How does the interactive use of budgets affect employees' role clarity and creativity?

By

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STATEMENT OF CANDIDATE

I certify that the work in this thesis entitled “How does the interactive use of budgets affect employee's role clarity and creativity?” has not been submitted previously for a degree nor has it been submitted as part of requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been acknowledged appropriately.

In addition, I certify that all information sources and literature used are indicated in the thesis.

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ABSTRACT

The success of organisations in the current global market is largely dependent on employees' creativity. Interactive use of budgets is likely to play an important role in encouraging employees' creativity. This study examines whether the interactive use of budgets is associated with managers' creativity directly or indirectly through role clarity. The Partial Least Squares (PLS) technique was used to analyse the mail survey data collected from 88 middle-level managers in publicly-listed Indonesian companies. The findings of this study indicate that interactive use of budgets has a significant impact on managers' creativity through role clarity. However, there is no evidence that interactive use of budgets has a direct association with managers' creativity. Based on an additional analysis, the study also finds that while the relationship between the goal clarity dimension of role clarity and managers' creativity is positive and significant, there is no evidence in support of the association between the process clarity dimension of role clarity and managers' creativity. This study contributes to the management accounting literature and sheds some light on practical implications.

Keywords: Interactive use of budgets, Individual creativity, Role clarity, Goal clarity, Process clarity, Indonesia's publicly-listed companies.

CHAPTER 1

INTRODUCTION

1.1Background

Management control systems play an important role in managers' achieving their goals. Chenhall and Moers (2015, p. 1) define management control systems broadly as "a set of many formal and informal input, process and output controls that are used by management to achieve organisational goals." Management control systems are generally used by managers for planning, performance measurement, and for handling rewards and compensation (Malmi and Brown, 2008). The appropriate application of management control systems enhances organisational performance, which leads to competitive advantage (Simons, 1990).

Budgeting is one of the most prominent elements of management control systems. It is the central piece of control mechanisms in most organisations, due to its ability to integrate organisations' various activities into "a single coherent summary" (Otley, 1999, p. 370). Abernethy and Brownell (1999) argue that budgets are used to coordinate and communicate key priorities, as well as to increase the lower managers' commitment to achieving strategic goals. Similar propositions are supported by recent studies, which show that budgets frequently serve as the basis for performance evaluation (e.g. Sprinkle *et al*., 2008; King *et al*., 2010; Libby and Lindsay, 2010). Specifically, interactive use of budgets, as opposed to the traditional approach, may stimulate the engagement of all management levels in the decision-making process and enhance overall performance. Dunk (2011) argues that using a budget interactively

results in the improvement of an organisation's financial performance. Further, Chong and Mahama (2014) observe that the interactive use of budgets can allow senior management to set up a positive informational environment, and can motivate more effective performance.

The interactive use of budgets can also significantly improve managers' creativity. As Henri (2006, p. 533) notes: "the interactive use of management control systems represents a positive force as management control systems are used to expand opportunity-seeking and learning throughout the organisation." Creativity is the generation of novel and useful ideas (Amabile, 1996), and it can be nurtured by generating dialogue and encouraging information sharing through discussion, challenge and debate (Henri, 2006). Anderson *et al*. (2014) argue that the significance of creativity as a factor in organisational performance and survival has been increasing. For organisations that gather their ideas and suggestions from their employees, the process of generating and implementing such ideas has resulted in recognisable competitive advantage (Anderson *et al*., 2004; Zhou and Shalley, 2003).

While there is an expected association between the interactive use of budgets and individual creativity, previous literature suggests that role clarity is an important variable that may help to further explain this association. McShane and Von Glinow (2015) note that one of the factors which influences an individual's behaviour and performance is a clear perception of their role. High role clarity means that job procedures, goals, criteria, and consequences are clearly understood (Fried *et al*., 2003). Role clarity may enhance accuracy and efficiency in performing jobs, as well as coordination and motivation (McShane and Von Glinow, 2015). A study conducted by Kauppila (2014) provides evidence of the significant mediating effect of role clarity in the relationship between management practice and individual performance. In addition,

Adler and Chen (2011) note that there are mediating mechanisms within the relationship between management control systems and individual creativity. These studies lay the groundwork for research on the mediating effect of role clarity in the relationship between interactive use of budgets and creativity.

Creativity is recognised as a potential driver of economic growth, especially in developing countries (van Uden *et al*., 2014). The impact of creativity in developing countries can provide benefits throughout society. Developing countries may gain advantages by nurturing creativity, which is regarded as the "key ingredient" for creating jobs, innovation and trade (UNCTAD, 2010, p. xix). However, most developing countries face the problem of low creativity. For example, according to the Global Competitiveness Report 2016, Indonesia dropped in its competitiveness by four ranks, from 37 to 41, due to its low creativity (Schwab and Sala-i-Martin, 2016). The poor creativity in that country is likely to be dependent on three main factors: (1) the limited proportion of the budget allocated to it, which accounts for only 0.08 per cent of GDP (World Bank, 2017); (2) the approach to using the budget (interactive or diagnostic approach); and (3) the lack of role clarity.

Indonesia has a long history of practising a traditional budget approach. During the New Order (1966–1998), the budgeting system in Indonesia was highly centralised and extremely rigid, which gave no room for challenges to or debates with the government (AusAID, 2011). It was only after the enactment of the *State Finances Law 17/2003* and the *Fiscal Balance Law 33/2004* that the Indonesian government began to reform its budgeting approach (Blöndal *et al*., 2009). The introduction of fiscal decentralisation by the enactment of these Laws has encouraged local participation and discussion in the budgeting process.

The problem of rigidity in budgeting is also experienced by private companies in Indonesia. In the immediate aftermath of independence, the bureaucratic political system in Indonesia, as a developing country, relied on the practice of centralistic and rigid budgeting, in both the public and private sectors (see Alawattage *et al*., 2017). Consequently, management accounting practices, including budgets, had become ceremonial, ritualistic, and irrelevant for management purposes (Uddin and Tsamenyi, 2005). Later, as the result of structural reforms, an "accounting signification" arose in order to adopt a new market-driven, performance-based management approach (Alawattage *et al*., 2017). However, these developments towards contemporary management accounting best practice are still in the very early stages of implementation.

The low level of role clarity is likely to contribute to the low level of creativity in Indonesia. Partially, this is indicated by the high rate of employee turnover – 25.8 per cent in 2016 (HayGroup, 2017), which is higher than the forecasted Asia-Pacific average of 24 per cent. Low role clarity is associated with low job satisfaction (Sawyer, 1992; Chenhall and Brownell, 1988), low work performance (Whitaker *et al*., 2007; Burkert *et al*., 2011), and low motivation (Jackson and Schuler, 1985), and thus contributes to high turnover. Erickson (2012) argues that the low level of role clarity induces employees to spend time and energy negotiating their roles rather than doing their jobs in a productive way.

1.2Motivations

This study is motivated by four factors. First, there is a gap in the literature, in that no empirical studies have examined the effect of the interactive use of budgets on individual creativity. Some studies have primarily focused on the relationship between interactive use of budgets and financial performance (i.e. Dunk, 2011; Laitinen *et al*., 2016), and have paid limited attention to the effect on individual performance. Others, such as those by Moulang (2015) and Demartini and Mella (2014), have investigated the association between the interactive use of performance measurement systems as elements of management control systems and creativity or innovation. However, these studies did not explicitly examine whether the interactive use of budgets influences individual creativity. This study fills this gap in the literature by empirically examining the association between interactive use of budgets and individual creativity.

Second, there is limited empirical research on the interactive use of management control systems and/or individual creativity in developing countries. Alawattage *et al*. (2017) find that management accounting research on developing countries has been growing slowly, and previous studies were mostly conducted in developed countries such as Italy (Demartini and Mella, 2014), Germany (Hofmann *et al*., 2012), Finland (Laitinen *et al*., 2016), Canada (Henri, 2006; Sakka *et al*., 2013), and Spain (Lopez-Valeiras *et al*., 2016). However, the findings of these studies might not be applicable to developing countries such as Indonesia due to the differences in the contextual factors, such as the regulatory framework, and the political, economic, technical and social environments (Bloom and van Reenen, 2010). Similarly, Hopper *et al*. (2009) argue that most of the problems in implementing management accounting in developing countries lie in the interplay of management accounting systems and those countries' cultural, economic, and political contexts. The differences in management accounting practices

between developed and developing countries are also caused by differences in product market competition, labour regulation, ownership, and the level of education (Bloom and van Reenen, 2010). Meanwhile, there is growing evidence that the adoption of contemporary management accounting systems in private companies in developing countries is an effect of market liberalisation (Hopper *et al*., 2009). This study contributes to the literature on developing countries by examining the association between interactive use of budgets and individual creativity in Indonesia.

Third, previous studies have mostly examined the direct link between interactive use of management control systems and creativity or innovation (Bisbe and Otley, 2004; Henri, 2006; Hofmann *et al*., 2012; Laitinen *et al*., 2016; Lopez-Valeiras *et al*., 2016). However, Adler and Chen (2011) argue that there are mediating mechanisms in the relationship between management control systems and individual creativity. Previous studies provide empirical evidence that performance measurement systems have an indirect positive association with individual creativity. For example, Moulang (2015) found that the interactive use of a performance measurement system by middle-level managers was indirectly associated with individual creativity through psychological empowerment. Further, Kauppila (2014) argues that role clarity mediates the association between leader-member exchange (LMX) and job performance of middle-level managers and their subordinates. Therefore, this study is motivated to examine whether the interactive use of budgets is associated with individual creativity directly or indirectly through role clarity. It is important to conduct such research because the direct and indirect relationship between the use of management control systems and managers' creativity may have important practical implications (Shields *et al*., 2000).

Fourth, there is the eminent problem of low creativity in Indonesia, as indicated by the small proportion of high technology exports, which accounted for only 6.63 per

cent of the country's total manufactured exports in 2015 (World Bank, 2017a). This figure is lower than other countries in Southeast Asia, such as the Philippines, Singapore, Malaysia, and Thailand. In addition, Indonesia's competitiveness is also lower than other countries in the region. According to the Global Competitiveness Report 2016–2017 (Schwab and Sala-i-Martin, 2016), insufficient capacity to innovate is one of the most problematic factors for doing business in Indonesia. The findings of this study will help managers in Indonesian organisations to design their budgeting systems and to promote creativity, thereby improving their competitiveness.

1.3Aim and Objectives

The aim of this study is to examine whether the interactive use of budgets is associated with individual creativity directly or indirectly through role clarity. To achieve this aim, this study has the following objectives:

(i) To review the literature on the interactive use of budgets, creativity and role clarity and develop hypotheses;

(ii) To develop a structural model showing the links between interactive use of budgets, role clarity, and individual creativity;

(iii) To collect data using a mail survey to middle-level managers in a sample of Indonesian firms;

(iv) To examine the association between the interactive use of budgets and individual creativity; and

(v) To examine the mediating effect of role clarity in the relationship between the interactive use of budgets and individual creativity.

1.4Theoretical Framework

Drawing on the literature (e.g. Hall, 2008; Chong and Mahama, 2014; Moulang, 2015), this study develops the following structural model (Figure 1.1, below). It is predicted that interactive use of budgets improves individual creativity, directly or indirectly, through role clarity as an intervening variable. This is captured in the figure by the direct path from interactive use of budgets to individual creativity and by the explicating paths from interactive use of budgets to role clarity, and from role clarity to individual creativity.

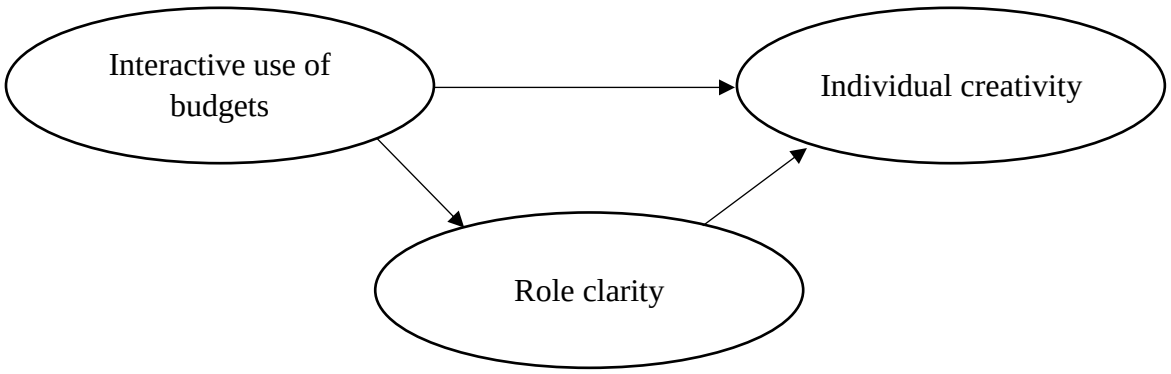

Figure 1.1 Structural model: Interactive use of budgets, role clarity and individual creativity

1.5 Structure of the thesis

The thesis is organised as follows. Following this introductory chapter, Chapter 2 presents a review of the literature on interactive use of budgets, creativity and role clarity, and develops hypotheses on the associations among them. Chapter 3 discusses the methodology used to collect data, including the design of the questionnaire, the survey administration method used, and the measurement of the latent variables. Chapter 4 provides reliability and validity tests for each measurement instrument, and the results of the data analysis performed to test the hypotheses developed in Chapter 2. Finally, Chapter 5 provides a discussion of the results, the contributions to the existing literature, the implications for practice, the limitations of the study, and suggestions for future research.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The objective of this chapter is to review the relevant literature and to develop hypotheses to be examined in the study. Section 2.1 addresses the literature on individual creativity. Section 2.2 describes the importance of conducting the study in Indonesia. Section 2.3 discusses the diagnostic and interactive approaches to using budgets. Section 2.4 reviews the literature on the concept of role clarity. Finally, section 2.5 develops the hypotheses of the study.

2.1 Individual creativity

For more than three decades, creativity has been studied and defined in different ways. Some previous studies refer to creativity as an *input*, an ability to produce novel ideas that are task appropriate. These studies consider creativity to be a "property of an individual" (Sternberg, 2001, p. 361). Other prior studies define creativity as the *process* of a creative activity that may or may not lead to a creative outcome (Drazin *et al.*, 1999). These definitions have expanded the scope of creativity to include individuals' psychological engagement. Previous studies also define creativity as an *outcome*, focusing on the production of new and useful ideas concerning products, services, processes, and procedures (e.g. Csikszentmihalyi, 2014; Anderson *et al*., 2014; Zhou and Hoever, 2014).

