UNIVERSITY OF Hull

Social Capital and Participative Budgeting: a Process Thinking Perspective

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by

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Abstract:

Over the past years, participative budgeting has attracted researchers and scholars to investigate its impact on subordinates' behaviours. Earlier empirical studies have investigated this impact as either a direct relationship, with the influence of a moderator or an antecedent or with both moderators and antecedents. Yet, prior studies' findings were inconsistent with each other.

This study depicts that participative budgeting is governed by the concept of Social Capital and its different dimensions, relational, structural and cognitive. Scholars conceptualised social capital as a set of social resources available through subordinates' relations, which empower their communication with a variety of individuals. Further, this study investigates the impact of participative budgeting on subordinates' behaviours by implementing the Throughput model. This model is a decision making model with four factors, linked with six different pathways. The factors are the perception of the individual, the information available for decision making, judgement and finally the decision made. The linking pathways, moreover, would reflect the rationalisation of the individual upon the availability of those different factors. This study examines how the employment of the throughput model can assist in deducting the impact of participative budgeting on subordinates' behaviours.

This study was implemented among Saudi Arabian mid-level managers working in manufacturing listed companies. A total of 283 surveys were analysed using a second generation statistical tool, SEM-PLS. The results reveal performance and satisfaction were impacted by their relational dimension of social capital. In other

words, mid-level managers' relations with other individuals will have a significant impact on their performance and satisfaction.

The usage of social capital and the implementation of the throughput model advance the understating of the thinking process of those mid-level managers and ultimately the impact on their behaviours within participative budgeting settings.

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Dedications:

This thesis is dedicated to my parents, Abdullah and Hessa Al Hudithi. Truly, without your endless support, prayers, blessings, and encouragement, I will not be the man I am now. No matter what I have done to pay you back, it is not even a tenth of what you deserve. May Allah bless you both with health and with long life. In addition, I would like to dedicated this thesis for my wife, Marwah Almojel, for her patience and support throughout the long nights of work, Thank you very much. In addition, this work is dedicated to my lovely daughter, Hessa, for her quite nights of sleeping and beautiful smiles.

This thesis is also dedicated to all of siblings, Anwar, Jamellah, Noha, Sohair, Wejdan, and most importantly Bashar, my special needs brother. In addition, this work is dedicated to all of my nephews and nieces, and lastly to all of my friends and family members. To my guarding angel for supporting me during my weakness and holding my hand to success.

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Rodgers, W. & Al Hudithi, F. (2015) Throughput model in participative budgeting, *European Accounting Association*. Glasgow, UK.

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List of Abbreviations:

Abbreviation	Term
ABB	Activity Based Budgeting
D	Decision
I	Information
J	Judgment
PB	Participative Budgeting
PER	Performance
P	Perception
SA	Saudi Arabia
SAT	Satisfaction
TM	Throughput Model
ZBB	Zero Based Budgeting

Chapter 1. Introduction.

Table 1: Position of the current chapter within the research

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

1.1 Introduction:

Over the past years, different management accounting techniques have been designed and used to assist organisations with their planning and controlling functions. The most frequently used of those techniques is budgeting. Cleveland (1907) highlighted the budget as a tool for controlling the spending ability of the different officers within an organisation. Other researchers within the field of budgeting (Becker & Green, 1962; Brownell & McInnes, 1986; Shields & Young, 1993; Yuen, 2007) agreed with Cleveland's description of budgets. Budgeting receives considerable interest from researchers, especially participative budgeting since there is inconsistency in its impacts on firms and employees' behaviour (Jermias & Yigit, 2013; Shields & Shields, 1998). This study investigates the impact of the usage of participative budgeting within listed Saudi Arabian manufacturing companies on subordinates' performance and satisfaction. This investigation employs a new and unique decision making model that assisted in clarifying the inconsistency of the previous results of participative budgeting investigation.

The mixed results of implementing participative budgeting within different firms have raised a variety of concerns among researchers. Those concerns are reflected in questions that need further investigation. This chapter will begin by introducing participative budgeting then identify the research problem. Following those, the research questions and objectives will be introduced. The remaining sections of this chapter indicate the rationale for implementing this research within the Saudi Arabian context, the contribution of the study and finally the organisation of the thesis. Table 2 illustrates the topics covered in this chapter.

Table 2: Chapter One Structure.

1.1	Introduction.
1.2	Participative Budgeting.
1.3	Research Problem.
1.4	Research Aim.
1.5	Research Questions.
1.6	Why ….?
1.7	Contribution of the Study.
1.8	Organization of the thesis.

1.2 Participative Budgeting:

Traditionally, budgets are set by top management and then imposed on lower levels. However, this approach has been replaced by engaging the different levels of management to reach the final budget, i.e. participative budgeting, to enable the flow of information among them. Meanwhile, this type of budgeting has attracted a considerable interest from researchers due to the inconsistency of its impacts on the behaviours of the subordinates. Initial empirical studies highlighted that participative budgeting significantly affects employees' behaviour in areas such as performance and satisfaction (Brownell & McInnes, 1986; Chenhall & Brownell, 1988; Cherrington & Cherrington, 1973; Dunk, 1993b; Hofstede, 1968; Kenis, 1979; Milani, 1975; Shields & Young, 1993). Other scholars found that participative budgeting has an insignificant impact on employees' performance and satisfaction (Brownell, 1982a; Brownell & Hirst, 1986; Carroll & Tosi, 1973; Chalos & Haka, 1989; Hopwood, 1976; Jermias & Yigit, 2013; Milani, 1975).

