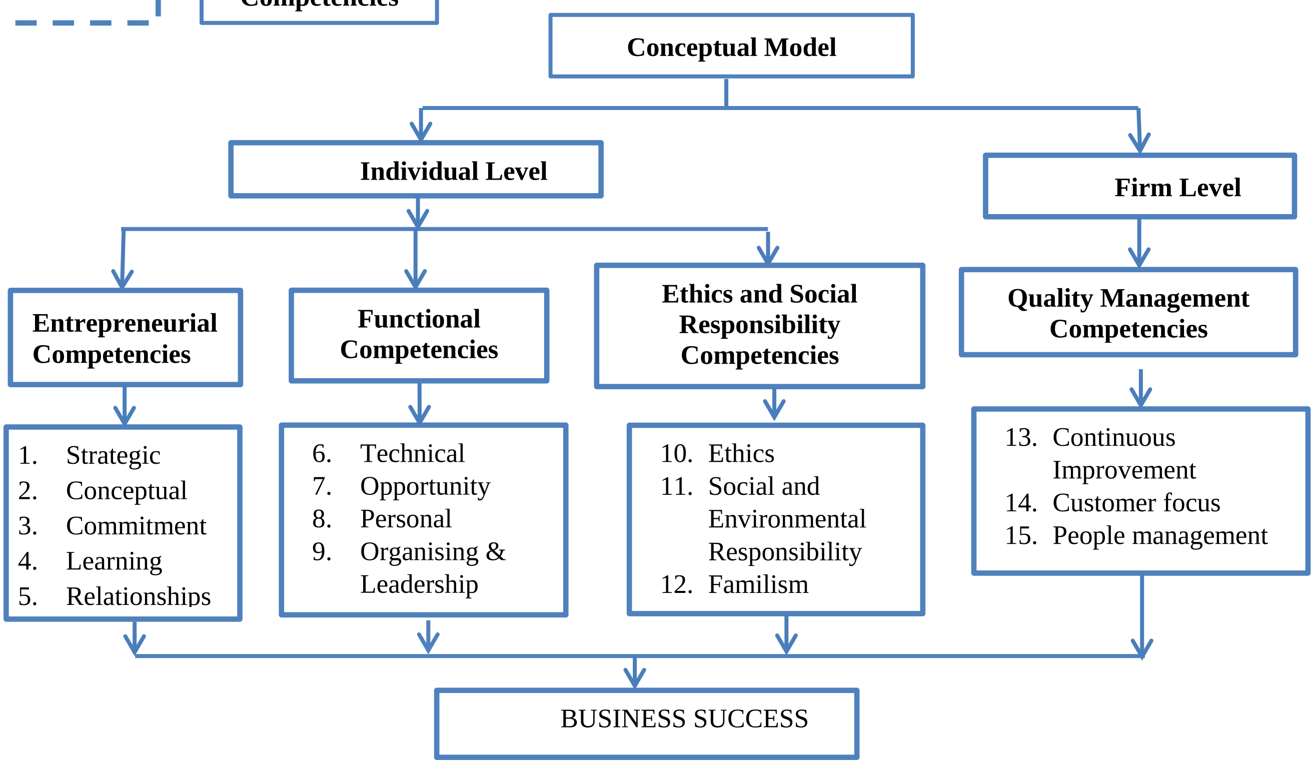
Moreover, enterprises continuously search for new ways to improve their performance and gain a competitive advantage by initiating quality management approach because it is an "important force leading to the economic growth of companies in international markets" (Feigenbaum, 1982, p.22). Quality is regarded as one of the critical factors to achieve satisfactory operating results and customer satisfaction by various scholars (Clegg, Kersten, & Koch, 2010; Fernandes, Sampaio, Sameiro, & Truong, 2017; Huang & Lin, 2002; Maguad, 2006; Tannock, Punnakitikashem, Laosirihongthong, Adebanjo, & McLean, 2010). Therefore, TQM has been introduced and utilised by organisations to bring out better performance and contribute to their competitive advantages (Antony, Agus, & Shukri Hajinoor, 2012; Crosby, 1990; Deming, 2000; Foster Jr, 2007; Juran, 1986; Polk, 2011; Snee, 2010; Sohal & Egglestone, 1994; Womack, Jones, & Roos, 1990; Zhang, Luo, Shi, Chia, & Sim, 2016).Therefore, this proposed model will introduce quality management competencies on the organisational level which contribute to the business success of SMEs.