This study adopts Amabile's (1988) definition of creativity. Amabile defines creativity as a product (i.e., a new and implementable idea for solving a problem) or a response (i.e. generating a new and implementable idea for solving a problem) that is *novel* and *useful*. In comparison to Drazin *et al*. (1999), Amabile's definition is broader, as it states that the outcome of the creative process and the process of creativity itself can be used interchangeably to define creativity. In addition, Amabile's definition simplifies creativity by identifying it not as an individual property or trait, but as a form of behavioural expression. Consequently, creativity can be identified by observing behaviours. Further, Amabile's definition has been widely adopted for recent management accounting studies (e.g., Moulang, 2015; Adler and Chen, 2011; Chenhall and Moers, 2015). Therefore, for the purpose of this study, individual creativity is defined as the production of novel and useful ideas by an individual.

Given that individual creativity is characterised by novelty and usefulness, both dimensions are needed for creativity to occur. There is clear evidence that the pathways leading to these two dimensions of creativity are different, and that they may be independent of one another (Ford and Gioia, 2000; Grant and Berry, 2011; Mumford and Gustafson, 1988; Yuan and Zhou, 2008; Rietzschel *et al.,* 2007). Ford and Gioia (2000) classify creative and non-creative decision into quadrants: a decision can be low in novelty but high in usefulness, but it can also be novel but ineffective. A solution is considered to be creative (or of creative value) when it is high in both novelty and usefulness. For example, a useful but unoriginal idea might be described as pragmatic, while a novel idea lacking usefulness might be described as a dream. The level of creativity is equivalent to the significance of the contribution produced (Mumford and Gustafson, 1988). Rietzschel *et al.* (2007) argue that novelty (originality) can be generated by deep exploration of a domain of knowledge and by the activation of that

knowledge through a priming manipulation. However, these activities of exploration and manipulation do not enhance usefulness. Moreover, these two dimensions represent different goals (Litchfield, 2008). One strategy to enhance creativity is to set the goal of achieving high novelty while setting no specific goal for usefulness. This is termed radicalism/exploration. Alternatively, a goal may be set to achieve the greatest possible usefulness while not focusing on novelty, and this is termed incremental creativity or exploitation. Some researchers have concluded that various states, traits, and cognitive and affective processes influence the two dimensions of creativity in various ways (DeDreu and Nijstad, 2008; Ford and Kuenzi, 2008). For example, novelty and usefulness can be achieved through hard work, perseverance, and more or less deliberate, persistent, and in-depth exploration of a few cognitive categories or perspectives. However, states or traits that influence usefulness do not necessarily also influence originality, and vice versa (DeDreu and Nijstad, 2008).

Individual creativity evidently contributes to organisational and individual performance. Research has examined the idea that creativity may provide solutions to business problems by generating creative business strategies and creative changes in job processes (Ford and Gioia, 2000; Taggar, 2002; West and Anderson, 1996). Creative engagement deals with solving problems, either when the approach to solving the problem is identified, or when the problem is still to be found, invented, or discovered (Unsworth, 2001). Creativity takes place when the job is open-ended and appropriately carried out via discovery rather than through a predetermined (prescribed) step-by-step procedure. Creativity also contributes to creating changes in job procedures (ways of conducting tasks) (Taggar, 2002). Creative action plays a significant part in the domain of managerial decision-making in formulating strategies and designing organisational decision-making processes (Ford and Gioia, 2000).

Creative outcomes can range from minor adaptations in workflow or products, to major breakthroughs and the development of new products or processes (Mumford and Gustafson, 1988). Researchers have suggested that some level of creativity is required in almost any job (Shalley *et al.*, 2000; Unsworth, 2001); therefore, understanding that there is a spectrum of what would be considered a creative outcome is crucial for those in a position to lead and evaluate creativity. Putting creativity in perspective, the next section will describe the role and problems of creativity development in Indonesia.

2.2 Creativity in Indonesia

Indonesia is an emerging economy, and is the largest in Southeast Asia, with a GDP of US$932.3 billion in 2016, ranking 16th globally (World Bank, 2017). In terms of human resources, Indonesia is blessed with a huge population of 260.58 million, making it the fourth most populous country in the world (CIA, 2017). Over the past decade, Indonesia has enjoyed steady economic growth, though less than needed to pull the country into upper-middle income status. According to data from the World Bank, Indonesia has experienced the second fastest economic growth after China among G20 countries in the post-global financial crisis period (Papava, 2016). The OECD (2016) describes how sound macroeconomic policies, combined with growing domestic demand in recent years have been the main drivers of Indonesia's economic expansion (OECD, 2016). Recent improvements in the government's management of the economy and sound finances have led to the lifting of Indonesia's credit rating to investment grade by all three ratings agencies: Fitch in December 2011, Moody's in January 2012, and Standard and Poor's in May 2017 (Wells, 2017).

Despite a promising economic outlook, Indonesia still struggles with protectionist policies, corruption at all levels of government, poor infrastructure, and weak rule of law, which have hampered its economic growth and competitiveness. According to the World Bank (2017), Indonesia ranks 91st of 190 countries in terms of ease of doing business, well behind other countries in the region such as Singapore (second), Malaysia (23rd), Thailand (46th), and Vietnam (82nd). Moreover, Indonesia is also considered to be less competitive compared with other countries in the Southeast Asian region. In the Global Competitiveness Report 2016–2017, Indonesia is 41st of 138 countries, while, Singapore, Malaysia, and Thailand are ranked second, 25th, and 34th respectively. Finally, the 2016 Corruption Perception Index (Transparency International, 2017) places Indonesia 90th of 176 countries, way below some other countries in the region, such as Singapore (seventh), Brunei (41st), and Malaysia (55th).

The government has put a lot of effort into improving the business climate. At least 13 policy reform packages have been launched since September 2015 (Coordinating Ministry of Economy, 2016), the first of which was focused on improving the competitiveness of national industry through deregulation, consistent law enforcement, and business certainty. In October 2015, the government launched its fifth policy reform package, which covers tax incentives, asset revaluation and the promotion of sharia banking. In the sixth package, released in November 2015, the government launched policies on improving the economies of remote areas through the development of special economic zones and improvements in import licencing. To further improve the ease of doing business, in April 2016 the government issued the 12th package, which aims to reduce procedures and the time required to obtain licences for running businesses. It is expected that the reform packages will be effective in improving conditions for business as well as in promoting investment.

However, a challenge which has not been adequately addressed in improving Indonesia's competitiveness is the country's overall lack of creativity. According to the Global Competitiveness Report 2016–2017 (Schwab and Sala-i-Martin, 2016), insufficient capacity to be creative is one of the most problematic factors for doing business in Indonesia. Further, the Global Creativity Index (GCI) 2015 places Indonesia 115th of 139 countries. Global creativity, as measured by the GCI, is closely connected to nations' economic development, competitiveness, and prosperity. At an organisational level, many Indonesian companies do not engage in creativity. This is indicated by the low intensity of business expenditure for research and development, and by the very small numbers of patents filed and trademarks held (OECD, 2016). According to the G20 Innovation Report 2016 (OECD, 2016), companies performing research and development in Indonesia are mainly in the manufacturing sector, which is characterised by the use of low to medium technology. According to the World Bank (2017), high-technology exports accounted for only 6.63 per cent of Indonesia's total manufactured exports in 2015. This figure is lower than other countries in Southeast Asia, including the Philippines, Singapore, Malaysia, and Thailand, exacerbating Indonesia's already lower competitiveness by regional standards.

Although very late in doing so compared to other countries, the government of Indonesia has realised the importance of creativity for national economic growth since at least 2011, when it began to put significant effort into developing creativity by establishing the Ministry of Tourism and Creative Economy (MTCE). This move indicates that the government aims to integrate improvements in creativity with tourism promotion. By nurturing the generation of ideas and creativity, it is expected that Indonesia's cultural potential will add value to the economy (Zul Fahmi *et al.*, 2017). In addition, in 2014, the government established the Government Agency for Creative

Economy (Badan Ekonomi Kreatif), which is responsible for creating an efficient and conducive environment for economic creativity. The establishment of the Agency is expected to further boost the growth of creativity in Indonesia. The government has also set out the Masterplan of National Research (Rencana Induk Riset Nasional) 2015–2045. The implementation of the Masterplan is intended to promote creativity in Indonesia by synchronising the demand for research in the long term with the national objective of achieving a sustainable competitive advantage (Ministry of Research, Technology and Higher Education, 2016). More importantly, the available resources are expected to be synergised in order to achieve the long-term objectives despite various budgetary and human resources limitations. The Masterplan elaborates on policies for determining priorities and how these priorities are expected to contribute to national creativity within its 30-year timeframe.

The main driver of the development of creativity in Indonesia is likely to be the private sector. This is based on the fact that the budget allocated by the government is infinitesimal, accounting for only 0.08 per cent of GDP (World Bank, 2017). In line with this strictly limited budget, the capacity of the government to enhance creativity is also very limited. Therefore, the engagement of the private sector is definitely important. However, there are structural problems that limit the development of activities to promote creativity carried out by the private sector. The structure of industry in Indonesia, which is dominated by small and medium enterprises along with low levels of international investment in research and development, has inhibited the growth of creativity in Indonesia (OECD, 2016). Dealing with creativity improvements involves taking risks and tends to be disruptive to the business environment. The fiscal incentives and technical supports provided by the government have not been successful in boosting the engagement of private companies in enhancing their creative capacity.

In order to fully address the problem of Indonesia's poor creativity, the budgeting approach taken by firms needs to be revisited. Budgets, as an essential element of management control systems, can play an important role in enhancing individual creativity in organisations. The budgeting process involves every element of an organisation, and can integrate the organisation's various activities into "a single coherent summary" (Otley, 1999, p. 370). Indonesia has a long history of practising a traditional budget approach. During the New Order (1966–1998), the country's budgeting system was highly centralised and extremely rigid, which gave no room for challenges to or debates with the government (AusAID, 2011). It was only after the enactment of the *State Finances Law 17/2003* and the *Fiscal Balance Law 33/2004* that the Indonesian government began to reform its budgeting approach (Blöndal *et al.*, 2009). The introduction of fiscal decentralisation by the enactment of these Laws has encouraged local participation and discussion in the budgeting process. However, these developments are still in the very early stages of the long-term budgeting system reform. In the next section, further justification will be offered as to why an interactive approach in the budgeting system is better than the traditional approach.

2.3 The use of budgets

The term 'budget' is associated with planning, and is primarily used as a synonym for financial plan. Budgets provide a basis upon which to coordinate and control organisational activities, and to evaluate the performance of the executing individuals and corresponding subunits (Simons, 1988, p. 267; Anthony and Govindarajan, 2003, p. 409). Also, profit plans are often referred to if a budget is primarily profit-oriented. In this study, 'budget' is defined as "management's formal

quantification of the operations of an organisation for a future period" (Zimmermann, 2006, p. 260). This definition underlines that budgets comprise not only the quantities of economic resources to be allocated and used, but also the goals to be achieved. Budgets are inevitably related to plans, as they represent the results of the strategic planning processes. In general, budgets serve as a medium through which to translate long-term strategic plans into quantitative goals for a single year (Otley, 1999; Grisold, 1995; Anthony and Govindarajan, 2003). Further studies examine the more active role of budgets in the formulation of strategy and the development of dynamic capabilities (Davila, 2000; Marginson, 2002; Hansen and Van der Stede, 2004; Bisbe and Otley, 2004; Langfield-Smith, 2005). In this context, budgets are conceptualised as part of a wider control framework, which can contribute to improved organisational performance.

Simons' (1995) 'levers of control' framework identifies that any control system can be used in one of two ways: interactively (interactive controls) or diagnostically (diagnostic controls).[1] A diagnostic approach to budgeting stands for the traditional feedback role, in which budgets are used to monitor, and reward the achievement of, pre-established goals (Hofmann *et al.,* 2012). Following this view of control, the diagnostic use of budgets provides motivation and direction to achieve goals by focusing on and correcting deviations from pre-set standards of performance. It comprises reviews of critical performance variables to monitor and coordinate the implementation of deliberate strategies (Hofmann *et al.,* 2012). In other words, the

[1] Simons' (1995) 'levers of control' is a model focused on the use of control systems to achieve organisational goals by integrating four levers of control: belief systems, boundary systems, diagnostic control systems, and interactive control systems. These four levers differ in their goals and in the approaches to their use. Belief systems aim to empower and expand search activity by communicating vision, and use control to gain perspective. Boundary systems aim to provide limits of freedom by communicating strategic domain, and use control to gain competitive position. Diagnostic control systems aim to coordinate and monitor the implementation of intended strategies by communicating plans and goals and use control as a planning tool. Interactive control systems aim to stimulate and guide emergent strategies by communicating strategic uncertainties, and use control to determine patterns of action. Budgets are among the control systems that fall into the context of levers of control.

objective of the diagnostic use of budgets is to monitor organisational compliance with strategies (Chong and Mahama, 2014). Therefore, budgets are used in a management-by-exception way, which means that senior managers are freed from engagement in routine activities to focus on more strategic ones. However, due to its formality and the lack of managerial attention, diagnostic use of budgets may introduce some flaws in practice. The diagnostic use of budgets acts as a constraint on employee behaviour (Simons, 2000), and as Simons points out, the side effects of this may include: measuring the wrong variables, building slacks into targets, gaming of budgets, and utilisation of other techniques. The diagnostic approach is also claimed to be a constraint on creativity and opportunity-seeking, as it focuses only on the achievement of predetermined goals by use of chosen strategies (Simons, 1995). Similarly, Henri (2006) finds that the diagnostic use of management control presses the capabilities of the organisation in terms of market orientation, entrepreneurship, innovativeness, and organisational learning. By creating constraints to ensure compliance with orders, diagnostic use of budgets has a negative effect on these four capabilities.

In contrast, interactive use of budgets aims to support opportunity seeking and learning throughout the organisation, and these generate the opposite effects from the diagnostic approach. Chong and Mahama (2014) argue that using budgets interactively literally means that the focus is on stimulating dialogue across all levels of management by moving in the direction set by top managers. Interactive use of budgets is a formal information system used by managers to involve themselves regularly and personally in the decision-making activities of subordinates (Simons, 1995). Specifically, Bisbe *et al.* (2007) argue that the key characteristic of the interactive use of budgets is the intensive meetings and interactions involving top and middle levels of management. These intensive meetings and interactions indicate the extent of involvement of managers in

using budgets thoroughly by dedicating a considerable amount of time and effort to budget-related matters (Van der Stede, 2001). Top and middle-level managers feature in continual exchanges, not only within different levels of management, but also across functions at the same management level (Abernethy and Brownell, 1999). Consequently, the interactive use of budgets delivers continuous feedback throughout all management levels. This interaction involves both participation between subordinates and superiors in the budget setting process, and an ongoing dialogue between organisation members as to why budget variances occur, how a system or behaviours can be adapted, and even whether any action should be taken in response to these variances. In this setting, the budgeting system becomes a "database" which facilitates organisational learning.