More recent arguments have indicated that there are other aspects that either moderate or precede the relation between participative budgeting, performance and satisfaction. These other factors include, but are not limited to, the personal perception, locus of control, employees' behaviour, relationship of the subordinates and innovation (Brownell, 1981; 1982a; Brownell & Dunk, 1991; Chong & Johnson, 2007; Govindarajan, 1986; Jermias & Yigit, 2013; Lau & Lim, 2002; Mia, 1988; Nouri & Parker, 1998). Still, there are different conclusions about the impact of participative budgeting on the subordinates' performance and satisfaction (Chong & Johnson, 2007; Yuen, 2007). A few scholars have argued that one of the reasons for the inconsistency within the literature is that the previous studies used different behavioural theories. Among those theories are locus of control, the agency theory, and the theory of planned behaviour (Brown et al., 2009; Jermias & Yigit, 2013; Shields & Shields, 1998; Yuen, 2006).

In previous empirical studies, the impact of participative budgeting on subordinates' behaviours was explored as having a direct relationship with their performance and satisfaction (Chenhall, 1986; Chong & Chong, 2002; Mia, 1988). Other empirical studies showed that participative budgeting has an indirect relation, with other important variables such as locus of control and attitude acting as either moderators or antecedents to the relationship (Kren, 1992a; 1992b; Mia, 1988). From this context, this research investigates the effects of participative budgeting on subordinates' performance and satisfaction as an indirect relationship with antecedent factors, using the Throughput model.

1.3 Research Problem:

The problem this research addresses is that previous literature has reported mixed results regarding the impact of the implementation of participative budgeting. Furthermore, most of the previous studies have investigated the impact of participative budgeting as having a direct relationship with performance and satisfaction (Chenhall, 1986; Chong & Chong,

2002; Mia, 1988). Other empirical studies showed that participative budgeting has an indirect relation, with other important variables such as locus of control and attitude acting as either moderators or antecedents to the relationship (Kren, 1992a; 1992b; Mia, 1988). Moreover, a few studies have investigated the impact of participative budgeting on performance and satisfaction with both moderating and antecedent variables (Chong & Johnson, 2007; Jermias & Yigit, 2013).

However, those studies have neglected an element that has a great impact on the aim of the implementation of participative budgeting within firms. This element is social capital and its different dimensions. Further, different relationships grant subordinates access to different levels and sources of information that are used to formulate different decisions. Indeed, a variety of social capital factors play a major role in establishing and granting access to individuals working within different departments and even different firms. This study takes into consideration this ability to access information.

Subordinates would try to increase the level of knowledge and information that they have, especially when requested from a higher level. Along with social capital, this study uses the Throughput model. This model will enable the researcher to view different approaches to decision making, that will assist in clarifying the inconsistency in previous findings about the impact of participative budgeting on subordinates' behaviours (Rodgers, 1999). In Throughput modelling, multiple pathways highlight the importance of different philosophical viewpoints and variables that could influence subordinates' steps in the thinking process, their behaviour and their action. The Throughput model simplifies the decision making process to four different factors: information, perception, judgement and decision that generate six different pathways. Those six pathways reflect different thinking processes that an individual may follow to formulate a decision about a current situation. Those decisions would be the subordinates' reaction to certain elements of participation in budget setting.

1.4 Research Aim:

Because there is inconsistency within participative budgeting literature, the aim of this study is to investigates the impact of implementing participative budgeting on subordinates' behaviours. This is done by going beyond the traditional models by:

- Using a decision making model that reflects subordinates' thinking process.
- Testing the impact of implementing the different social capital factors.
- Implementing this investigation within Saudi Arabian listed companies.

1.5 Research Questions:

In line with the aims of this study, this research investigates the effects of implementing the different factors of the model different factors on the behaviour of participants in the budgeting process through addressing the following questions:

1- What is the impact of the information factor of the Throughput model on both the judgement and perception of the decision maker?
2- What is the impact of subordinates' perception on their judgement?
3- What is the impact of the judgement process on the subordinates' decisions and behaviours?
    a. How does it affect their performance?
    b. How does it affect their satisfaction?

1.6 Why ….?

This section highlights the different reasons why the researcher has used the context of Saudi Arabia, participative budgeting and the throughput model. Those reasons will be presented next.

1.6.1 Saudi Arabia?

The researcher has conducted this study within the Saudi Arabian context for a number of reasons. First, according to World Economic Situation and Prospects 2014 of the United Nations, Saudi Arabia is a developing country (UN, 2014). Yet, few studies have investigated the impact of participative budgeting within a developing country context (Jermias & Yigit, 2013).