From all the aforementioned arguments, this paper will introduce an empirical model presenting the relationship from entrepreneurial competencies, functional competencies, ethics and social responsibility competencies in individual level, and quality management competencies in firm level to the success of small and medium enterprises (Figure 1).

Figure 1: Empirical Model



gure 2: Determinants of Conceptual Model



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An examination of the perceptions of accountants towards the professional skills required for applying the International Financial Reporting Standards (IFRS)

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Abstract

The introduction of the IFRS has presented complexities to professional accountants who are tasked with applying the standards. Our study aims to identify the range of skills necessary for accountants to deal with these complexities, and investigate the extent to which accountants have developed the skills. Based on a survey of professional accountants in Indonesia, we find that accounting judgement is considered to be the most necessary skill for applying the IFRS, but accountants consider their judgement and other relevant skills are not sufficiently developed due to a deficiency in training programmes. These findings are of interest to professional accounting associations, accounting firms, and educational institutions for evaluating the content of the training and education programmes being delivered to accountants.

Keywords: *Accountant's perceptions, skills, IFRS, professional training, judgements.*

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INTRODUCTION

The global convergence of accounting standards has made significant progress over the last decade. As of 2016, more than 130 countries have introduced policies that either require or permit use of the IFRS by publicly accountable companies in their jurisdictions (Pacter, 2016). The growing number of countries adopting, or potentially adopting, the IFRS suggests that there is no question about the acceptance of the IFRS as the single global accounting standard. However, a fundamental question remains in the literature as to whether accounting practitioners are prepared with the skills necessary to apply these standards (e.g., ICAS, 2010; Bierstaker, Kopp, & Lombardi, 2016). A shift from national accounting standards to the IFRS will result in major changes to a country's financial reporting practices, particularly when the national standards differ significantly from the IFRS. These changes, in turn, may pose challenges and difficulties to accounting professionals applying the IFRS in the early periods of implementing the standards (Morris, Gray, Pickering, & Aisbitt, 2014). As a consequence, accountants need to equip themselves with the skills and competencies required for both understanding the IFRS and for dealing with the complexities involved in the interpretation and application of the standards. Furthermore, the need to acquire relevant skills necessitates the availability of adequate IFRS training programmes for accounting professionals.

Earlier studies have investigated financial statement preparers' experiences with IFRS implementation in both developed countries and emerging economies (e.g., Jermakowicz & Gornik-Tomaszewski, 2006; Jones & Higgins, 2006; Joshi, Bremser, & Al-Ajmi, 2008; Ballas, Skoutela, & Tzovas, 2010; Pawsey, 2010; Albu, Albu, Bunea, Calu, & Girbina, 2011; Girbina, Minu, Bunea, & Sacarin, 2012; Morris et al., 2014). The findings of these studies have identified the challenges faced, and benefits received, by countries that were shifting from their national standards to the IFRS. While these studies have provided insights into the issues of which accounting professionals need to be aware when moving to the IFRS, however, none of the studies have specifically examined the range of skills that accountants require when applying a set of the newly adopted IFRS.

To fill the void in the literature, we seek to identify the professional skills and competencies that support a successful implementation of the IFRS. In so doing, we propose two research questions: RQ1. Which professional skills do accountants perceive as being the most important for financial reporting practices under the IFRS?; and RQ2. To what extent do accountants perceive these professional skills have been developed as part of their training?

Our study is conducted in Indonesia, where the transition from national accounting standards to the IFRS is currently under way. Indonesia began its IFRS convergence programme in 2008 and, as at 2016, the majority of the IFRS have been adopted into the Indonesian Financial Accounting Standards. Based on a sample of 94 Indonesian qualified accountants, our study shows that accounting judgement is considered to be the most important of the skill categories when implementing the IFRS. The results further show that ethical skill and certain generic skills are also perceived to be necessary for applying the IFRS; these skills are viewed as more important than technical accounting skills. Meanwhile, the skill category that is considered to be the least important is that of cultural sensitivity. With regard to the extent of the development of these skills, the findings suggest that accountants consider they have not adequately developed either the judgement skill or various generic skills in their professional training due to the lack of emphasis given by the training programmes.