Interactive use of budgets can be implemented at three levels of an organisation: top managers, middle-level managers, and between managers and subordinates. At top management level, when budgets are used interactively, an intensive engagement results from devoting a significant amount of time and attention to the input, process and output involved in the budgeting process (Bisbe *et al*., 2007). In addition, top managers also play their part in motivating and inspiring their subordinates in a non-invasive, facilitative and integrative way. At middle management level, this intensive engagement takes the form of frequent and regular involvement in the budgeting process. Between managers and subordinates, the interactive use of budgets is characterised by discussion and interpretation, which leads to continual challenge and debate concerning data, assumptions and action plans (Henri, 2006). At the same time, there are ongoing activities of collecting and generating information that are associated with how business strategies are affected by uncertainties (Bisbe *et al*., 2007).

This study focuses on the interactive use of budgets and its effect on individual creativity. This approach of using budgets in dealing with uncertainties relates to the

unpredictable nature of creativity in seeking new and useful ideas (Adler and Chen, 2011). The interactive use of budgets is characterised by flexible and dynamic capabilities in dealing with uncertainties, but is stable in framing patterns of communication and action (Davila *et al.,* 2009). In uncertain environments, using budgets interactively is regarded as an enabling mechanism (Adler and Borys, 1996). Organisations also assimilate and exploit the knowledge accumulated through the interactive use of budgets in a flexible, transparent, and user-friendly manner. Moreover, interactive use of budgets may also enhance the adaptability of the organisation's routine to unexpected events (Weick *et al.*, 1999; Bedford *et al*., 2016). In this setting, organisational routines are viewed as flexible, allowing them to absorb novelty rather than rigidly suppressing it. Further, Bedford (2015) and Bedford *et al*. (2016) provide empirical evidence to support that interactive use of control is effective for organisations that emphasise innovation and flexibility.

Therefore, as discussed above, it is expected that the interactive use of budgets will facilitate the enhancement of individual creativity. The continual interactions resulting from interactive use of budgets across various levels of management throughout the organisation are regarded as an ongoing learning process which constantly develops creativity among individuals in an organisation. Moreover, as a behavioural attribute, individual creativity is likely to be nurtured in supportive and facilitative environment in which budgets are used interactively.

2.4 Role clarity

Role clarity refers to the extent to which an individual clearly comprehends the tasks, goals and expected responsibilities of his or her work role (Katz and Kahn, 1978). The concept of role clarity emerged from role theory used in social psychology (Biddle, 1986; Collins, 1988; Kahn *et al*., 1964; Katz and Kahn, 1978), which centres on the interplay between a focal person—here, the middle-level manager—and his or her 'role senders', or, in the context of business organisations, mainly a manager's superiors. Role theory assigns the term 'role sending' to acts of communicating expectations that describe role pressures (Burkert *et al.*, 2011). These expectations are considered to be pressures on subordinate managers to conform to their superiors' expectations (Kahn *et al*., 1964; Machin, 1979). Role theory predicts that role senders' expectations and the accompanying pressures on the person on whom those expectations fall affect the latter's immediate experience. The specific configuration of role expectations and role pressures the superior manager imposes on the subordinate manager (i.e. whether the configuration allows for rational problem solving) can cause the manager to experience role stress, or a feeling of being unable to accomplish all role demands. Role stress encompasses two facets: role clarity and role conflict.

Role clarity is defined as the degree to which individuals feel they have clear guidance about the expected roles and behaviours associated with their job (Kahn *et al.*, 1964). Role clarity occurs when individuals experience certainty about what behaviour is expected of them (Birnberg, 2007). Specifically, high role clarity means that job procedures, goals, criteria, and consequences are clearly understood (Fried *et al*., 2003). Role clarity has been studied in order to examine the potential impact of budgeting and performance measurement practices on managers' behaviours (Marginson and Ogden, 2005; Burkert *et al*., 2011; Burney and Widener, 2007). It is argued that role clarity may

enhance accuracy and efficiency in performing jobs as a result of clearer direction (McShane and Von Glinow, 2015). In addition, role clarity may also improve coordination with other employees, and promote motivation due to the clearer link between effort and outcomes.

According to Sawyer (1992), there are two aspects of role clarity: goal clarity (the extent to which the outcome goals and objectives of the job are clearly stated and defined), and process clarity (the extent to which the individual is certain about how to perform his or her job). Sawyer (1992) built on role theory by further demonstrating that goal clarity and process clarity are two distinct constructs of work roles that develop individuals' understanding of task goals and paths to achieve those goals. The clarity of goals to be achieved is independent from the clarity of the process to achieve them. Sawyer (1992) argues that, on logical grounds, an individual who has high certainty about the goals to be achieved can theoretically have no understanding of how to attain those goals. In contrast, someone's certainty about the way to achieve particular goals does not necessarily imply that the goals are clearly comprehended.

The construct of role clarity has been widely used in management accounting. Previous studies have investigated role clarity, which is composed of goal clarity and process clarity, in its association with management control system elements, including performance measurement systems and budgeting (Marginson and Ogden, 2005; Burkert *et al*., 2011; Burney and Widener, 2007; Hall, 2008; Marginson *et al*., 2014). Furthermore, a number of studies in management accounting have been conducted by incorporating role clarity as an intervening variable (e.g. Burkert *et al*., 2011; Burney and Widener, 2007; Hall, 2008; Marginson *et al*., 2014). Accordingly, this study examines the mediating effect of role clarity on the association between interactive use of budgets and individual creativity.

2.5 Development of hypotheses

2.5.1 The association between the interactive use of budgets and individual creativity

Previous management studies have primarily examined the relationship between the interactive use of management controls (including performance measurement systems) and individual creativity. Moulang (2015) investigates how interactive performance measurement systems affect individual creativity through psychological empowerment among middle-level managers. Similarly, Appuhami (2017) explores the relationship between strategic performance measurement systems and managers' creativity among senior production managers in Australian manufacturing companies. As budgeting is one of the tools of management control systems, this study draws on previous studies on interactive use of management controls in developing hypotheses regarding the interplay between interactive use of budgets and individual creativity.

Interactive use of budgets could facilitate the development of individual creativity in two ways. Firstly, interactive use of budgets is characterised by intensive interactions among employees in an organisation. Studies have indicated that such high intensity interactions can lead to an increase in individual creativity (Perry-Smith and Shalley, 2003). The intensive interactions associated with interactive use of budgets enable managers and subordinates to continuously exchange information. The "database" resulting from the continuous interactions throughout the budgeting process may help managers to enhance the emergence of new and useful ideas and initiatives. For example, Andrews and Farris (1967) find that scientists' creativity is higher when managers listen to their employees' concerns and ask for their input into decisions affecting them. Similarly, Oldham and Cummings (1996) find that supportive, non-controlling supervisors that facilitate interactions between employees create a work

environment that fosters creativity. These findings are supported by Bisbe *et al*. (2007) who identify that one of the features of the interactive use of budgets is the non-invasive and facilitative way that managers motivate and inspire their subordinates. Tierney *et al.* (1999) also find that open interactions with supervisors and the receipt of encouragement and support lead to enhanced employee creativity. The support of superiors which results from interactive use of budgets is an aspect of producing a conducive work environment for nurturing creativity. An interactive approach in budgeting is also expected to facilitate creativity through enhanced communication (Su *et al.*, 2015).

Secondly, the interactive use of budgets is also characterised by the ongoing challenges to and debate on data, assumptions, and action plans (Henri, 2006), which have a significant chance of resulting in contradiction or confrontation. It is argued, however, that contradiction or confrontation is beneficial to creativity (Tesluk *et al*., 1997; Miron-Spektor *et al*., 2011; Nemeth *et al*., 2004). Tesluk *et al*. (1997) argue that one of the characteristics of an organisation with strong cultural values of creativity is the occurrence of moderate to high levels of confrontation and debate in meetings. Similarly, Miron-Spektor *et al*. (2011) argue that challenges and debates across different functions and managerial levels can become an opportunity to enhance employees' creativity by adopting paradoxical frames ("mental templates individuals use to embrace seemingly contradictory statements or dimensions of a task or situation" (Miron-Spektor *et al*., 2011, p. 229)):

> "The positive influence of paradoxical frames on creativity is due to the paradoxical relationship between task elements. This paradoxical relationship creates a sense of conflict in individuals and enhances their ability to integrate contradictions, which in turn increases creativity" (Miron-Spektor *et al*., 2011, p. 229).

Further, Nemeth *et al*. (2004) provide empirical evidence that the opportunity to criticise and debate may help to create an atmosphere conducive to generating ideas. Therefore, based on the above discussion, this study proposes the following hypothesis:

> ***H1:*** *Interactive use of budgets is positively associated with individual creativity.*

2.5.2 The association between the interactive use of budgets and role clarity

Previous management accounting studies have examined the relationship between the elements of management control systems and role clarity (Marginson and Ogden, 2005; Marginson *et al*., 2014). By using a case study method in a UK-based global communication company, Marginson and Ogden (2005) find that the use of budgets can enhance role clarity and can powerfully influence managers' budgeting behaviour. Similarly, the study conducted by Marginson *et al*. (2014), also in a major telecommunication company, find that the interactive use of performance measurement systems is associated with increased role clarity. As budgeting is one of the tools of management control systems, this study draws on previous studies on interactive use of management controls in developing a hypothesis linking the interactive use of budgets with role clarity.

The interactive use of budgets can improve role clarity by enhancing the clarity of each of its two elements, goal and process. Interactive use of budgets can enhance the clarity of individuals' roles in an organisation by specifying those goals and the appropriate behaviours associated with a work role through the exchange of feedback (Ilgen *et al*., 1979). Regular meetings and interactions help all employees to clarify the strategy and action plans designed by the senior managers, and to communicate these throughout all managerial levels (Kaplan and Norton, 1996; Lynch and Cross, 1992;

Simons, 2000). Moreover, the intensive interactions through the interactive use of budgets can also provide the 'whole story' of the organisation's goals as set out in the company's operations, and thus can enhance all employees' understanding of their roles within the organisation (Bowen and Lawler, 1992; Lawler, 1992). As such, the interactive use of budgets should improve employees' level of certainty as to what is expected of them in their work role, thus increasing goal clarity.

The interactive use of budgets can increase process clarity by providing information to improve employees' understanding of what they need to do within their role. In particular, continuous dialogue and debate increases the level of certainty as to the processes required in their work role (Kahn *et al*., 1964; King and King, 1990). Regular and personal involvement in the budgeting process can also educate managers about the real-time situation of the business (Simons, 2000), and therefore provides clear understanding of how managerial functions are to be performed. High intensity in interactions may take the form of participation in interactive management control systems such as budgeting. Interactive use of budgets can also encourage employees to continuously participate in budgeting processes, and increase the clarity of their role in the organisation (Chenhall and Brownell, 1988). As such, the interactive use of budgets is likely to increase employees' level of certainty in performing their role, and thus to improve process clarity. Therefore, based on the above discussion, this study proposes the following hypothesis:

H2: *Interactive use of budgets is positively associated with role clarity.*

2.5.3 The association between role clarity and individual creativity

Prior studies have noted that an individual's behaviour and performance is largely dependent on role clarity (e.g., McShane and Von Glinow, 2015). According to Shalley and Gilson (2004), creativity can be nurtured through clarity of goals, which can increase attention and effort by providing clear targets toward which individuals can direct their energies (Zhou and Shalley, 2003). Clarity of goals can also regulate creativity by affecting what people pay attention to, how hard they work, and how long they persist on a task (Locke, 1996; Zhou and Shalley, 2003). Further, individual creativity is likely to be attained when people are strongly committed to their goals and are given feedback concerning their progress (Locke, 1996; Shalley and Gilson, 2004). For example, Amabile and Gryskiewicz (1987) find that when employees did not know what management desired, because no clear goals were given, the employees felt that they were less creative. Thus, the greater the extent to which the goals of the job are clearly stated and defined, the higher the individual's creativity.

Role clarity may also influence individual creativity by describing the processes (directions) related to that individual's role. In addition to providing clear goals, managers ought to provide information regarding the processes required in an employees' job and clarity as to what is valued by the organisation. When employees have a good understanding of how their jobs are to be performed, it is expected that they will be more effective and will perform better (Abramis, 1994; Jackson and Schuler, 1985; Tubre and Collins, 2000). Based on the above discussion, this study suggests the following hypothesis:

H3: *Role clarity is positively associated with individual creativity.*

2.5.4 The mediating effect of role clarity on interactive budget use and creativity

Drawing on previous hypotheses, this study proposes to examine the mediating effect of role clarity in the relationship between the interactive use of budgets and individual creativity. Kauppila (2014) provides evidence of the significant mediating effect of role clarity in the relationship between management practice, such as interactive use of budgets, and individual performance. Similarly, Burney and Widener (2007) note that role clarity mediates the relationship between strategic performance measurement systems and managerial performance. In addition, Hall (2008) found that role clarity intervenes in the relationship between comprehensive performance measurement systems and managerial performance. These findings indicate that role clarity plays an important part in the impact of management control systems on work performance. Finally, Marginson *et al*. (2014) find that interactive use of performance measures influences managerial performance through role clarity. Based on the above discussion, the study proposes the following hypothesis:

> ***H4:*** *Role clarity mediates the relationship between interactive use of budgets and individual creativity.*

CHAPTER 3

RESEARCH METHOD

This chapter describes the research method used in this study. Section 3.1 describes the sample selection and data collection method. Section 3.2 elaborates on the data collection, including the design of the survey questionnaire, survey administration and minimum sample size. Section 3.3 provides details on the measurement of the latent variables. Section 3.4 contains the descriptive statistics of the demographic variables and indicators of the latent variables. Finally, section 3.5 summarises the chapter.

3.1 Sample selection and data collection

3.1.1 Sample selection

The study uses publicly-listed companies in the Indonesia Stock Exchange (IDX) to select middle-level managers for the sample. Middle-level managers are selected as the most appropriate respondents because they are highly likely to be exposed to the interactive use of budgets by senior managers, which has an important role to play in directing organisational attention towards creativity (Schroeder *et al*., 1986; Amabile, 1988). This group of managers are also directly involved in the strategic issues and can be supposed to have a general view on the entire company which is necessary to answer questions on the use of budgets, role clarity, and creativity. In support of this, Simons (1995, pp. 121-122) states that "middle managers are key nodes of the information network that reveals senior management's concerns and moves newly collected information up, down, and sideways in the organisation". The choice of middle level

managers was comparable with other previous studies on the approaches in using management control systems (i.e. Hall, 2008; Hoffman *et al*., 2012; Moulang, 2015). The accounting managers are chosen as the sample for this study because middle-level managers in accounting field are familiar and actively engaged in activities related with interactive use of budgets. Moreover, as the workplace nowadays are team-based and collaborative, accounting managers contribute significantly to the creativity of the organisation (Heerwagen *et al*., 2007).