Furthermore, studies have highlighted that individuals from developing countries have different values and norms than those in developed countries (Alam, 1997). Indeed, Saudi Arabia is a country that scores differently on Hofstede's cultural dimensions, especially Power of Distance, Uncertainty Avoidance and Individualism, than developed countries, e.g. the USA, in which previous studies were conducted (See figure 1). Since Saudi Arabia has an area of more than 2 million square kilometres and shares a border with more than 7 countries, it has diverse values and norms. This would make SA highly attractive for such a study, and the impact of participative budgeting on the subordinates' behaviours will be different from that in developed countries.

Another reason is that the researcher has a scholarship provided by a Saudi Arabian University, Imam Abdulrahman Bin Faisal University, which supported the researcher throughout the research journey. In addition, Imam Abdulrahman Bin Faisal University has provided the researcher with access to listed companies to collect data.

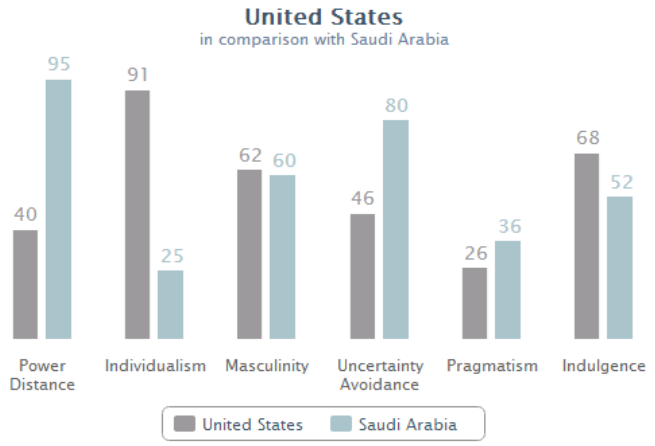


Figure 1: Hofstede's dimensions comparison between Saudi Arabia and USA

Source Hofstede (2010)

1.6.2 Participative Budgeting?

The selection of the topic of participative budgeting was based on the researcher's personal experience. During his work in the University of Dammam College of Business Administration, he was appointed by the dean to complete the college budget for the next fiscal year. During that process, the researcher used his different connections within the main budgeting department in order to understand how accurate the information had to be. From this past experience, the researcher further investigated the area of participative budgeting and its impact on the different behaviours of the subordinates.

1.6.3 Throughput Model?

Following on the researcher's personal experience, the throughput model was selected for the following reasons. First, during the budgeting task that was assigned to the researcher, he had to make a decision on the numbers and amounts needed for the college budget. Second, during the budgeting task, the researcher had to seek various pieces of information to assist him during the budgeting process. Third, the researcher then had to justify those numbers according to various needs of the college of business. Finding a model that would consider all of those factors was very challenging. However, the throughput model covered all of those

areas that the researcher was trying to find within a decision making model. Furthermore, the throughput model simplifies the process of making decision into four different factors, are linked with six pathways, that the researcher followed during the annual budgeting process for the College of Business Administration. For this reason, the researcher selected the throughput model over other decision making models.

1.7 Contribution of the Study:

As stated above, this study will view the impact of participative budgeting from a new angle by implementing a decision making model. Also, this study introduces an important element to the investigation, that is, social capital, which has different impacts on subordinates' behaviours. In addition, this study will contribute to the field of Management Accounting and participative budgeting literature in the context of a developing country, Saudi Arabia. Moreover, this study considers the impact of having antecedent variables. In other words, participative budgeting will be impacted by antecedent variables (Shields & Shields, 1998), and in turn, will have impact on performance and satisfaction. To the best of the researcher's knowledge, no other studies have investigated the effect of subordinates' relationships with other co-workers and stakeholders on participative budgeting and their behaviours.

Furthermore, Saudi Arabia is an excellent setting to investigate the usage of participative budgeting and its impact on subordinates' behaviours for several reasons. Saudi has its own unique cultural mix that has different elements within different regions. Its large area has provided this mixture of traditions (Royal Embassy of Saudi Arabia in Washington, 2014). Also, the industrial and service sectors are rapidly growing, especially in the area of manufacturing industries; there has been an increase in the total number of firms within both the service and industrial companies, listed and non-listed. This growth has increased the demand for highly qualified employees to guide those companies within an intensively

competitive market. Nevertheless, this high demand for qualified individuals has highlighted the shortage of suitable employees.

Saudi Arabia has a shortage of experts, especially in the area of management accounting, to cover this demand. Some firms have found a solution for this shortage, by employing international employees to financially manage firms and companies. However, Saudi's culture and traditions are different from those of other developing countries within the Middle East and other developed countries. Thus, considering the different orientation that those international employees would have and their perspectives about certain behaviours and reactions back in their home countries, the researcher investigates the area of participatory budgeting and its impact on subordinates' behaviours, since the literature is still inconsistent within developed country settings.

1.8 Organisation of the Thesis:

This chapter has provided an outline of the study background and explicitly presented the research problem, aim, and questions. After that, the researcher has highlighted the reasons for implementing this research within the Saudi Arabian context and its contribution. The rest of the thesis is organised as follows:

Chapter 2 presents a review on literature of the participative budgeting. It starts by highlighting the differences between the management and managerial accounting and the background of budgeting. Following that, is a section on planning and controlling as the aims of having a budget. After that, the chapter introduces participative budgeting and its different generations, which reflected different aims, in order to identify the true impact of participative budgeting.