Our findings provide significant theoretical and practical implications. Our study extends the existing literature on complexities in the implementation of the IFRS by providing new insights into professional skills that help accountants overcome difficulties in moving from national accounting standards to the IFRS. These findings further highlight the need for universities and other educational institutions to improve their curricula to suit the needs of accountants in developing their aptitude for applying the IFRS. The results should be of interest to professional accounting associations, accounting firms, and educational institutions in their collective effort to ensure the availability of high quality professional training and education to prepare accountants with the relevant skills for applying the IFRS.

The remainder of this paper is organised in the following manner. Section 2 describes the data and research methods. Section 3 presents the results and discussion of results. Section 4 concludes the paper.

DATA AND METHODOLOGY

Research Setting

Our study was conducted in Indonesia, the largest economy in Southeast Asia and the only G20 member country in the region. The Indonesian accounting standard setter announced its formal commitment to support the IFRS convergence in December 2008. While the Indonesian accounting standards as at 2016 are substantially consistent with the IFRS, there are several standards within the IFRS that have not been adopted (e.g., IFRS 1 *First Time Adoption of IFRS*, IFRS 15 *Revenue from Contracts with Customers*). Therefore, the current IFRS convergence programme in Indonesia focuses on eliminating the remaining differences between the Indonesian accounting standards and the IFRS.

Indonesia provides an ideal setting for a study that focuses on IFRS-related skills for several reasons. First, Indonesia has recently issued a set of Indonesian equivalents to the IFRS that were developed under the country's IFRS convergence programme. This means that Indonesian accounting professionals are currently in the process of familiarising themselves with the newly-introduced standards; thus, they are attentive to the skills that help them overcome the difficulties inherent in their application. Second, the move towards the IFRS represents major changes in Indonesian accounting standards because prior to adopting the IFRS the country's national standards were influenced to a large extent by the US GAAP. Therefore, the major changes associated with shifting from national standards to the IFRS can be expected to cause concern among professional accountants in Indonesia. Third, difficulties with implementing the IFRS have long been an issue for financial statement preparers in Indonesia. For example, in the early periods of convergence, the effective dates of several newly introduced IFRS-equivalent standards had to be postponed so that financial statement preparers would have time to make preparations for applying the standards.

Sample selection

In order to address the research questions, data was collected using an online survey administered to members of the Institute of Indonesia Chartered Accountants (*Ikatan Akuntan Indonesia* – IAI). An online survey approach was selected in this study for its effectiveness and efficiency. Online surveys are currently one of the most commonly used survey methods (Evans & Mathur, 2005; Selm & Jankowski, 2006; Cooper & Schindler, 2014), and has been shown as an effective way of collecting data in various fields of research including the accounting and auditing contexts (Brandon, Long, Loraas, Mueller-Phillips, & Vansant, 2013; Carpenter, Moore, Alexander, & Doherty, 2013). The survey was conducted in November 2016. The conduct of the survey was approved by the IAI, and distribution of the survey questionnaire was facilitated by the IAI through its electronic mailing system. This electronic mailing system is used by the IAI to distribute various types of information to its members across Indonesia. Therefore, using the IAI's electronic mailing system enables this survey to recruit professional accountants residing in various locations in Indonesia. To recruit the respondents, an invitation to participate in the survey was sent via email to all the IAI members registered in the electronic mailing system. Willingness to participate was expressed by 152 practising accountants, who were subsequently each sent an email containing the internet link of the research instrument. Respondents completed the questionnaire through the Internet using the Qualtrics online survey platform, available via www.qualtrics.com.

Of those respondents who were sent the online instrument, 96 completed the survey, indicating a 63% response rate. Two respondents submitted incomplete responses, and were deleted from the sample. Thus, the final sample consisted of 94 professional accountants.

Research Instrument

The research instrument consisted of three sections. In Section 1, respondents were asked to provide demographic data, such as gender, age, level of formal education, level of experience, and employer details. Section 2 of the survey questionnaire consisted of 47 items, each of which represented a specific type of professional skill. The 47 items were grouped into nine skill categories: personal and communication (10 items); cultural sensitivity (three items); leadership and interpersonal (three items); promotional (two items); analytical and logical (10 items); accounting judgement (six items); appreciative (eight items); routine accounting (three items); and ethical (two items). We self-developed the accounting judgement skill items based on the judgement and decision-making models described in the literature (e.g., Bonner, 2008; Bazerman & Moore, 2009). The other items in the questionnaire were adapted from the skill set examined in Kavanagh & Drennan's (2008) study. Respondents were asked to indicate their perceptions about the importance of each of the 47 skill items for financial reporting under the IFRS on a seven-point Likert scale, anchored at 1 for 'not important' and 7 for 'very important'. To determine the accountants' opinions of the importance of a skill category, we took the average score of participants' responses about the level of importance of the skill items within that particular skill category.