The study uses Indonesian firms as the sample for two reasons. First, Indonesian firms allegedly have very limited knowledge on the importance of individual creativity to improve their performance. This is indicated by the low level of creativity in private sector in Indonesia (see Section 1.1). Second, there is strictly limited studies examining the association between the use of management control systems and creativity in Indonesia (see Section 1.2). Publicly-listed companies are chosen as the sample for this study because formal management accounting practices (including budgets) are more likely to be practiced within this group of companies. Publicly-listed companies are under obligation to comply with the rules and regulations issued by the Financial Service Authority (Otoritas Jasa Keuangan) and align with the international standard of corporate governance (Siregar and Utama, 2008). The significance of the listed companies is also supported by the substantial contribution to the national economy, which was accounted for 45.67 per cent of Indonesia's national GDP in 2016 (World Bank, 2017). It is indicated, therefore, that the enhancement in creativity in publicly-listed companies will also contribute significantly to the creativity and eventually to the competitive advantage of the country.

3.1.2 Data collection

There are various methods used for data collection in management accounting research, such as field research (case study), experiments, and surveys. A case study is conducted on the assumption that the observed phenomena may not be as they seem (Somekh and Lewin, 2005). As such, case studies emphasise in-depth research to achieve a 'rich description' of a phenomenon in order to represent it from the participants' perspective (Geertz, 1973). Since it privileges understanding 'the case' rather than addressing the population at large, the weakness of the case study approach is the inability to draw statistical generalisation from the one or a small number of cases examined (Somekh and Lewin, 2005).

The experimental approach, on the other hand, is conducted on the expectation that it is possible to make strong inferences of causal relationships from the observed variables (Singleton and Straits, 2010). Experiments provide clear evidence of direction of influence, and effectively control for extraneous variables. However, since they are performed under controlled condition, experiments are also limited in their generalisability (Singleton and Straits, 2010).

The survey method is one of the most commonly used approaches in management accounting research (Birnberg *et al*., 1990). Surveys use a standardised approach to collecting data from a selected sample group in order to make inferences about a broader population (Kerlinger, 1986; Rossi *et al*., 1983). Data including knowledge, feelings, values, and behaviour are collected by using surveys in order to be used to describe, compare, or explain phenomena (Fink, 2006). There are two types of survey, self-administered questionnaires and interviews. Self-administered questionnaires can be administered by post, or online (Fink, 2006).

The mail survey is the most popular data collection method in accounting studies (Veal, 2005), in spite of the argument that online surveys are lower in cost and faster in collecting data (Fink, 2006). However, participants often face technical problems when completing online surveys, due to technological incompatibility for example (Singleton and Straits, 2005). More importantly, it is empirically proven that response rates to online surveys are lower compared with mail surveys (Dillman *et al*., 2014).

This study used the mail survey method for several reasons. Compared with the online surveys and case study approaches, mail surveys were considered to be the most effective way to collect the data for this study. First, a mail survey allows for a wide geographic coverage of respondents (Dillman, 2007). Second, they achieve a higher response rate compared with online surveys (Dillman *et al*., 2014). Online surveys were not preferred because of the unreliability of internet access in many parts of Indonesia. The case study approach, based on face-to-face interviews, was not feasible in this study as the target population was spread across Indonesia. Furthermore, due to the number of variables and hypotheses being examined in this study, a relatively large sample size was required. As such, adopting the case study method would have been extremely costly and time consuming. Finally, the mail survey method was consistent with prior accounting studies that have measured the use of management control systems and associated outcome variables (Chong and Mahama, 2014; Hall, 2008; Moulang, 2015; Appuhami, 2017).

3.2 Survey administration

This survey is developed based on established survey instruments used in previous studies. The instrument used to measure the interactive use of budgets has been used in Henri (2006) and Chong and Mahama (2014). Role clarity measurement has been used by Hall (2008). The instrument used to measure individual creativity has been used by Moulang (2015). The design of the questionnaire used for this study follows Dillman's (2014) guidelines. The questionnaires are designed in booklet format, which is the conventional format that people are used to handling when reading several pages of information (Dillman, 2014). In this study, the questionnaire consists of four pages collated in the form of a booklet (see Appendix 1). At the first page, the title of the survey is presented as well as the instruction to complete the survey. The contact details of the researcher and the research assistant (email addresses and telephone numbers) are provided if the participants wish to enquire about the survey or need any assistance. In addition, contact detail of helpline service in case the participants feel distressed or anxious during the survey is also provided. The general information section is also placed at the first page. The next three pages presents the questions used as indicators for the variables measured in this study. Finally, at the bottom of the last page, an appreciate note is presented for the participants who have completed the survey. The questionnaire is designed in a respondent-friendly style with simple-worded statements and was presented in colour to attract respondents' attention (Dillman *et al*., 2014). All efforts were made to ensure that the survey questionnaire was comprehensive yet as concise as possible, given that shorter questionnaires yield higher response rates (Dillman, 2007).

The questionnaire was pilot tested by two academics and 10 postgraduate students prior to distribution to ensure the questions were not misleading or ambiguous,

and that the format was appropriate. Amendments to the wording of some items and layout of the questionnaire were subsequently made based on the feedback received.

The study uses Indonesia Stock Exchange (IDX) database of Indonesian publicly-listed companies to identify middle-level managers. According to the database, there were 537 companies listed in the Indonesia Stock Exchange (IDX) database by the end of April 2017. The job titles such as accountants, account executives, and similar other positions were identified as middle level managers. One participant from each company has been identified for the sample. Data collected from the database includes: name of the company, positions, contact details (postal address, email address, and phone number).

Prior to the start of the survey, ethics application was submitted to the Macquarie University Human Research Ethics Committee. It is a required by Macquarie University for the study to pass the ethical clearance before undertaking the survey. The approval of ethics application was acquired before contacting participants. The ethical clearance resulted in some minor revisions to the survey and changes have been done accordingly. The changes to the survey suggested by the Ethics Committee includes the addition of contact detail of helpline service in case the participants feel distressed or anxious during the survey. All documents related to the ethical clearance are attached to this thesis (see Appendix 4).

The study used the four-step implementation strategy recommended by Dillman (2007). The aim of following Dillman's (2007) recommendation is to obtain high response rates and enhance the validity of responses. The use of this strategy is consistent with recent management accounting studies based on surveys (Moulang, 2015; Appuhami, 2017). A research assistant in Jakarta, Indonesia was hired to

undertake all the steps of the Dillman's (2007) implementation strategy. Since the intended survey participants are in Indonesia, it is more efficient—in terms of cost and time—to conduct these steps in Jakarta than in Sydney. Dillman's four steps, as completed by the research assistant, are described below.

Step 1 – Making telephone calls to check data accuracy

The research assistant in Jakarta, Indonesia made telephone calls to the intended participants. The aim of the telephone call is to check the accuracy of the contact details (positions, postal address and email address) provided in the database to minimise the risk of undelivered survey package. It took one week for the research assistant to make telephone calls to all the 537 participants. Some details of the database were updated during the telephone calls, such as the change of positions, changes of email addresses due to the change in company names, and a few changes in postal addresses.

Step 2 – Mailing the survey packages

After checking the accuracy of participants' contact details, survey packages were prepared. The survey package consists of the survey questionnaire, a cover letter and a self-addressed reply-paid envelope. The survey questionnaire was not provided with identification number to ensure confidentiality and anonymity of the responses.

The cover letter expressed the objective of the survey, guaranteed participants' anonymity and confidentiality, advised the expected length of time to complete the survey, and provided an ethics approval statement. The cover letter was personally addressed by stating the name, position, company name, and address of each

participants. Given evidence that personalisation of the correspondence can increase response rates (Dillman, 2007), the cover letter was printed on university letterhead and was signed by the researcher.

A reply-paid envelope was included in each survey package to help participants to return the completed surveys. These envelopes were self-addressed to the research assistant in Jakarta. Participants were not required to provide any contact details or identification when they returned the completed surveys to ensure the anonymity of the responses.

The participants' mailing addresses were printed on the envelopes, and the survey packages were posted to the 537 participants. The participants' addresses were printed rather than handwritten because this is regarded as more formal and courteous in Indonesian custom. Examples of the survey, cover letter, and the self-addressed, reply-paid envelope are attached to this thesis (see Appendices 1-3).

Step 3 – Sending reminder emails

A follow-up email reminder was sent two weeks after the survey package had been posted, since an adequate response rate had not been achieved. One reminder email was sent to each potential participant, except for those who had notified by email that they had completed and returned the survey. In the reminder email, the participants were simply notified again of the invitation to participate in the survey. The participants were also informed that the survey package had been mailed two weeks before. There was no coercion or pressure placed on potential participants in the reminder email.

Step 4 – Making follow-up telephone calls

The follow-up telephone calls were made two weeks after the reminder email. All potential participants were contacted except for those who have notified by email that they have completed and returned the survey. The telephone calls were made to secretary or receptionist to avoid any pressure put on the participants. The message delivered to the secretary or receptionist of the companies of the intended participants was the same as the message in the reminder email sent earlier. In addition, participants were informed that their responses would be anonymous. Based on the telephone conversation, some potential participants provided reasons for not yet responding to the survey. The main reason given by potential participants is that they have not acquire permissions from their superiors to complete the survey. Another reason provided is the lack of time to complete the survey due to the high work load. A few other participants who are willing to participate but have missed the survey package asked the questionnaire to be sent by email.

Within two weeks of the initial distribution of the questionnaires, a total of 35 responses were received, resulting in an initial response rate of 6.52%. The follow-up email reminder (Step 3) resulted in a further 30 responses (5.59%) being received. Further, the follow-up telephone calls (Step 4) results in an additional 28 responses (5.21%), giving a total sample of 88 and final response rate of 16.39%. The descriptive statistics of the participants are presented in Section 3.5.

The minimum sample size for Partial Least Square (PLS)[2] modelling is ten times the largest regression in the model (Chin and Newsted, 1999). In this study, the construct requiring the most complex regression is individual creativity (with three paths leading to this construct), suggesting a minimum sample size of 30. The sample

[2] The Partial Least Square (PLS) approach is discussed in Section 4.1.

size of 88 is therefore considered adequate for PLS modelling. This is consistent with previous studies using PLS model, such as Hall (2008), Moulang (2015), and Appuhami (2017). In the study by Hall (2008), the most complex paths have eight independent variables, and the sample used is 83. The study by Moulang (2015) has two independent variables in the largest paths and use 114 sample. The study by Appuhami (2017) has five independent variables in the largest paths, and the sample used in the study is 92 for PLS analysis.

3.3 Variable measurement

All measures are drawn from existing instruments. The questionnaire obtained information on the interactive use of budgets, individual creativity, and role clarity. Established scales are used for each variable. The development of the questionnaire involved a review by senior management accounting academics with experience in survey design.

3.3.1 Interactive use of budgets

Interactive use of budgets is measured by adapting Henri's (2006) interactive use of performance measurement systems (PMS) instrument. The seven-item scale instrument used by Henri (2006) is initially developed by Vandenbosch (1999) to measure the use of executive support systems (ESS) based on several dimensions including attention-focusing (interactive) (Henri, 2006). The use of this instrument is supported by theories of accounting control, including Simons' (1995) levers of control. Henri (2006) adds two items to the instrument to better reflect its use in a context of

management control systems. As the elements of management control systems, the application of Henri's (2006) instrument in budgets setting is supported by Chong and Mahama (2014), which use the instrument to measure the interactive use of budgets at team level (Chong and Mahama, 2014). Another support from previous studies provided by Spekle *et al*. (2014) which adopt Henri's (2006) instrument to measure interactive control. In this study, the instrument is applied at individual level to measure the perception of managers on the extent to which the budgeting process is used in the organization. These items are measured using a 7-point Likert scale with anchors being (1) 'completely disagree' and (7) 'completely agree'.

Participants were asked to indicate the extent to which they agreed with the following statements:

1. The budget process enables discussion in meetings of superiors, sub-ordinates and peers.
2. The budget process enables continual challenge and debate on underlying data, assumptions and action plans.
3. The budget process provides a common view of the organisation.
4. The budget process ties the organisation together.
5. The budget process enables the organisation to focus on common issues.
6. The budget process enables the organisation to focus on critical success factors.
7. The budget process develops a common vocabulary in the organisation.

3.3.2 Role clarity

Role clarity is measured by using a 10-item instrument developed by Sawyer (1992). This instrument measures two dimensions of role clarity (goal clarity and process clarity) with five items to measure each. Goal clarity measures the extent to which the goals and objectives of the job are clearly stated and well defined (Sawyer, 1992). The participants are asked to rate the extent to which they are clear about each of the five items. Process clarity measures the extent to which the individual is certain about how to perform his or her job (Sawyer, 1992). The participants are asked to indicate the degree of clarity about the procedures, scheduling, and time allocations required to perform the job. This instrument has received supports in prior work (Whitaker *et al.*, 2007; Hall, 2008; Hu and Liden, 2011). In this study, the role clarity items are measured on a 7-point Likert scale, with anchors being 'very uncertain' (1) and 'very certain' (7).

Participants were asked to indicate the extent to which they were certain about the following aspects of their jobs:

1. Your duties and responsibilities.
2. The goals and objectives for your job.
3. How your work relates to the overall objectives of your division/department.
4. The expected results of your work.
5. Aspects of your work that will lead to positive evaluations.
6. How to divide your time among the tasks required of your job.
7. How to schedule your work day.
8. How to determine the appropriate procedures for each work task.
9. The procedures you use to do your job are correct and proper.
10. Considering all your work tasks, you know the best way to do these tasks.

3.3.3 Individual creativity

Moulang's (2015) instrument is adopted to measure individual creativity. The eight-item scale is adapted from three survey-based studies: two items from Denison *et al*. (1995), two items from Spreitzer *et al*. (1999) and four items from Wang and Netemeyer (2004) (Moulang, 2015). The two items adapted from Denison *et al*. (1995) concern with the attributes of 'innovator role' in management leadership. The two items adapted from Spreitzer *et al*. (1999) are the measures used for innovation aspect of leadership, building on studies by Denison *et al*. (1995) and Spreitzer (1995). The further four items are adapted from the measure of salesperson's creative performance developed by Wang and Netemeyer (2004). For this study, individual creativity is measured on a seven-point Likert scale, with anchors being 'almost never' (1) and 'almost always' (7). The eight-item scale is used to ask participants about their perception on the extent of their engagement in certain creative activities in their jobs.

Participants were asked to indicate the extent to which they engaged in the following creative activities in their work role:

1. You regularly come up with creative ideas.
2. You regularly experiment with new concepts and ideas.
3. You regularly carry out tasks in ways that are resourceful.
4. You often engage in problem solving in clever and creative ways.
5. You often search for innovations and potential improvements within your division/department.
6. You often generate and evaluate multiple alternatives for novel problems within your division/department.
7. You often generate fresh perspectives on old problems.
8. You often improvise methods of solving a problem when an answer is not apparent.

3.4 Descriptive statistics

3.4.1 Descriptive statistics for demographic variables

This study collected demographic information regarding company tenure, job tenure, company size measured by number of employees, and company classification, as well as academic and professional qualifications. Table 3.1 reports the descriptive statistics for the demographic variables. The average job tenure of participants was 6.36 years, with an average company tenure of 15 years and an average company size of 4,188.20 employees. Table 3.2 presents the industry classification of respondents' companies.