Chapter 3 presents the social capital background. In other words, it introduces the concept of social capital and highlights its features. After that, this chapter highlights and introduces its dimensions: relational, structural and cognitive.

Chapter 4 presents the Throughput model and its factors: information (I), perception (P), judgement (J), and decision (D). After that, it goes on to highlight the different pathways that links between the Throughput model factors, P➔D, P➔J➔D, I➔J➔D, I➔P➔D, I➔P➔J➔D and P➔I➔J➔D.

Chapter 5 presents the framework of this research. In addition, it outlines the significance of the Throughput model within participative budgeting settings. Further, it introduces the variables that are tested within this study and their relationship with the factors of the Throughput model. Lastly, the chapter highlights the tested pathways of the Throughput model.

Chapter 6 outlines the methodology and the design of the research. It discusses the research ontology, philosophy and approach, followed by the research design and the method of data collection. Following that is the structure of the questionnaire, along with the ethical considerations observed in the research.

Chapter 7 is the data analysis chapter. Within this chapter, the researcher explains the steps followed to prepare the data for analysis. After that, this chapter reports the normality test and factor analysis of the data set. Next, the chapter identifies the various statistical techniques available to use and introduces structural equation modelling as the selected technique. An overview of the PLS-SEM technique of data analysis is provided within this chapter. The last part of the chapter provides a descriptive analysis of the results and reports the testing of the study hypotheses.

Chapter 8 contains the discussion and the conclusion of this thesis. First, it outlines the usage of the Throughput model within participative budgeting. After that, a discussion is provided of the Throughput model factors within participative budgeting. Then, the chapter indicates the significant pathways found. The final part of this chapter and thesis is the conclusion, limitations and directions for future research.

Chapter 2. Participative Budgeting Background.

Table 3: Position of the current chapter within the research

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

2.1 Introduction:

This chapter will start by introducing management accounting and highlighting the differences with managerial accounting. After that, the background of budgeting is introduced along with the different aims of budgeting techniques. Following that is the process of budgeting and the introduction of participative budgeting. The last element of this chapter's the investigation of the mixed results of participative research. Table 4 illustrates the topics covered in this chapter

Table 4: Chapter Two Structure

2.1	Introduction.
2.2	Management Accounting Vs Managerial Accounting.
2.3	The Background of Budgeting.
2.4	Planning, Controlling, communicating and performance measuring.
2.5	The Process of Budgeting.
2.6	Budget Approach.
2.7	Behavioural Aspects of Budgeting.
2.8	Participation and Mixed Results.
2.9	Conclusion.

2.2 Management Accounting Vs Managerial Accounting:

Many would try to explain the true meaning of management accounting and managerial accounting, by saying that it is financial and/or non-financial information which is reported to managers, for internal usage, in order to assist them in making decisions (Coombs, 2005). In other words, management accounting can include either financial information, e.g. net profit, cost of units sold or total assets, or non-financial information, e.g. number of units sold and number of units available to sell. Furthermore, that type of information could be either precise information, previous performance, or a number that is used to predict future performance. Management accounting reports can present information in various ways. Some of those reports represent the total amounts (expenses paid) for the different stages within the manufacturing process. Others include full details of every single step within the production process. Those reports may reflect the different operations within the firm, either in full details or in totals that assist financial managers in making their internal decisions. The following table, Table 5, reflects the different features of management accounting information (Gazely, 2006). Such information would be of great assistance in the planning and control of firms' operations from the perspective of different level managers, i.e. top level, mid-level and lower level managers.

Table 5: Areas of Management Accounting Information

Areas of the Management Accounting Information	
Type of Information	Financial and non-financial
The values	Exact amounts or future estimations
Period of the information	Current or future periods
Level of details	Great details
Presentation	Charts, tables, and reports
Users of the Information	Internal users

However, a question arises about the core differences between the two terms, management accounting and managerial accounting. Many scholars have defined management accounting as assisting of managers and individuals within the firm, who are in control of its operations, with information (Horngren et al., 2005). Such information would be used for planning, controlling and making decision. As cited in Coombs (2005) Proctor et al. (2002:xvii) have made a clear distinction between management and managerial accounting by stating, "Management accounting is orientated towards the future. It is primarily concerned with the provision of information to managers to help them plan, evaluate and control activities. It is essentially a service function; a means to an end, rather than an end in itself. Managerial accounting also fits this description, but the use of the word 'managerial' emphasises the service role. This may seem obvious but, for much of the twentieth century, management accounting was used mainly to serve the needs of financial accounting, rather than to assist managers in their tasks. Managerial accounting is about improving the future performance of organisations" (Coombs, 2005:4).