Section 3 of the questionnaire consisted of the same 47 skill items, classified into the same nine categories as in Section 2. This section was designed to elicit respondents' perceptions regarding the extent to which they have developed each skill during their professional training. Specifically, respondents were asked to indicate the level of priority given by their professional training to the development of each of the 47 skill items on a seven-point Likert scale, anchored at 1 for 'not important' and 7 for 'very important'. To determine accountants' perceptions of the priority given to a skill category, we took the average score of participants' responses towards the level of priority given to the skill items within that particular skill category.

RESULTS

Demographic Details of Respondents

Table 1 provides the demographic details of the 94 respondents. The analysis of the demographic data revealed that 58.5 per cent (n = 55) of the respondents were male, and 41.5 per cent (n = 39) were female. The mean age category of the respondents was 36.42 years, and on average the level of formal education attained by the respondents was 16.74 years. The average level of experience of the professional accountants was 9.99 years. The respondents were generally familiar with the Indonesian equivalent of the IFRS, as indicated by the mean response of 3.91. The respondents also appeared to frequently refer to the Indonesian equivalent of the IFRS in performing their duties, as indicated by the mean response of 3.89. Of the 94 respondents, 48 respondents were employed by public accounting firms, 27 respondents were employed by companies, and 19 respondents were employed in other sectors.

Table 1: Demographic data of respondents

Demographic data	Respondents
Final sample	94
Gender:	
Male	55
Female	39
Age (mean)	36.42
Level of formal education in years (mean)	16.74
Level of experience in years (mean)	9.99
Level of familiarity with the Indonesian equivalent of the IFRS (mean)	3.91
Level of frequency in referring to the Indonesian equivalent of the IFRS at work (mean)	3.89
Employer details:	
Public accounting firms	48
Companies	27
Others	19

Skills that are Important for Applying the IFRS (RQ1)

Research Question 1 was developed to identify the skills considered the most important by accounting professionals for financial reporting under the implementation of the IFRS. To address this research question, we examined the mean scores of the respondents' perceptions about the importance of the nine skill categories presented in the survey. Table 2 provides mean scores and ranks the perceived importance of the nine categories of skills.

Table 2: Perceptions of accountants regarding the importance of skill categories

Skill category	n	Mean	Standard deviation	Rank
Accounting judgement skill	94	6.41	0.62	
Ethical skill	94	6.26	0.79	†
Leadership and interpersonal skill	94	6.26	0.78	†
Appreciative skill	94	6.20	0.63	
Personal and communication skill	94	6.17	0.62	
Analytical and logical skill	94	6.14	0.66	
Routine accounting skill	94	6.12	0.80	
Promotional skill	94	5.92	0.99	
Cultural sensitivity skill	94	5.72	1.02	

† The skill categories with identical mean scores are assigned a same rank and are listed alphabetically.

As shown in Table 2, accountants perceived that all nine skill categories are of moderate importance or greater (the mean scores ranged from 5.72 to 6.41).[18] Nevertheless, a comparison across mean scores demonstrates that the accounting judgement skills were considered to be the most important skill category for applying the IFRS (mean = 6.41). The second most important skill categories were ethical skills and leadership and interpersonal skills (mean = 6.26 for each of the two skill categories). The next-ranked skill categories in order of mean ranks were appreciative skills (mean = 6.20), personal and communication skills (mean = 6.17), analytical and logical skills (mean = 6.14), routine accounting skills (mean = 6.12), promotional skills (mean = 5.92), and cultural sensitivity skills (mean = 5.72).

The findings that show accounting judgement skills rank at the top of the list appears to be consistent with the notion that exercising professional judgement is the most important aspect of IFRS implementation (ICAS, 2010). The limited implementation guidance and the extensive use of fair value accounting in the IFRS requires accountants to rely on their own judgement when interpreting and applying the standards; hence, the set of skills that enable accountants to produce high-quality judgements is crucial. Interestingly, the findings suggest that accountants considered cultural sensitivity skills to be the least important among the nine skill categories, and was rated to be only moderately important.