Table 3.1 Descriptive statistics for demographic variables

Variable	Minimum	Maximum	Mean	Standard deviation
Company tenure (years)	1	68	15	9.78
Job tenure (years)	1	33	6.36	6.23
Size of the company (no. of employees)	4	50,000	4188.20	8498.97

n=88.

Table 3.2 Industry classification

JASICA[3] sector	Frequency	%
Agriculture	1	1.14
Basic industry and chemicals	1	1.14
Miscellaneous industry	23	26.14
Consumer goods industry	1	1.14
Property, real estate and building construction	7	7.95
Infrastructure, utilities and transportation	1	1.14
Finance	40	45.45
Trade, services and investment	11	12.5
Not specified	3	3.41
Total	**88**	**100**

n=88.

3.4.2 Descriptive statistics for indicators

Table 3.3 presents the descriptive statistics for the indicators in this study. It includes the minimum and maximum values of each indicator reported by respondents, the mean, and standard deviation values.

[3] The sectoral classification system used to categorise companies listed by the Indonesia Stock Exchange is the Jakarta Stock Industrial Classification (JASICA).

Table 3.3 Descriptive statistics for indicators

Latent variables	Minimum	Maximum	Mean	Standard Deviation
Interactive use of budgets (IB)				
IB1	1	7	6.271	0.993
IB2	1	7	5.247	1.463
IB3	3	7	6.024	1.000
IB4	2	7	5.753	1.204
IB5	1	7	5.994	1.048
IB6	1	7	5.929	1.044
IB7	1	7	5.412	1.275
Role clarity (RC)				
GC1	4	7	5.941	0.864
GC2	4	7	5.965	0.837
GC3	4	7	5.965	0.865
GC4	4	7	6.153	0.732
GC5	4	7	6.059	0.730
PC1	4	7	5.929	0.813
PC2	3	7	5.859	0.928
PC3	4	7	6.024	0.786
PC4	4	7	5.988	0.779
PC5	4	7	6.000	0.787
Individual creativity (IC)				
IC1	3	7	5.459	0.958
IC2	2	7	5.224	1.051
IC3	4	7	5.565	0.906
IC4	4	7	5.565	0.944
IC5	4	7	5.612	0.977
IC6	2	7	5.612	0.940
IC7	4	7	5.341	0.958
IC8	3	7	5.506	0.959

n=88.

3.5 Conclusion

This chapter has discussed the research method used in this study. It has provided details on the sample selection and data collection methods, as well as on the administration of the survey. The measurement of the latent variables was also discussed. In addition, the descriptive statistics of demographic variables and the indicators of the latent variables were provided. The next chapter reports the results of the PLS analysis.

CHAPTER 4

DATA ANALYSIS AND RESULTS

This chapter presents the results of the study. Section 4.1 describes the Partial Least Squares (PLS) approach used for data analysis. Section 4.2 presents the results of the reliability and validity tests. Section 4.3 provides the results of the structural model. An additional analysis addressing the two elements of role clarity (goal clarity and process clarity) is provided in Section 4.4. Section 4.5 summarises the chapter.

4.1 The Partial Least Squares approach

The study uses the Partial Least Squares (PLS) approach to analyse the data. PLS is a structural modelling technique that incorporates multiple dependent constructs and explicitly recognises measurement error (Fornell, 1982). The measurement model specifies relationships between observed items and latent variables, while the structural model specifies relationships between latent constructs. In PLS, the measurement and structural models are estimated simultaneously (Barclay *et al*., 1995). PLS enables path models involving latent variables to be estimated, where the latent variables are indirectly measured by multiple indicators (Chin, 1998). Over the past decade, this technique has been used to test path models in accounting research (Chong and Mahama, 2014; Hall, 2008; Moulang, 2015; Appuhami, 2017) because it can make assumptions on the basis of minimal data requiring relatively small sample sizes (Chin, 1998).

The PLS model is typically interpreted in two stages. In the first stage, the reliability and validity of the measurement model is assessed (Barclay *et al*., 1995). This

ensures that the constructs' measures are reliable and valid before assessing the nature of the relationships between those constructs (Barclay *et al*., 1995; Hair *et al*., 1998; Hulland, 1999). In the second stage, the structural model is assessed. The structural model specifies relationships between latent constructs (Hulland, 1999). This two-stage approach is used to ensure that the constructs' measurements are valid and reliable before examining the hypothesised relationships between those constructs (Hulland, 1999). Results are obtained using SmartPLS (Ringle *et al*., 2015).

The structural model in this study comprises three latent variables: interactive use of budgets, role clarity, and individual creativity. The 'interactive use of budgets' construct has seven scale items codified as IB1–IB7. The 'role clarity' construct with its two dimensions (goal and process) has 10 scale items, codified as GC1–GC5 and PC1–PC5. The 'individual creativity' construct has eight scale items, codified as IC1–IC8. As such, the measurement model of this study has 25 (7 + 10 + 8) scale items. The descriptive statistics for the indicators of the latent variables are presented in the previous chapter (see Section 3.4).

4.2 Reliability and validity tests of the measurement model

This section presents the results of reliability and validity tests of the measurement model of the study. Unless the reliability and validity of the measurement model have been examined, its application in testing structural relationships between latent variables may lead to equivocal conclusions (Chin and Todd, 1995). Basically, the reliability and validity tests are essential to be undertaken because these tests are avenues to demonstrate and communicate "the rigour of the research process and the trustworthiness of research findings" (Roberts *et al*., 2006, p.41). A rigorous and

trustworthy research will avoid the users from misleading information, and hence the research will become more helpful. Götz *et al*. (2010) also argue that reliability and validity tests are required to be undertaken for a reflective structural model to measure the value of measurement errors and ensure that it fulfils the validity and reliability criteria. The reliability tests of the study include individual item reliability, composite reliability and Cronbach's (1951) alpha. The validity tests include convergent validity and discriminant validity for the reflective constructs.

4.2.1 Reliability

Reliability is the measurement used to describe "how far a particular test, procedure or tool, such as questionnaire, will produce similar results in different circumstances, assuming nothing else has changed" (Roberts *et al*., 2006, p.41). According to Formell and Larcker (1981), for an instrument or test to be reliable, it has to be relatively free of measurement errors. First, the reliability test is conducted for the individual items of the latent variables by examining the factor loadings of all items. Second, the reliability test is conducted for the latent variables by using Fornell and Larcker's (1981) composite reliability and Cronbach's (1951) alpha.

The factor loadings for each variable from the PLS measurement model are presented in Table 4.1. All items load on their respective constructs; however, two items from the interactive use of budgets construct (IB2 and IB7) and one item from role clarity construct (PC1) have factor loadings below 0.70 (Hulland, 1999). Items with low loadings increase very insufficiently to the explanatory power of the model while potentially weakening the estimates of the parameters linking the constructs (Hulland, 1999). Therefore, items IB2, IB7, and PC1 are removed from the scale and not used in

further analysis. Dropping an item does not change the conceptual domain of the variables because it is argued that scale items in a reflective construct are interchangeable (Jarvis *et al*., 2003; Rossiter, 2002).

Table 4.1 Factor loadings from final PLS measurement model

Item	IB	RC	IC
Interactive use of budgets (IB)			
IB1	**0.872**	0.355	0.046
IB3	**0.822**	0.316	0.237
IB4	**0.880**	0.431	0.207
IB5	**0.908**	0.355	0.016
IB6	**0.814**	0.344	0.021
Role clarity (RC)			
GC1	0.418	**0.862**	0.321
GC2	0.286	**0.769**	0.266
GC3	0.363	**0.807**	0.380
GC4	0.409	**0.860**	0.355
GC5	0.336	**0.812**	0.365
PC2	0.297	**0.739**	0.372
PC3	0.318	**0.828**	0.233
PC4	0.355	**0.843**	0.225
PC5	0.251	**0.782**	0.254
Individual creativity (IC)			
IC1	0.094	0.221	**0.762**
IC2	0.114	0.213	**0.755**
IC3	0.095	0.277	**0.777**
IC4	0.149	0.387	**0.892**
IC5	0.083	0.416	**0.902**
IC6	0.103	0.399	**0.884**
IC7	0.136	0.242	**0.772**
IC8	0.097	0.272	**0.840**

IB, interactive use of budgets; GC, goal clarity; PC, process clarity; IC, individual creativity.
n=88.

To assess the reliability of the latent variables estimated by PLS in this study, the composite reliabilities suggested by Fornell and Larcker (1981) and Cronbach's (1951) alpha as indicated earlier, are used in this thesis to ensure acceptable reliability. As shown in the table 4.2, both the composite reliability and alpha scores for each variable are above 0.70, which denotes the benchmark of adequate reliability (Nunnaly, 1978). Furthermore, the average variance extracted (AVE) statistics of all the variables are above 0.50 (Chin, 1998), supporting the evidence of adequate reliability of the measurement model.

Table 4.2 Composite reliability, Cronbach's alpha, correlations and square root of average variance extracted (AVE) statistics

Variable	Cronbach alpha	Composite reliability	AVE	Correlations		
				IB	**RC**	**IC**
IB	0.912	0.934	0.740	**0.860**		
RC	0.936	0.946	0.660	0.422**	**0.812**	
IC	0.933	0.944	0.680	0.130	0.386**	**0.825**

IB, interactive use of budgets; RC, role clarity; IC, individual creativity; AVE, average variance extracted.

Diagonal elements are the square roots of the average variance extracted (AVE) statistics. The AVE is calculated in SmartPLS. Off-diagonal elements are the correlations between the latent variables calculated in SmartPLS. *, significant at $p < 0.05$. **, significant at $p < 0.01$.

n=88.

4.2.2 Validity

The validity of a construct or latent variable is defined as "the closeness of what we believe we are measuring to what we intended to measure" (Roberts *et al*., 2006, p.41). In other words, construct validity exists when a test or an instrument examines what it is meant to measure (Garver and Mentzer, 1999). This study examines two subcategories of construct validity, which are convergent validity and discriminant validity.

Convergent validity

Convergent validity is the extent to which the latent variable correlates to items designed to measure that same latent variable (Dunn et al., 1994). Essentially, convergent validity is used to examine whether the items intended to measure a latent variable statistically converge together (Garver and Mentzer, 1999). A common measure to examine convergent validity is the average variance extracted (AVE) (Fornell and Larcker, 1981).

AVE includes the variance of its indicators captured by the construct relative to the total amount of variance, including the variance due to measurement error. An AVE of less than 0.5 is considered insufficient, as more variance is due to error variance than to indicator variance (Rodgers and Pavlou 2003, p. 25). Table 4.2 shows that the AVEs for all the constructs are above 0.50 which is the benchmark for satisfactory convergent validity (Chin, 1998; Hair *et al*., 1998). This implies that the instruments adopted in this study have satisfactory convergent validity.

Discriminant validity

Discriminant validity is the extent to which the items representing a latent variable discriminate that construct from other items representing other latent variables (Mentzer and Kahn, 1997). A necessary condition for discriminant validity is that the shared variance between the latent variable and its indicators should be larger than the variance shared with other latent variables (Hulland 1999, p. 199). According to Fornell and Larcker (1981, p. 46), discriminant validity is proven if a latent variable's AVE is larger than the common variances (squared correlations) of this latent variable with any other of the model's constructs. Table 4.2 presents the square roots of the AVEs are all greater than the respective correlations between latent variables. Another way to test the discriminant validity of the measurement models is to check whether the factor loadings of each item are higher on the construct it intends to measure than any other constructs (Chin, 1998). The results in the Table 4.1 support adequacy of discriminant validity of the model.

4.3 Testing the hypotheses

The study uses the PLS structural model to test its hypotheses (see Figure 4.1). A bootstrapping sampling method with 500 replacements is used to estimate the statistical significance of each path coefficient (Chin, 1998). Statistical estimates such as path coefficients and t-values are reported in Table 4.3, below. The statistical estimates provided by the PLS model are mainly interpreted in the discussion of the hypothesis test results.

In testing it's the hypotheses, the study uses academic qualification as a control variable in the structural model. It is argued that employees with a higher level of education feel greater role clarity and are potentially being more creative in their work role (Steers, 1977; Renwick and Tosi, 1978). Consistent with previous studies of creativity (e.g. Shalley *et al*., 2000), the use of academic qualification as a control variable also aims to address the endogeneity[4] problem in the structural model. Statistics regarding academic qualification can be found in Table 4.3, below.

[4] The endogeneity problem occurs when the model includes an endogenous explanatory variable (Chenhall and Moers, 2007). A variable is endogenous if it is determined within the context of the model.

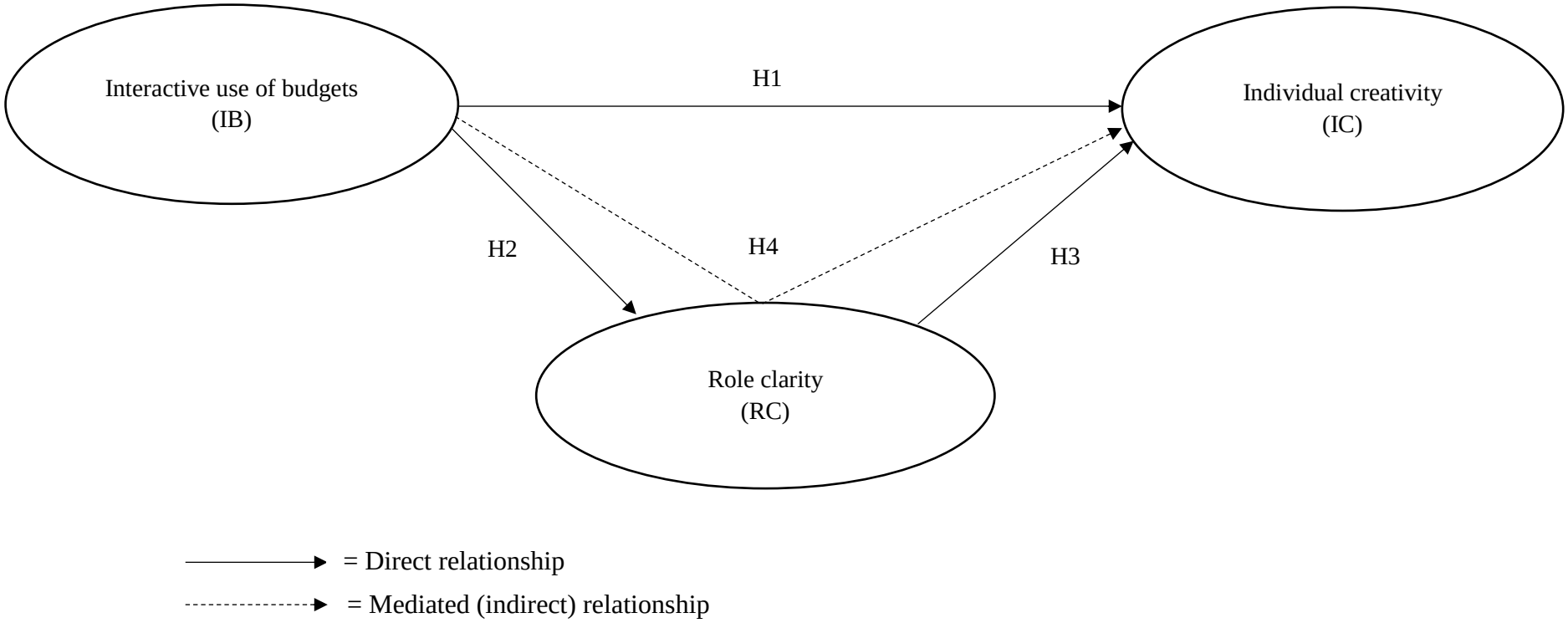

Figure 4.1 Partial least squares structural model: interactive use of budgets, role clarity, and individual creativity

Table 4.3 PLS structural model: path coefficients, t-statistics and R^2

Dependent variables	**Independent variables**				
	Interactive use of budgets	**Role clarity**	**Individual creativity**	**Academic qualification**	R^2
Interactive use of budgets	-	-	-	-0.137 (1.243)	0.019
Role clarity	0.441 (3.799)**	-	-	0.144 (1.590)	0.198
Individual creativity	-0.015 (0.087)	0.382 (2.981)**	-	0.119 (1.079)	0.164

Each cell shows path coefficient (*t*-value). Blank cells indicate that the path was not hypothesised within the model. *$p < 0.05$. **$p < 0.01$. †The study did not find a significant association between the interactive use of budgets and individual creativity. n=88.