Furthermore, Wilson (1992:25) has indicated that "managerial accounting encompasses techniques and processes, which are intended to provide financial and non-financial information to people within an organisation, to make better decisions and thereby achieve organisational control and enhance organisational effectiveness". Here, we agree with Wilson's (1992) explanation of managerial accounting. His explanation was very general but did cover the previously mentioned points of management accounting. For the purpose of this study, we treat that management and managerial accounting as interchangeable terms, which cover the same main concepts. However, the main point is that they represent techniques of collecting accounting information and methods of presentation of that information, to be used internally, in order to plan and control the future of a firm. Taking into consideration those different techniques, here we focus on budgeting as one of those frequently used techniques.

2.3 The Background of Budgeting:

Budgeting is one of the most commonly-used techniques in planning (decision making) and controlling the amount of spending of different departments within firms and companies (Wilson, 1992). It reflects a plan that is expressed in numbers. It has ancient origins, as Joseph had a budget for corn supplies in Egypt (Abofaied, 2005). In the same vein, the main function of managers is to plan and control different operations (Welsch, 1988). The budget is "a statement of allocated expenditure and/or revenue, under specific headings, for a chosen period. Generally, the expenditure allocation must not be exceeded and the revenue must be achieved" (Secrett, 1993:3). Horngren et al. (2005) defined the budget as a plan that is expressed in financial terms, for the future of organisations. Also, Bruns and Waterhouse (1975) added that budgets give a basis to direct and evaluate performance. As seen, the budget is habitually used as a financial plan. Furthermore, the budget can be expressed in financial terms and in

quantitative terms, e.g. labour hours budgeted, purchases of material, or number of units sold.

"A budget will describe, as a minimum, estimated amounts (financial and/or non- financial) which will be incurred, or earned, as the result of a planned course of action and consider the timing of the incurrence/earning of these amounts" (Seal et al., 2006:55). From the aforementioned different definitions of budgeting, we conclude that a budget is a detailed plan that is transformed into numbers, with either financial and/or non-financial information, over a specific period, which is set to control and evaluate a department or sector within a firm. Such control would be reflected in the allocation of this budget. For example, on a personal level, individuals have a tendency to make budgets for themselves. They tend to make estimates of their income and divide it between the different expenses, e.g. housing, utilities, savings and food expenses. In this way, those individuals can limit their spending to what they planned. In other words, they would control their spending and try not to go over their limits. By the end of the period, i.e. the month, they would evaluate their previous behaviour, their spending, and either propose either a change of the budget limits or conclude that they had reached a satisfactory level of their budget (Seal et al., 2015).

In the same vein, budgets assist future planning and help in the controlling process. This involves three main concepts, which are quantifying needs, controlling and limiting expenses, and reviewing and feedback. In other words, a budget would quantify the needed resources (raw material, labour hours, overhead expenses, etc.) for planning. Furthermore, it quantifies external needs (material orders, additional workforce, outsource certain elements, etc.). Then it quantifies the final income expected to be reached by the end of the budgeting period. It also quantifies the incoming and outgoing cash (payments and collections). In addition, budgets represent

a means of communicating what to achieve. Likewise, it is a basis for rewarding employee performance (Weetman, 2011). Those areas of assistance can be summarised in the following (Seal et al., 2015:463):

- Budgets define firms' goals and are used as benchmarks for control and evaluation.
- Budgets reflect a means of communication of management plans.
- Budgets tend to make managers think about and plan for, the future.
- Budgets reflect the allocation of the firm's resources.
- Budgets help in indicating future conflicts, e.g. bottlenecks.
- Budgets will organise and coordinate the different firm activities.
- Budgets help in unifying the direction of the firm.

Furthermore, budgeting can serve both long and short term plans, since budgeting is flexible as to the period. In this way, planning involves developing budgets that meet the firm's set objectives. It is an effort to manage and control the future of the firm, through setting budgets. Otherwise, managers would have to rely on their intuition to judge the successfulness of their operations and targets (Kennedy & Dugdale, 1999). Budgets are usually set for a period of one financial year or fiscal year. After this period, budget figures would then be compared with the actual results in order to identify any departure from the budgeted target (Atkinson et al., 2011). Moreover, budgets can also be done for a quarterly or monthly period, instead of on a yearly basis. In addition, there is another model of budgeting, the continuous budget, which allows managers to always have one year of budget to view. In other words, this type of budget is a 12-month budget that rolls over to the next month/ quarter, as each month/ quarter ends (Bamber & Parry, 2014). That is, at the end of each month/

quarter, an additional month/ quarter is added to the budget, so managers always have one year to view (Seal et al., 2015:465).

Despite the wide usage of budgeting, in past decades, it had been criticised by academics and practitioners for being time consuming and not directly linked to firms' strategy. One reason for this criticism is that traditional budgeting was founded as an aid to firms in their future planning (forecasting) and for controlling cost. Meanwhile, budgeting costs firms during preparation (Atkinson et al., 2011). Moreover, budgets have a fixed nature and firms could lose their competitive advantage if sudden changes occur (Bamber & Parry, 2014). In addition, using budgets as a performance measure for subordinates would reveal dysfunctional behaviours among subordinates. Hence, critic conclude that budgeting is an inefficient process, which is very bureaucratic and protracted (Atkinson et al., 2011).