Extent of Skill Development (RQ2)

Research Question 2 was developed to examine the perceptions of accountants regarding the extent to which their professional training has equipped them with the skills that are perceived to be important for applying the IFRS.

[18] The respondents' perceptions of the importance of each skill category are measured on a seven-point Likert scale, where 1 indicated "not important" and 7 indicated "very important".

In addressing this research question, this study first examined the mean scores of accountants' perceptions concerning the level of priority that had been given in their professional training programmes to the development of the nine skill categories and the 47 skill items presented in the survey. Table 3 provides mean scores and priority rankings of the nine skill categories.

Table 3: Perceptions of accountants regarding priority of development of skill categories

Skill category	N	Mean	Standard deviation	Rank
Accounting judgement skill	94	6.32	0.68	1
Ethical skill	94	6.18	0.92	2
Appreciative skill	94	6.06	0.79	3†
Leadership and interpersonal skill	94	6.06	1.04	3†
Personal and communication skill	94	6.03	0.88	5
Analytical and logical skill	94	6.00	0.80	6
Routine accounting skill	94	5.90	1.06	7
Promotional skill	94	5.72	1.20	8
Cultural sensitivity skill	94	5.61	1.27	9

† The skill categories with identical mean scores are assigned a same rank and are listed alphabetically.

As shown in Table 3, accountants perceive that the professional training they have completed has given moderate priority or greater to all of the nine skill categories (mean scores range from 5.61 to 6.32).[19] The skill category considered to have received the highest priority is the accounting judgement skill (mean = 6.32). The next skill categories in order of ranking are: ethical (mean = 6.18); appreciative (mean = 6.06); leadership and interpersonal (mean = 6.06); personal and communication (mean = 6.03); analytical and logical (mean = 6.00); routine accounting (mean = 5.90); promotional (mean = 5.72); and cultural sensitivity (mean = 5.61).

The findings reported in Table 3 show that, in general, the order of priorities given to the development of the nine skill categories corresponds to the order of the perceived importance of the skill categories. This suggests that professional training programmes have been designed to help accountants deal with the complexities involved in the implementation of the IFRS. It is also important to note that the institutions consider cultural sensitivity to be a less important component in the curriculum of their training programmes, as this skill category received only moderate priority and ranks last among the nine skill categories.

To specifically answer Research Question 2, this study next examined the perceptions of accountants about whether the professional training that they had undertaken have sufficiently provided them with the skills that they consider relevant for applying the IFRS. In so doing, the study first conducted a series of paired-sample t-tests to assess whether the mean scores for the level of importance of the nine skill categories and the mean scores for the level of priority given to developing these skill categories were significantly different. Table 4 provides the results of the paired-sample t-tests.

[19] The respondents' perceptions concerning the level of priority given to the development of each skill category are measured on a seven-point Likert scale, where 1 indicated "not important" and 7 indicated "very important".

Table 4: Perceptions of accountants regarding extent of development of skill categories

Skill category	Perceived importance	Extent developed	Difference	Sig. of difference
Accounting judgement skill	6.41	6.32	-0.09	0.077*
Ethical skill	6.26	6.18	-0.08	0.270
Leadership and interpersonal skill	6.26	6.06	-0.20	0.019**
Appreciative skill	6.20	6.06	-0.14	0.013**
Personal and communication skill	6.17	6.03	-0.14	0.048**
Analytical and logical skill	6.14	6.00	-0.14	0.026**
Routine accounting skill	6.12	5.90	-0.22	0.003***
Promotional skill	5.92	5.72	-0.20	0.015**
Cultural sensitivity skill	5.72	5.61	-0.11	0.230

*** Significant at $p < 0.01$, ** Significant at $p < 0.05$, and * Significant at $p < 0.10$, all are based on two-tailed tests of significance.