R-square

The objective of PLS is to maximise variance explained rather than fit based on prediction-orientated measures such as R^2 (Chin, 1998). Therefore, the study uses R^2 to predict and explain the predictive power of the PLS model (Chin, 1998). R^2 indicates the extent to which the independent constructs predict and explain the dependent constructs. While the maximum value that R^2 can take is "1" meaning a perfect prediction, the minimum value which is "0" indicates that independent constructs do not explain the variations in the dependent constructs at all. Thus, the higher R^2 the more predictive power the structural model possesses.

As reported in Table 4.3, the R^2 of role clarity and individual creativity are 19.8% and 16.4% respectively. These results suggest that interactive use of budgets explains 19.8% of the variance in role clarity and predict 16.4% of the variance of the individual creativity construct.

Hypothesis 1

Hypothesis 1 addresses the positive relationship between interactive use of budgets and individual creativity. Table 4.3 shows that interactive use of budgets is not associated with individual creativity (β = -0.015, t = 0.087, p > 0.10).

Hypothesis 2

Hypothesis 2 proposes a positive relationship between the interactive use of budgets and role clarity. The study finds that interactive use of budgets is significantly related to role clarity (β = 0.441, t = 3.799, p < 0.01).

Hypothesis 3

Hypothesis 3 predicts a positive association between role clarity and individual creativity. The PLS results show that role clarity has a highly significant positive relationship with individual creativity ($\beta = 0.382$, $t = 2.981$, $p < 0.01$).

Hypothesis 4

Hypothesis 4 concerns the mediating role played by role clarity in the association between the interactive use of budgets and individual creativity. Full mediation is asserted when the following three conditions are met: (i) the path between the independent and dependent variables is not significant; (ii) the path between the independent and mediating variables is significant; and (iii) the path between the mediating and dependent variables is significant (Baron and Kenny, 1986).

The study finds that all three conditions above are in fact met. The path between the interactive use of budgets and individual creativity is not significant. The path between the interactive use of budgets and role clarity as the mediating variable is significant. Finally, the path between role clarity and individual creativity is significant. Therefore, these results indicate role clarity fully mediates the relationship between the interactive use of budgets and individual creativity.

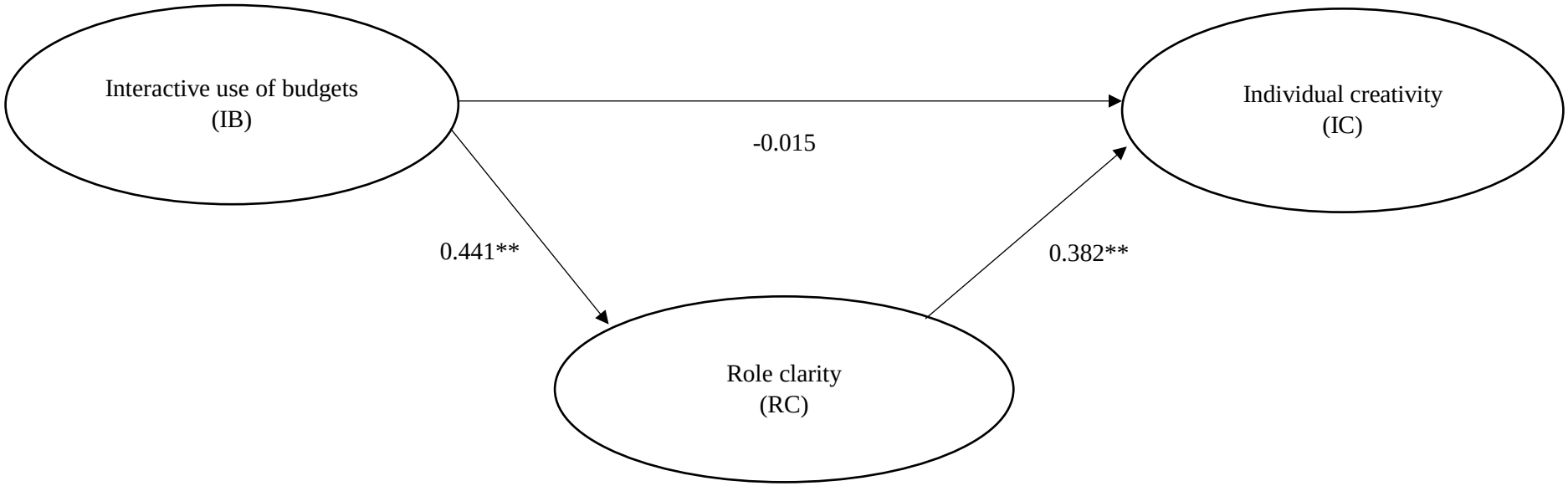

Figure 4.2 Partial least squares structural model with path coefficients. *p < 0.05. **p < 0.01. n=88

Direct and indirect effect

The study further investigates the direct and indirect effect between latent variables based on path coefficients generated from PLS (see Figure 4.2). The structural model of the study shows that there are direct and indirect paths from the interactive use of budgets to individual creativity. As such, the significance of the direct and indirect paths from the interactive use of budgets to individual creativity through role clarity are examined. As shown in Table 4.4, the standardised direct effects are the path coefficients of the relationships between latent variables. For the direct path, the standardised direct effect of interactive use of budgets and individual creativity is -0.015. Further, the indirect path consists of two parts: from interactive use of budgets to role clarity, and from role clarity to individual creativity. The standardised indirect effect is then calculated by multiplying the standardised direct effects of these two parts (0.441 (standardised direct effect between interactive use of budgets and role clarity) x 0.382 (standardised direct effect between role clarity and individual creativity) = 0.168). According to Bartol (1983, p.809), the benchmark to indirect effects to be meaningful is 0.05. As the standardised indirect effects through role clarity is higher than 0.05, the mediating effect of role clarity is meaningful.

Table 4.4 Standardised direct, indirect and total effects

Independent variable	Dependent variable	Standardised direct effects	Standardised indirect effects	Standardised total effects
IB	IC	-0.015	0.169	0.154
IB	RC	0.441	-	0.441
RC	IC	0.382	-	0.382

IB, interactive use of budgets; RC, role clarity; IC, individual creativity.
n=88.

4.4 Additional analysis

The study conducts an additional analysis on the data to examine whether goal clarity and process clarity (two constructs of role clarity) have mediating effect individually in the relationship between the interactive use of budgets and individual creativity. For the purpose of additional analysis, this study has developed structural model as presented in Figure 4.3. The additional analysis is based on Sawyer's (1992) proposition which describes that goal clarity and process clarity is independent from each other and have different paths to achieve the intended goals. This proposition is also followed by previous studies such as Hall (2008). The study develops a new structural model presented in Figure 4.3 to undertake the additional analysis.

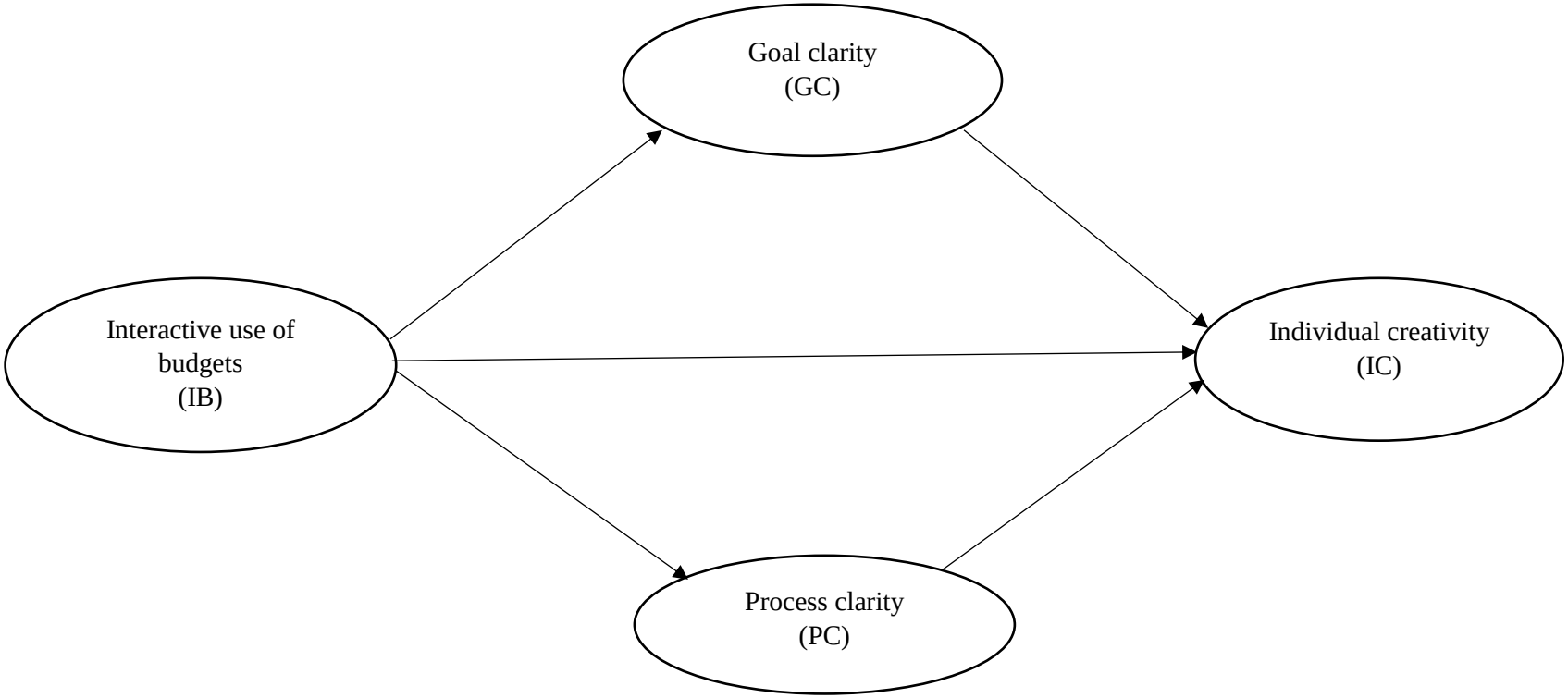

Figure 4.3 Partial least squares structural model: interactive use of budgets, goal clarity, process clarity, and individual creativity

The first step in the additional analysis is to examine the reliability and validity measures of the variables in the measurement model. The reliability of the variables is assessed by using Fornell and Larcker's (1981) composite reliability and Cronbach's (1951) alpha scores. As presented in Table 4.5, the composite reliability and alpha scores are above 0.80 for each variable, which indicates acceptable reliability (Nunnaly, 1978). The average variance extracted (AVE) is used to measure convergent validity. Table 4.5 shows that the AVE for each variable is greater than the threshold of 0.50, which demonstrates adequate convergent validity (Chin, 1998; Hair *et al*., 1998). Further, the discriminant validity is assessed by comparing the square roots of the AVEs and the respective correlations between latent variables. As shown in Table 4.5, the square roots of the AVEs are all greater than the respective correlations between variables, which indicates satisfactory discriminant validity. All the above results from PLS measurement model show satisfactory reliability and validity of the variables (see Chin, 1998; Nunnaly, 1978).

Table 4.5 Reliability and average variance extracted (AVE) statistics

Variable	Cronbach alpha	Composite reliability	AVE	Correlations			
				IB	GC	PC	IC
Interactive use of budgets	0.912	0.934	0.740	**0.860**			
Goal clarity	0.912	0.935	0.741	0.427**	**0.861**		
Process clarity	0.907	0.935	0.783	0.347**	0.738**	**0.885**	
Individual creativity	0.933	0.944	0.681	0.128	0.395**	0.306**	**0.825**

AVE, average variance extracted; IB, interactive use of budgets; GC, goal clarity; PC, process clarity; IC, individual creativity.

Diagonal elements are the square roots of the average variance extracted (AVE) statistics. The AVE is calculated in SmartPLS. Off-diagonal elements are the correlations between the latent variables calculated in SmartPLS. *, significant at $p < 0.05$. **, significant at $p < 0.01$.

n=88.

Consistent with the initial analysis, a bootstrapping (500 samples with replacement) was performed in the SmartPLS Release 3 to examine statistical significances and coefficients of each path of the model. Table 4.6 reports the coefficients and t-values for each path of the model. Figure 4.4 also provides the overview of the results in relation to the hypothesised relationships. As presented in Table 4.6, the R^2 values for the endogenous variables (goal clarity, process clarity, and individual creativity) indicate that the stability of the model is satisfactory in terms of its predictive capacity (Chin, 1998; Appuhami, 2017). Compared to the initial analysis presented in Table 4.3, increased R^2 for endogenous variables indicates that the overall construct of role clarity has increased the predictive capacity of the model.