Those concerns have been addressed by different researchers and solutions have been suggested. It is true that budgeting accrues cost and takes time. However, a good budget would give a better future view, which would enable more accurate planning. Such planning could protect firms from the cost of borrowing from financial institutes (Bamber & Parry, 2014:195). Nevertheless, problems have been identified with traditional increment budgeting, whereby the current budget allowances and operations from existing activities are taken into consideration as the starting point for the next budgeting period. In other words, the budgeted allowances for the current period are usually based on previous budget allowances, with an additional cover to allow for inflation rates. This approach has a major disadvantage, in having some expenditures remaining the same. " Thus, the cost of non-unit level activities become fixed, and past inefficiencies and wastes inherent in the current way of doing things are perpetuated" (Drury, 2015:388)

For this reason, different budgeting techniques have been introduced to help overcome those obstacles with the traditional budgeting. Those techniques are beyond budgeting, activity-based budgeting and zero-based budgeting. The first of these techniques, beyond budgeting, was introduced by Hope and Fraser (1997). They argued that it was very similar to traditional budgeting but with rolling forecasts and more decentralised decision making. The rationale was that rolling forecasting would provide more precise information since it would reflect more up-to-date information. Such information reflects economic trends , and customers' demands from recent quarters (Drury, 2015). Such a technique would give the firm an advantage within the highly combative market (Drury, 2015; Hope & Fraser, 1997). This approach of budgeting would avoid dysfunctional behaviours that occur due to performance evaluation, using traditional budgeting techniques.

The second approach, Activity Based budgeting, (ABB), is "an analysis of the business processes, which derives a financial model based on an operational plan" (Seal et al., 2015:838). This is reflected in two distinct stages. The first stage is the development of an operational model for the different business processes. Here, managers would estimate different demands for their products and services. Following those estimations is the financial stage development in which the management determine the resources needed for the estimated demands, using consumption rates, in order to calculate the resources needed. In other words, ABB begins with analysis of product and services demand, i.e. the market need, then matches this demand with the required resources (Drury, 2015) The advantage of this approach is that management would avoid unnecessary financial balancing, along with the other operational related issues, which are usually ignored by the traditional budgeting, such as bottlenecks and inefficiencies. However, management would be focusing more on

the operational aspect of the production, rather than on the financial planning (Seal et al., 2015).

Despite the limitation of ABB, zero-based budgeting, ZBB, was introduced to overcome the different limitations which were found in the traditional budgeting approach (Weetman, 2010). As a result, ZBB would advance the resource allocation. According to ZBB, previous activity should start from zero, rather than from the last year's budget. In other words, the budget would always start from a clean sheet (Weetman, 2010). ZBB is intended to encourage top management to concentrate on the organisation's goals and objectives. In addition, activities and products would be continuously reviewed, to assess the need for them. This would enable the organisation to consider future opportunities for advancement. Top management would set priorities for their activities and production, creating an updated benchmark to be used in the evaluation of outcomes.

However, a major drawback of ZBB is that it is internally focused and very time consuming (Drury, 2015; Hope & Fraser, 1997). Furthermore, ZBB requires the top management to have advanced planning skills which, in turn, would make managers divert from their primary responsibilities. It is also claimed that such a method of budgeting would, in the long term, harm a firm's planning strategy, because when the budget always starts at zero, the firm would lose track of the different trends of its activities. Weetman (2010) summarised both the advantages and the disadvantages of the implementation of ZBB as follows:

Advantages:

- Encouraging the management to concentrate on the organisations goals and objectives.

- Forcing management to re-evaluate the necessity of the different activities within the organisation.
- Giving space for the new opportunities.
- Prioritising of the different activities within the organisation.
- A very accurate benchmark, which enables the organisation to evaluate its outcomes.

Disadvantages:

- It is time-consuming.
- Requires a high level of planning skills.
- Distracts managers' attention from their main area of responsibilities.
- The organisation would not be able to compare the results in the long term.

2.4 Planning, Controlling, Communicating and Performance Measuring:

Budgets serve several purposes, including planning and controlling and then performance evaluation (Seal et al., 2006). Weetman (2011) added that budgeting brings benefits to organisations, as a result of planning, controlling, communicating, coordinating, and evaluating the performance of both the organisation and subordinates. Drury (2015) expanded the functions of budgets to include planning operations, coordinating different activities within the firm, communicating top management plans to managers at different levels of responsibility, motivating managers, controlling different activities and, finally, evaluating managers' performance. During the preparation of the budget, management would be forced to have a plan that identifies each part of the organisation, i.e. bringing the different organisational divisions into a common ground. Such a stage would help in indicating possible difficulties at an early stage (Weetman, 2010:324).

After preparing the budget plan, the next step is the execution of this plan. There is a chance that the outcomes from the implementation of the plan could be incongruent with the initial plan. In such a situation, special consideration should be given to those areas, to ensure that the implemented plan is in line with the initial plan. As indicated before, the benefit of this is that managers would have a basis to identify any departure from the plan's expectations. Any difference between the actual outcomes and the expected plan would be reviewed thoroughly. This revision could indicate that there is a concern within the initial budget plan which requires revision. For instance, the managers may have been an influencing factor, or there may have been other factors within the organisation that had not been considered during the planning stage (Weetman, 2010).