As shown in Table 4, the findings show that there are significant differences for seven of the nine skill categories being examined. Specifically, this study finds that the perceived priority given to the development of accounting judgement skill was significantly lower than the perceived importance of this skill category for applying the IFRS. This suggests that there is a perceived inadequacy in the professional training undertaken by accountants, particularly in relation to the development of judgement skills. The results further show that the perceived deficiency of training programmes also occurs for leadership and interpersonal skills, appreciative skills, personal and communication skills, analytical and logical skills, routine accounting skills, and promotional skills. These findings indicate that professional training has not adequately provided accountants with generic and technical skills that are perceived to be important for financial reporting practices when implementing the IFRS. Interestingly, the findings show that the largest deficiency occurred for routine accounting skills, suggesting that accountants expect training programmes to place more emphasis on the technical skills needed to apply the IFRS in their curriculum.

The findings shown in Table 4 also reveal that there is no significant difference between the accountants' perceptions of the importance of cultural sensitivity skills and the priority given to developing this skill category in training programmes. This finding implies that accountants, apart from believing that this skill category is less important, generally consider that they have adequately developed these skills in their professional training.

To provide a more elaborate analysis, this study further examined the perceptions of accountants concerning the extent of development of the skill items within each of the nine skill categories. That is, it conducted a series of paired-sample t-tests to determine whether the mean scores for the level of importance of the 47 skill items and the mean scores for the level of priority given to developing these skill items were significantly different. Table 5 provides the results of the paired-sample t-tests for each of the 47 skill items, listed under the relevant skill categories.

Table 5: Perceptions of accountants regarding extent of development of skill items

Skill items	**Perceived importance**		**Extent developed**	**Mean difference**	**Significance of mean difference**
	Mean	Rank	(Mean)		
Accounting judgement skill					
Framing of financial reporting problems	6.49	4	6.29	-0.20	0.039**
Identify financial reporting criteria	6.54	3	6.36	-0.18	0.034**
Interpret accounting standards	6.35	14	6.23	-0.12	0.109
Generating alternatives of accounting treatment	6.38	12	6.32	-0.06	0.369
Making estimates for financial reporting	6.40	9	6.40	0.00	1.000
Making accounting judgements	6.29	21	6.29	0.00	1.000
Ethical skill					
Listening	6.20	25	6.10	-0.10	0.278
Ethical awareness	6.32	15	6.26	-0.06	0.463
Leadership and interpersonal skill					
Negotiation	6.17	27	5.97	-0.20	0.032**
Leadership	6.32	15	6.11	-0.21	0.056*
Interpersonal skills	6.30	18	6.12	-0.18	0.046**
Appreciative skill					
Creativity	6.20	24	6.17	-0.03	0.693
Flexibility	6.40	11	6.21	-0.19	0.024**
Decision making	5.82	42	5.66	-0.16	0.128
Interdisciplinary approach to business	5.64	45	5.62	-0.02	0.836
Continuous learning	6.47	5	6.23	-0.24	0.018**
Independent thought	6.11	31	5.86	-0.25	0.012**
Critical thinking	6.56	2	6.38	-0.18	0.011**
Analytical	6.41	7	6.37	-0.04	0.540
Personal and communication skill					

Self-motivated	6.11	30	5.86	-0.25	0.020**
Professional attitude	6.59	1	6.27	-0.32	0.002***
Oral communication	6.02	35	5.91	-0.11	0.272
Work ethic	6.31	17	6.10	-0.21	0.023**
Tenacity	6.30	19	6.09	-0.21	0.043**
Risk propensity	5.47	47	5.71	0.24	0.037**
Problem solving	6.40	10	6.33	-0.07	0.451
Team work	6.43	6	6.23	-0.20	0.024**
Social justice	5.97	38	5.82	-0.15	0.136
Written communication	6.16	29	6.00	-0.16	0.128
Analytical and logical skill					
Measurement of business processes	6.24	22	6.02	-0.22	0.020**
Project management	6.05	33	5.90	-0.15	0.070*
Change management	5.87	40	5.79	-0.08	0.349
Risk analysis	6.29	20	6.31	0.02	0.759
Resource management	6.01	37	5.80	-0.21	0.028**
Decision modelling	6.01	36	6.00	-0.01	0.910
Logical argument	6.41	8	6.37	-0.04	0.657
Strategic management	6.22	23	6.00	-0.22	0.019**
Read with understanding	6.37	13	6.00	-0.37	0.001***
Research for business development	5.90	39	5.84	-0.06	0.449
Routine accounting skill					
Accounting software skills	6.03	34	5.77	-0.26	0.009***
Computer technology competence	6.16	28	5.93	-0.23	0.014**
Technical bookkeeping	6.18	26	6.00	-0.18	0.040**
Promotional skill					
Customer service	6.10	32	5.91	-0.19	0.065*
Entrepreneurship	5.74	43	5.52	-0.22	0.027**
Cultural sensitivity skill					
Cross-cultural communication	5.72	44	5.65	-0.07	0.480
Cultural sensitivity	5.62	46	5.59	-0.03	0.767
Cross-cultural appreciation	5.83	41	5.59	-0.24	0.024**

*** Significant at $p < 0.01$, ** Significant at $p < 0.05$, and * Significant at $p < 0.10$, all are based on two-tailed tests of significance.