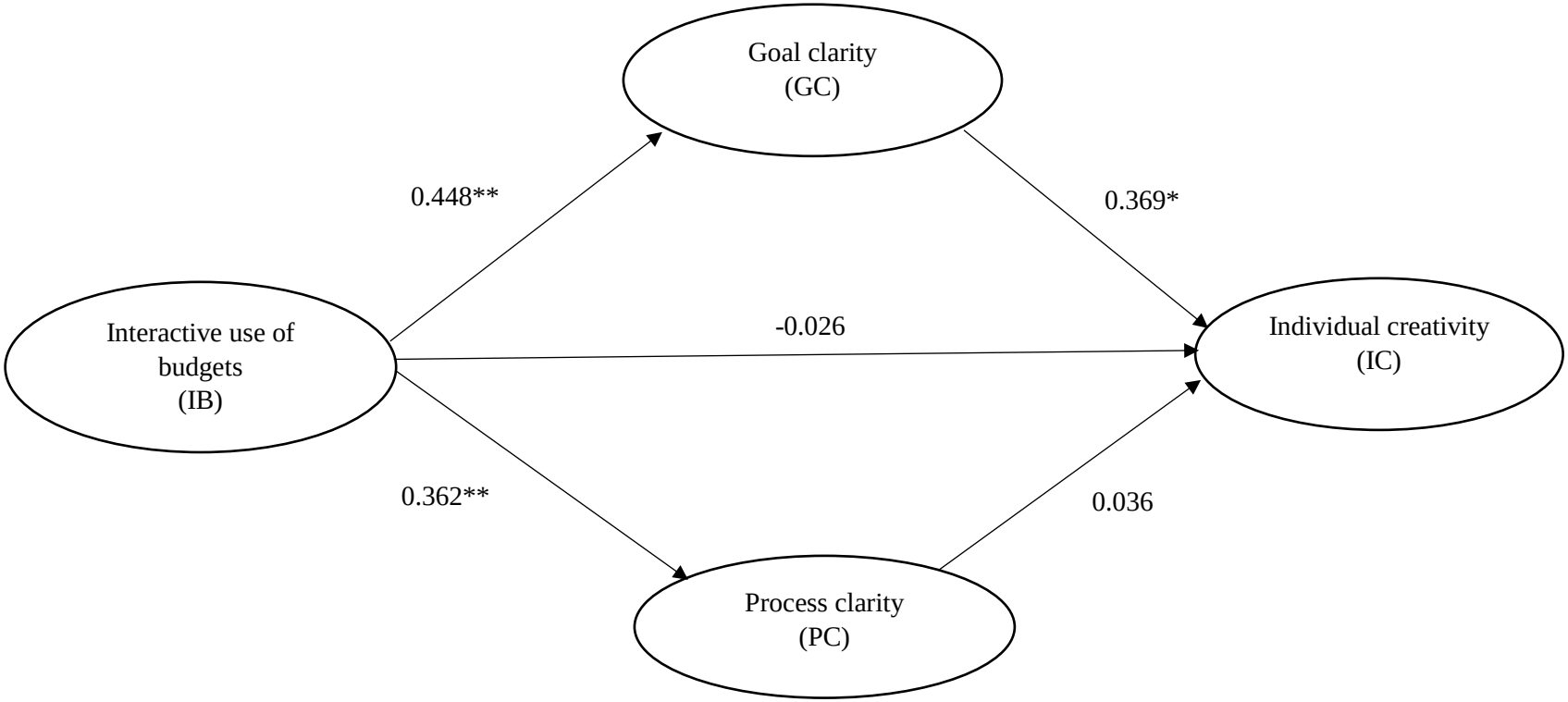

Figure 4.4 Partial least squares structural model with path coefficients. *$p < 0.05$. **$p < 0.01$. n=88

Table 4.6 PLS structural model: path coefficients, *t*-statistics and R^2

Dependent variables	**Independent variables**				
	Interactive use of budgets	**Goal clarity**	**Process clarity**	**Academic qualification**	R^2
Interactive use of budgets	-	-	-	-0.137 (1.221)	0.019
Goal clarity	0.448 (3.864)**	-	-	0.151 (1.762)*	0.205
Process clarity	0.362 (3.387)**	-	-	0.109 (1.059)	0.132
Individual creativity	-0.026 (0.161)	0.369 (2.224)*	0.036 (0.204)	0.114 (1.040)	0.171

Each cell shows path coefficient (*t*-value). Blank cells indicate that the path was not hypothesised within the model. *$p < 0.05$. **$p < 0.01$. †The study did not find a significant association between the interactive use of budgets and individual creativity.
n=88.

The additional analysis reveals that the two components of role clarity have different associations with the interactive use of budgets and individual creativity. As presented in Table 4.6, for goal clarity path, the associations between interactive use of budgets and goal clarity (β = 0.448, t = 3.864, $p < 0.01$) and between goal clarity and individual creativity (β = 0.369, t = 2.224, $p < 0.05$) are both positive and significant. On the other hand, for process clarity path, the relationships between interactive use of budgets and process clarity is positive and significant (β = 0.362, t = 3.387, $p < 0.01$), while the association between process clarity and individual creativity is not significant (β = 0.036, t = 0.204, $p > 0.1$). Compared to the initial analysis, the path coefficients between the variables have increased slightly with the use of both dimensions of role clarity.

4.5 Conclusion

In this chapter, PLS was used to test the reliability and validity of the measurement models and the significant results of the structural models. The measurement models were found to be both reliable and valid. The results of the structural models show that interactive use of budgets has a significant impact on individual creativity through role clarity. The interactive use of budgets improves role clarity, and role clarity, in turn, improves individual creativity. Under additional analysis, the structural models show that goal clarity and process clarity follow different paths in mediating the relationship between the interactive use of budgets and individual creativity. Interactive use of budgets has positive effects on both goal clarity and process clarity. However, the impacts of goal clarity and process clarity on individual

creativity are of different significance; goal clarity has a positive and significant effect, while process clarity has no significant effect on individual creativity.

CHAPTER 5

DISCUSSION AND CONCLUSION

This chapter is organised into five sections. Section 5.1 addresses the results reported in Chapter 4. Section 5.2 discusses the contributions of the study. Section 5.3 deals with the implications for practice. Section 5.4 discusses the limitations of the study, and section 5.5 offers suggestions for future research.

5.1 Discussion of results

Motivated by the understanding that creativity plays an important role in modern organisations, this study examined how interactive use of budgets is associated with individual creativity. Specifically, this study investigated whether the interactive use of budgets is associated with creativity directly or indirectly through role clarity. Data for this study were collected by mail survey. The survey was posted to 537 publicly-listed Indonesian companies. PLS technique is used to analyse data in this study.

Three important findings emerge from the PLS analysis on the data collected from 88 middle-level managers in Indonesian publicly-listed companies. First, findings clearly show that clarity of roles helps explain the relationship between interactive use of budgets and managers' creativity. In particular, the results indicate that while interactive use of budgets does not have any direct impact on individual creativity, it influences managers' role perception, which, in turn, influence individual creativity. These results support the arguments that role perception helps to explain the effects of management control systems on work performance (Burney and Widener, 2007; Hall,

2008, Shields *et al*., 2000; Burkert *et al*., 2011). The finding of this study is also consistent with the growing body of research that examines the mediating role of a certain psychological state in the association between a management variable (such as budgeting) and an individual outcome (Hall, 2016). Thus, this study contributes to previous studies that examine the direct and indirect effects of the components of management control system on work performance (Shields *et al*., 2000). From a theoretical perspective, this finding is also consistent with the argument that organisational controls can positively affect individual creativity (Amabile, 1988; Simons, 1995, 2000; Henri, 2006; Adler and Chen, 2011). This finding is consistent with the study of Spekle *et al*. (2017) which provide empirical support that creativity and control systems can coexist. Specifically, "managers can implement a system of controls that creates an information rich environment ripe for creative thought while still maintaining control" (Spekle *et al*., 2017, p. 92).

Second, the findings of this study indicate that interactive use of budgets is positively associated with role clarity. This finding supports that budgets, when used interactively, are effective in enhancing role clarity (Marginson *et al*., 2014). Consistent with Hall (2008), the finding of this study reinforces the proposition that interactive use of management control systems support role clarity. The findings of the additional analysis also provide important insights into the influence of interactive use of budgets and the two dimensions of role clarity, namely goal clarity and process clarity. The findings of the additional analysis indicate that the interactive use of budgets is associated with both goal clarity and process clarity. This finding is consistent with previous studies such as Ilgen *et al*. (1979) and Whitaker *et al*. (2007) which suggest that interactive use of budgets is highly related to goal clarity. The findings are also consistent with studies on role theory, which suggest that the continuous dialogue and

debate increases the level of certainty over the processes required of the employees' work role (Kahn *et al*., 1964; King and King, 1990).

Third, the findings of this study also provide support that role clarity is positively associated with individual creativity. The findings suggest that the level of understanding of the work role influence the employees' ability to generate novel and useful ideas. This finding is consistent with previous studies such as Burkert *et al*. (2011) and Marginson *et al*. (2014) which argue that the high clarity in the role expectations increases job performance. Surprisingly, the additional analysis indicates that out of the two elements of role clarity, while goal clarity is significantly positively associated with individual creativity, process clarity has no significant association with individual creativity. However, these results are consistent with the study of Sawyer (1992) which argues that goal clarity and process clarity have independent paths on individual behaviour (Sawyer, 1992) and that assigned goals effectively improve creative performance. Similarly, Carson and Carson (1993) also find that individuals who have higher goal clarity perform more creatively than those with lower goal clarity. Further, the insignificant finding on the relationship between process clarity and individual creativity is likely contributed by the notion that the path to creativity is through seeking and finding new ways to get ideas. As such, the clarity of the process required to perform a task may inhibit the propensity to look for new ideas. Clear role requirements are likely to direct employees to focus on the to-do-list rather than expanding the boundary by looking for new avenues to perform a task. Finally, the framework and findings of this study provides a basis for future studies applying qualitative approach (i.e. case study method) in examining the use of budgets by managers in organisations from social, cultural and political perspectives.

5.2 Contributions of the study

The study contributes to the literature in the following ways. First, this study contributes to the literature on budgeting by examining the association between interactive use of budgets and individual creativity. This study also highlights the importance of using the interactive use of budgets in improving managers' performance such as creativity. Intensive interactions and continual challenge and debate which characterise interactive use of budgets (Simons, 1995) are particularly important in managers' attempts to enhance individual performance. Employees who are keen on enhancing creativity in their work can use the insights in this study to learn about the importance of involving actively in the meetings and other interactions in budgeting processes. The ways in which the interactive use of budgets improve managers' creativity form a critical differentiator for managers by enabling them to develop and exploit unique individual capabilities. This study contributes to the literature on management controls by addressing recent call for research on the impact of controls on the generation of creativity (Ryan and Deci, 2000; Adler and Chen, 2011). The contribution of this study differs from those that focus on control system use at team or organisational levels, as this study focuses on individual behaviour drawing on psychological theories namely role theory to describe association between management control systems including budgeting and creativity. The findings also indicate that this relationship appears more complex when viewed at the individual level of analysis by highlighting the importance of psychological processes in the relationship between management control systems and creativity.

Second, this study contributes to accounting literature by developing theoretical model showing the links between individual creativity, role clarity and interactive use of budgets. The framework used in this study contribute to a more complete understanding

of the relationships between organisational control mechanisms and the output of individual creative activities. In contrast to previous accounting literature that tends to emphasise the role of control systems in driving and directing effort, this study suggests that the path from the use of control systems to creativity does not work by encouraging more effort. Rather, individual creativity can be nurtured by enhancing role cognition.

Third, this study provides two-fold contribution to the theory of role clarity. First, as the finding of this study suggest a positive significant relationship between interactive use of budgets and role clarity, this study contribute to the role theory which centres on the interplay between a focal person—in this case, middle-level manager—and his/her role senders (manager's superiors) (Burkert *et al*., 2011). As such, role clarity is formed by role expectation from the role sender and the accompanying pressures on the focal person (Burkert *et al*., 2011). The finding of this study operationalises the role theory by suggesting that the channel of communicating the role expectation can be in the form of using management controls (i.e. budgets) interactively. Second, this study also contributes to the role theory by providing empirical evidence of the possible impact of role clarity in the form of behavioural attributes (i.e. creativity). Role theory suggest that the lack of role clarity may result in role stress (Kahn *et al*., 1964) and the individuals possibly responded to it by exerting behavioural coping efforts (such as compliance, withdrawal, or changes in performance levels) ((Burkert *et al*., 2011). As the finding of this study suggests that role clarity is positively associated with individual creativity, this study extent the literature by providing empirical evidence that the responses of individuals who experience the adequate level of role clarity can be in the form of creativity. As individual creativity is regarded as a major contributor to organisation's competitive advantage (Simons, 1995), this contribution is

important because it suggests that the individual responses to role clarity does not only have individual consequences but also can contribute to organisational performance.

Finally, this study contributes to the developing research agenda focused on the role of creativity in management accounting (Adler and Chen, 2011; Moulang, 2015; Appuhami, 2017). Previous studies in creativity mainly focus on internal motivation as the driver of individual creativity (see Shalley and Gilson, 2004; Adler and Chen, 2011; Baer 2012; Amabile and Pratt, 2016). This study extends the literature on creativity by providing empirical evidence that the clarity of role has significant direct relationship with individual creativity.

5.3 Implications for practice

The potential practical implications of this study should be of interest to managers and employees as well as to regulators/ government, with interest in improving the individual creativity throughout the organisations. First, the study provides insights that using budgets interactively may enhance the creativity of the managers. Nurturing creativity is the focus of all organisations as it creates value sustainably in to maintain growth. Since budgets are supposed as the most prominently used accounting controls (Abernethy and Brownell, 1999; Bisbe and Otley, 2004), the findings of this study also contribute to the understanding of how managers can affect outcomes through the interactive use of budgets. Top management may get benefit from this study by having confidence in utilising budgets interactively. The findings of this study help managers design their budgetary systems leading to creativity which will result in wealth creation.

The findings of this study also have implications for managers in public sector organisations such as state-owned enterprises. This is particularly important because state-owned enterprises compete with their private sector counterparts. In such situations, state owned-enterprises need to incorporate contemporary management accounting practices in order to develop competitiveness and sustainable growth.

Second, this study provides insights into budgeting systems used that could help policymakers in emerging economies. Given the current low level of creativity in developing countries, the findings of this study would assist policymakers in formulating policies that promote national level creativity and enhance country-level competitiveness. Such policies could be formulated in laws and regulations as powerful tools to engage all elements of the society to participate in promoting creativity.

Further, the development of policies promoting the interactive use of budgets could also empower policymakers in designing effective budgeting systems at organisational level and national level. Such policies would improve the government's capacity to further alleviate poverty and help to maintain sustainable economic growth. More importantly, the effective budgeting systems would also help policymakers in fighting corruption at all levels. The interactive use of budgets could enhance transparency as a core principle of corporate governance and results in a lower level of corruption.

5.4 Limitations

There are a number of limitations of this study. First, the cross-sectional nature of research design precludes claims about causality among the variables in the model (Hall, 2008; Moulang, 2015). Second, this study includes academic qualification as a

control variable in the PLS analysis to address endogeneity concerns, but there are possibilities that other correlated variables are omitted from the model tested in the study (Moulang, 2015; Appuhami, 2017). Third, although the sample size is considered acceptable, the relatively low response rate is a limitation of this study (Hall, 2008; Appuhami, 2017). Finally, the presence of common-method bias[5] is also a possibility in this study, particularly because participants are asked about their perceptions (of budgets use and clarity of their role) and to measure their perceived creativity (Moulang, 2015). However, this possibility is mitigated to an extent by adequate construct validity, and it is argued that middle-level managers' perceptions of budgets use by senior managers' is a relatively objective measure (Moulang, 2015). Self-reports of creativity can be argued as being subjective, as can manager's assessment of subordinate's creativity, which is an alternative approach and has been noted by creativity researchers such as Amabile (1988, 1996).