Furthermore, within any organisation, there are different relationships between the different departments and sectors. Those relationships are reflected in the organisational chart. After the planning and controlling stages, the organisational chart would indicate the line of relationships among each and every department and sector, as in vertical or horizontal relationships.

The final part of budgeting is evaluating performance. Organisations require an evaluation of the performance of their employees. In general, individuals with high performance would be rewarded, with either a bonus or a promotion within the organisation, or both of these. This would be as a result of meeting the targeted plans and estimates, either financial or non-financial.

Viewing those different approaches of the budget functions, it can be suggested that those scholars have agreed on the budget's main roles, which are planning and controlling. From that point of view, budgets serve the firm as a planning tool, which

reflects its own aims and goals. Along with planning is the controlling function, which is reflected in the limitations that managers set on the budgets and their use by top management as a monitoring tool. Taking that into consideration, budgeting would represent the process of a firm's future decisions and how to achieve its objectives, "planning". In this respect, the controlling process is the limitation of different resources (funds, time, labour, etc.) and goals that represent a firm's targets to be achieved (Drury, 2015; 2015; Seal et al., 2006). Furthermore, Bamber and Parry (2014) added that the preparation of a budget has to follow logical steps, as shown in figure 2.

Weetman (2011) indicated that planning could be divided into two different levels. The first level is the strategic level of planning, which tends to include the strategic objectives that reflect a long-term plan of action. On the other hand, operational planning reflects a detailed plan for a shorter period of time. Furthermore, Weetman (2011) indicated that the control process is the result of making a decision on a plan and ensuring that the plan is being followed. That is, management has to have control over the activities and to review the initial plan. This means that management would be involved in identifying different areas of the firm, where managers have control and are accountable for cost and profit. Here, managers would be required to provide senior management with timely, relevant and, most importantly, accurate information (Weetman, 2011).

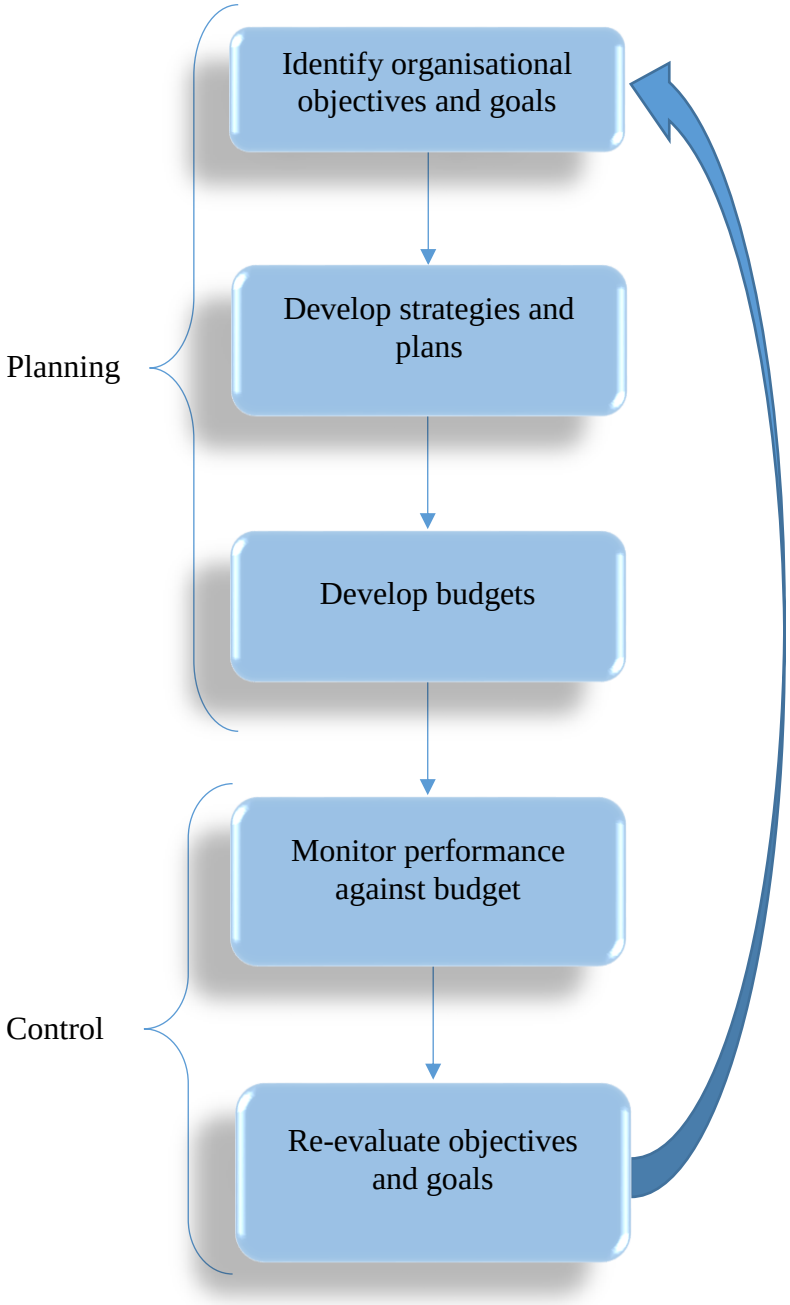


Figure 2: The planning and control process

Source Bamber and Parry (2014:177)

The terms plan and control often raise a misunderstanding, leading some individuals to use them interchangeably. However, those two terms are two distinct concepts. Planning, on the one hand, concerns the development of objectives and formulating different budgets to reach those objectives. On the other hand, controlling refers to management steps to ensure that the objective and budgets formulated within the planning period are attained, as well as that different parts of the firm are congruent with those plans and budgets. Effective budgets require both clear plans and an active control process (Seal et al., 2015).