As can be seen in Table 5, this study finds significant mean differences for 26 of the 47 skill items on the list. These 26 skill items spread over eight of the nine skill categories examined in this study. These findings imply that there is a perception of deficiency in the development of various types of skills that accountants consider as being necessary for the implementation of the IFRS. With regard to the top ten most important skill items, accountants considered six skills to be deficient. These are professional attitude, critical thinking, identify financial reporting criteria, framing of financial reporting problems, continuous learning, and teamwork. Of these, the skill with the largest perceived deficiency is professional attitude, while the skill with the smallest perceived deficiency is critical thinking skill and the skill for identifying financial reporting criteria.

Overall, the findings from the analysis on the specific skill items reinforce the notion that professional training has not adequately equipped accountants with the professional skills that they perceived as being important for financial reporting practices under the IFRS.

CONCLUSIONS AND RECOMMENDATIONS

The results show that professional accountants consider the nine skill categories presented in the survey to be of moderate or great importance. Of these skill categories, the judgement skill is perceived to be the most important skill category for the application of the IFRS. This finding can be viewed as consistent with the notion that exercising professional judgement is the most challenging part of applying the IFRS; hence, accountants feel that it is fundamentally essential to develop competencies that enable them to formulate high-quality judgements. The results reveal that the cultural sensitivity skill is considered by professional accountants the least important skill category for applying the IFRS and is rated as being only moderately important. These results can be viewed as an indication that culture is not considered a highly relevant issue in the application of the IFRS. Empirical studies have provided evidence that culture plays a significant role in the implementation of the IFRS as differences in cultural values can lead to inconsistency in the application of the IFRS across countries (e.g., Doupnik & Richter, 2004; Doupnik & Riccio, 2006; Tsakumis, 2007; Chand et al., 2012). Nevertheless, the results of this study may suggest that professional accountants are not really aware of the fact that culture is an important determinant for the proper application of the IFRS; hence, they do not consider the skills in this area as highly necessary.

With regard to the extent of skill development, the results show that professional training undertaken by practising accountants has given moderate priority or greater to the development of all skills examined in this study, with the judgement skill category receiving the highest priority. However, professional accountants still perceive that they have not sufficiently developed the skills that they considered most important for financial reporting practices under the IFRS due to deficiencies in the training programmes they have undertaken. In particular, this study shows that the priority given to development of the essential skills is substantially lower than the perceived importance of these skills. The results demonstrate that of the nine skill categories examined in this study, only ethical skills and cultural sensitivity skills are perceived as sufficiently developed in professional training. Overall, the findings of this study raise concerns over the adequacy of professional training in equipping professional accountants with the skills and competencies needed in the application of the IFRS.

The findings of this study have important practical implications that will be of interest to professional accounting associations and accounting firms. To properly prepare accountants for the application of the IFRS, professional training offered by professional associations or accounting firms should place more emphasis on developing a set of skills and competencies that are relevant for formulating professional judgements. Professional training programmes also need to give significant priority to the development of ethical skills and cultural skills of practising accountants as these skills are essential for responding to ethical issues in the application of the IFRS.

The results of this study provide theoretical contribution to the literature on the IFRS by providing new insights into issues and challenges in the implementation of the standards. This study extends the literature by providing novel evidence about the professional skills necessary for accountants to overcome these complexities, and what providers of professional training and education programmes should do to ensure accountants are well-equipped with these skills.

The findings reported in this study should be interpreted in the light of its limitations. The scope of this study is constrained to one group, i.e., professional accountants. While professional accountants are a key stakeholder group when it comes to examining perceptions about competencies for applying the IFRS, the opinions of other groups may also provide important insights. Therefore, future research could broaden the scope of this study by investigating the perceptions of various stakeholder groups.

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