5.5 Suggestions for future research

There are several potential areas for future research. Specifically, future management accounting studies could investigate the effect of the interactive use of budgets on other individual-level psychological factors, such as empowerment and internal motivation. It is important to conduct such a study because it is arguable that understanding of how various individual psychological factors affect the association between contemporary management control systems and individual behavioural outcomes is still very limited (Franco-Santos *et al*., 2012).

[5] Common method bias occurs when variations in responses are caused by the measurement method rather than the constructs measured. In other words, the bias is created by the instruments used in the study which results in the 'noise' coming from the biased instruments (Podsakoff *et al*., 2003).

Future research could also extend the proposed framework of this study by incorporating other levers of control namely diagnostic use, belief and boundary systems (in addition to interactive use) into the structural model developed in this study, and explore how such variables can be related theoretically to individual behavioural and cognitive constructs, such as creativity. A study of this kind would be important because there is a growing body of empirical evidence that management control systems are viewed as a package (see Malmi and Brown, 2008).

Another interesting avenue for future studies is to examine how the levers of control should be modelled (Widener, 2007) as there is currently variation in the literature; identifying situations in which firms choose interactive and diagnostic use of budgets, including how they find a balance between the use of controls impacting on creativity. It is argued that there is a challenge in using management control systems to find a balance between efficiency and flexibility (Jorgensen and Messner, 2009), which can be achieved by designing an appropriate model of the levers of control. For example, future research can examine the impact on individuals when budgets are used as an interactive control while other controls are used in different fashion (Spekle *et al.*, 2017).

A future study may also undertake comparative studies of the effect of the interactive use of budgets on individual creativity in developed countries and emerging economies. The differences in cultural and social background between developed and developing countries might result in difference in the use of management control systems to enhance creativity. Such comparative studies might also provide insights into the differences in the significance of role clarity as the mediating variable in the association between the interactive use of budgets and individual creativity.

Finally, a future study could undertake a longitudinal investigation on the association between the interactive use of budgets and individual creativity. Such a study would reveal whether the way senior managers use their budgets are consistent over a certain period and further examine its significance in improving individual creativity. More longitudinal studies may also help to extend the analysis of budgets use under different contingent factors over time. Drawing on different samples such as sampling managers from different hierarchical levels, educational backgrounds and functional positions, a future study could also provide additional insights.

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APPENDICES

Appendix 1 – Interactive Use of Budgets Survey

Interactive Use of Budgets Survey

Please return your completed survey in the enclosed envelope. The return of the questionnaire will be regarded as consent to use the information for research purposes.

If you wish to enquire about the survey or if you need any assistance in completing the survey, please contact Flora Aninditya (Jakarta, Indonesia) on +62 81389996071 or via email flora.aninditya@gmail.com or Eddy Mayor Putra Sitepu (Sydney, Australia) on +61 416660832 or via email – eddy-mayor-putra.sitepu@students.mq.edu.au

If you feel distress or anxiety during the survey, you can directly contact the hotline service of the Directorate of Mental Health, Ministry of Health of Indonesia via this telephone number: 1500 454 (free of charge) or via Android mobile application of Aplikasi Sehat Jiwa (free of charge). You can also contact Flora Aninditya, the research assistant in Jakarta on +62 81389996071 to direct you to the Directorate of Mental Health for any assistance.

A General information

1. How long has your organisation been in operation? .....years
2. What is the approximate **number of employees** within your division/department? (Please treat part-time employees as fractions of full time employees).....Employees
3. Which of the following best describes your organisation?
   ☐ Manufacturing ☐ Service ☐ Other (please specify).....
4. How many years have you worked in your current position?.....years

B **Please indicate the extent to which you agree with the following statements:**

	Totally disagree			Neutral			Totally agree
a) The budget process enables discussion in meeting of superiors, sub-ordinates and peers.	□1	□2	□3	□4	□5	□6	□7
b) The budget process enables continual challenge and debate underlying data, assumptions and action plans.	□1	□2	□3	□4	□5	□6	□7
c) The budget process provide a common view of the organization.	□1	□2	□3	□4	□5	□6	□7
d) The budget process tie the organization together.	□1	□2	□3	□4	□5	□6	□7
e) The budget process enable the organization to focus on common issues.	□1	□2	□3	□4	□5	□6	□7
f) The budget process enable the organization to focus on critical success factors.	□1	□2	□3	□4	□5	□6	□7
g) The budget process develop a common vocabulary in the organization.	□1	□2	□3	□4	□5	□6	□7

C **Please indicate the extent to which you are certain about the following aspects of your job:**

	To a small extent			Neutral			To a large extent
a) My duties and responsibilities.	□1	□2	□3	□4	□5	□6	□7
b) The goals and objectives for my job.	□1	□2	□3	□4	□5	□6	□7
c) How my work relates to the overall objectives of my division/department.	□1	□2	□3	□4	□5	□6	□7
d) The expected results of my work.	□1	□2	□3	□4	□5	□6	□7
e) Aspects of my work that will lead to positive evaluations.	□1	□2	□3	□4	□5	□6	□7
f) How to divide my time among the tasks required of my job.	□1	□2	□3	□4	□5	□6	□7
g) How to schedule my work day.	□1	□2	□3	□4	□5	□6	□7
h) How to determine the appropriate procedures for each work task.	□1	□2	□3	□4	□5	□6	□7
i) The procedures I use to do my job are correct and proper.	□1	□2	□3	□4	□5	□6	□7
j) Considering all your work task, you know the best way to do these tasks?	□1	□2	□3	□4	□5	□6	□7

D **Please indicate the extent to which you agree with the following statements:**

	Totally disagree			Neutral			Totally agree
a) The budget process track my progress towards goals.	□1	□2	□3	□4	□5	□6	□7
b) The budget process monitor my results.	□1	□2	□3	□4	□5	□6	□7
c) The budget process compare my outcomes to expectations.	□1	□2	□3	□4	□5	□6	□7
d) The budget process review my key measures.	□1	□2	□3	□4	□5	□6	□7

E **Please indicate the extent to which you agree with the following statements:**

	Totally disagree			Neutral			Totally agree
a) In general, I like working at this company.	□1	□2	□3	□4	□5	□6	□7
b) All in all, I am satisfied with my job.	□1	□2	□3	□4	□5	□6	□7
c) I enjoy finding solutions to complex problems.	□1	□2	□3	□4	□5	□6	□7
d) I enjoy creating new procedures for work tasks.	□1	□2	□3	□4	□5	□6	□7
e) I enjoy improving existing processes or products or services.	□1	□2	□3	□4	□5	□6	□7

F **Please indicate the extent to which you engaged in the following creative activities within your work role:**

	Almost never			Neutral			Almost always
a) I regularly come up with creative ideas.	□1	□2	□3	□4	□5	□6	□7
b) I regularly experiment with new concepts and ideas.	□1	□2	□3	□4	□5	□6	□7
c) I regularly carry out tasks in ways that are resourceful.	□1	□2	□3	□4	□5	□6	□7
d) I often engage in problem solving in clever and creative ways.	□1	□2	□3	□4	□5	□6	□7
e) I often search for innovations and potential improvements within my division/department.	□1	□2	□3	□4	□5	□6	□7
f) I often generate and evaluate multiple alternatives for novel problems within my division/department.	□1	□2	□3	□4	□5	□6	□7
g) I often generate fresh perspectives on old problems.	□1	□2	□3	□4	□5	□6	□7
h) I often improvise methods of solving a problem when an answer is not apparent.	□1	□2	□3	□4	□5	□6	□7

G **Please indicate the extent to which you engaged in the following activities while at work:**

		Almost never			Neutral			Almost always
a)	I print double sided whenever possible.	□1	□2	□3	□4	□5	□6	□7
b)	I put compostable items in the compost bin.	□1	□2	□3	□4	□5	□6	□7
c)	I put recyclable material (e.g. cans, paper, bottles, and batteries) in the recycling bins.	□1	□2	□3	□4	□5	□6	□7
d)	I bring reusable eating utensils to work (e.g. travel coffee mug, water bottle, reusable containers, reusable cutlery).	□1	□2	□3	□4	□5	□6	□7
e)	I turn lights off when not in use.	□1	□2	□3	□4	□5	□6	□7
f)	I take part in environmentally friendly programs (e.g. bike/walk to work day, bring your own local lunch day).	□1	□2	□3	□4	□5	□6	□7
g)	I make suggestions about environmentally friendly practices to managers to increase my organization's environmental performance.	□1	□2	□3	□4	□5	□6	□7

H **Please rate your performance on the following items:**

		Very low			Average			Very high
a)	Planning for my area of responsibility	□1	□2	□3	□4	□5	□6	□7
b)	Coordinating my area's activities	□1	□2	□3	□4	□5	□6	□7
c)	Evaluating my subordinates' activities	□1	□2	□3	□4	□5	□6	□7
d)	Investigating issues in my area	□1	□2	□3	□4	□5	□6	□7
e)	Supervising my staff	□1	□2	□3	□4	□5	□6	□7
f)	Obtaining and maintaining suitable staff	□1	□2	□3	□4	□5	□6	□7
g)	Negotiating	□1	□2	□3	□4	□5	□6	□7
h)	Representing the interests of my area	□1	□2	□3	□4	□5	□6	□7
i)	My overall performance	□1	□2	□3	□4	□5	□6	□7

I **Please indicate the extent to which you agree with the following statements:**

		Totally disagree			Neutral			Totally agree
a)	I am careful in how I spend company money.	□1	□2	□3	□4	□5	□6	□7
b)	I try to get the most from company money.	□1	□2	□3	□4	□5	□6	□7
c)	I am disciplined in my use of company resources.	□1	□2	□3	□4	□5	□6	□7
d)	I work hard to contain costs.	□1	□2	□3	□4	□5	□6	□7
e)	I plan carefully before spending.	□1	□2	□3	□4	□5	□6	□7

Thank you for taking time to complete the survey. Your assistance in providing this information is very much appreciated.

Appendix 2 – Cover Letter

Department of Accounting and Corporate Governance
Faculty of Business and Economics
MACQUARIE UNIVERSITY NSW 2109
Phone: +61 (0)2 9850 7295
Email: eddy-mayor-putra.sitepu@students.mq.edu.au

<Date>

<Manager's name>
<Position>
<Company name>
<Company address>

You are invited to participate in a study on the interactive use of budgets in Indonesia. The aim of the study is to explore the effect of the interactive use of budgets on individual creativity and role clarity. The study is being conducted by Eddy Mayor Putra Sitepu [Department of Accounting and Corporate Governance at Macquarie University, NSW, Australia, eddy-mayor-putra.sitepu@students.mq.edu.au, (61) 416660832] in order to meet the requirements of a Master of Research (MRes), under the supervision of Dr Ranjith Appuhami, [(61-2) 9850 7295, ranjith.bala-appuhamilage@mq.edu.au] and Dr. Sophia Su [(61-2) 9850-8454, sophia.su@mq.edu.au] of the Department of Accounting and Corporate Governance, Macquarie University.

Participation in this study is entirely voluntary, and you are not obliged to participate. If you decide to participate, you will be required to complete the survey attached. The survey should take approximately 5-10 minutes to complete. Return of the survey will be regarded as consent to use the information for research purposes.

If you feel distress or anxiety during the survey, you can directly contact the hotline service of the Directorate of Mental Health, Ministry of Health of Indonesia via this telephone number: 1500 454 (free of charge) or via Android mobile application of Aplikasi Sehat Jiwa (free of charge). You can also contact Flora Aninditya, the research assistant in Jakarta on +62 81389996071 to direct you to the Directorate of Mental Health for any assistance.

Any information gathered in the course of the study is confidential, except as required by law. No sensitive personal information will be collected. No individual will be identified in any publication of the results. Access to the data will only be granted to the researchers mentioned in this letter and will not be used for any other purposes. No individual will be identified in any publication of the results.

Thank you for your assistance.

Yours Sincerely,

Eddy Mayor Putra Sitepu

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix 3 – Self-addressed, Reply-paid Envelope

SWLF 991-3
10:44
11/10/2017

Kepada :
Eddy Sitepu / Flora A. Hadiusodo
Peneliti pada Badan Kebijakan Fiskal,
Kementerian Keuangan Mahasiswa Program
PhD di Macquarie University, Australia
[0857793743 21]
d/a.
Kost Omadara
Jl. Salak No. 26, Margonda – Kel. Pondok Cina
Kec. Beji, Kota Depok 16424 Jawa Barat

Appendix 4 – Ethics Approval

Office of the Deputy Vice-Chancellor
(Research)

Research Office
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Macquarie University
NSW 2109 Australia
T: +61 (2) 9850 4459
http://www.research.mq.edu.au/
ABN 90 952 801 237

MACQUARIE University
SYDNEY·AUSTRALIA

12 July 2017

Dear Dr Appuhamilage

Reference No: 5201700646

Title: *How does the interactive use of budgets affect employee's role clarity and creativity?*

Thank you for submitting the above application for ethical and scientific review. Your application was considered by the Macquarie University Human Research Ethics Committee (HREC (Human Sciences & Humanities)).

I am pleased to advise that ethical and scientific approval has been granted for this project to be conducted by:

- Macquarie University

This research meets the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007 – Updated May 2015) (the *National Statement*).

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the *National Statement,* which is available at the following website:

http://www.nhmrc.gov.au/book/national-statement-ethical-conduct-human-research

2. This approval is valid for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval for this protocol.

3. All adverse events, including events which might affect the continued ethical and scientific acceptability of the project, must be reported to the HREC within 72 hours.

4. Proposed changes to the protocol and associated documents must be submitted to the Committee for approval before implementation.

It is the responsibility of the Chief investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Should you have any queries regarding your project, please contact the Ethics Secretariat on 9850 4194 or by email ethics.secretariat@mq.edu.au

The HREC (Human Sciences and Humanities) Terms of Reference and Standard Operating Procedures are available from the Research Office website at:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics

The HREC (Human Sciences and Humanities) wishes you every success in your research.

Yours sincerely

Dr Karolyn White
Director, Research Ethics & Integrity,
Chair, Human Research Ethics Committee (Human Sciences and Humanities)

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research* (2007) and the *CPMP/ICH Note for Guidance on Good Clinical Practice.*

Details of this approval are as follows:

Approval Date: 12 July 2017

The following documentation has been reviewed and approved by the HREC (Human Sciences & Humanities):

Documents reviewed	Version no.	Date
Macquarie University Ethics Application Form		Revised application received 10/07/2017
Response addressing the issues raised by the HREC		Received 10/07/2017
Macquarie University Appendix B: Research to the Undertaken Outside Australia		Received 02/06/2017
Participant Information Letter	1	10/07/2017
Survey	1	10/07/2017
Follow-up Email	1	10/07/2017

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