Furthermore, a control process can be referred to as the influence of managers on other members within the organisation, to attain the firm's different objectives (Weygandt et al., 2009), that is to say, having interactions with the individual's personal goals. Its main purpose is that of influencing those individuals to re-adjust their own goals and make them congruent with the firm's goals. Hofstede (1967) indicated that the control is not limited to just level within the organisation hierarchy, either top management or lower management. There are different methods, ways and degrees of allocation between the different levels of the organisation. "Control in this sense is partly synonymous with the concept of power, say, authority and, especially, influence" (Hofstede, 1967:12). This control can be achieved by the budgeting control process, in which different officers within the organisations are assigned different duties, ranging from the administration areas of the business to the effective control of subordinates. Those officers would be held responsible for the funds and property under their remit. As a result, they would exercise their power in the appointing, suspending and removing of employees, in order to make the firm more effective (Cleveland, 1907).

2.5 The Process of Budgeting:

Budgets might be developed over different time frames, i.e. monthly, quarterly, or annually. The annual budget is considered to be one of the most commonly used budgets within organisations (Wilson, 1992). At the beginning of the budgeting period, budget policies would be communicated to those responsible for budget preparations (Drury, 2015). Following that, management would determine the different factors that will restrict reaching their aims and goals (Drury, 2015). The annual budget would then be prepared in terms of specific levels of activities, or outputs, which reflect the firm's reachable aims and goals. In other words, the budget would be a tool of communication that is used for the implementation of those aims (Bamber & Parry, 2014). Furthermore, budgets serve as activity organisers. That is, annual budgets would unite different activities of the organisation. As well as reflecting the different aims and objectives of the organisation, the budget would act as a controlling measure. By the end of the budgeting period, a comparison would be made between the annual budget and the actual results (Atkinson et al., 2011). The difference between the budgeted plan and the actual results is called the variance. Those variances would indicate which areas of the annual budget have to be revisited and modified for the future. Such variances would allow the management to receive more accurate information about the current production. In other words, they would provide a basis for the control system (feedback) (Atkinson et al., 2011). Bamber and Parry (2014) summarised those processes as the following steps:

- The organisation policy communication.
- Factors determination and restriction.
- Budget output preparation.
- Initial budget preparation.

- Budget negotiation.
- Budget coordination and review.
- Budget finalisation and acceptance.
- Reviewing and monitoring budget results.

2.6 Budget Approaches:

The approach to developing a budget plays a major role in its success. Seal et al. (2015) indicated that the way the budget developed and prepared would determine the success of the budget programme. The most achievable budgets involve managers from different departments within the organisation, in preparing and estimating their own budgets. When preparing a budget, there are three common approaches: authoritative (top-down), consultation and participation budgeting.

When budgeting was first introduced, it was simply a planning tool, and it was imposed on mid-level managers by top level managers (Becker & Green, 1962). In a top-down budgeting approach, the superior tells the subordinate what the budget is (Atkinson et al., 2011). Subordinates and mid-level managers then perform in accordance with the limitations imposed by higher management. These control their expenses and spending. At the end of the budget period, the top level management compare the performance of the subordinates and the imposed budget, to verify how well the subordinates have performed and to assist in formulating the next period's budget (Becker & Green, 1962). This approach can benefit the organisation, by reducing the time frame of budgeting. That is, the process is simple, as it gives the budget to the subordinates within different sub-units in the organisation. Moreover, top management would be able to generate budgets that are in line with the firm's strategic planning, since only one department is responsible for budgeting. On the other hand, this type of budgeting can harm the organisation in the following ways.

First, subordinates do not have a clear view of the targeted levels of production of the budget. Secondly, this approach does not provide the motivation of subordinates. In other words, when the budget is imposed by a superior, subordinates would be frustrated about the low communication level (Atkinson et al., 2011).

The second approach is consultative budgeting. This approach can be defined as "a budgeting process in which a subordinate is asked to discuss ideas about the budget, but no joint decision making occurs" (Atkinson et al., 2011:439). Here, superiors ask subordinates for their ideas and comments, but the superior makes the decision alone. This approach is also called pseudo-participation since subordinates are asked to give their ideas, but the final decision rests with the superior (Atkinson et al., 2011).

The third approach is the participative (Bottom- Up) budgeting approach. This approach relies more on reports from lower managerial levels in formulating the budget, rather than it being imposed by top levels (Heinle et al., 2013). Macintosh (1994) indicated that, within a survey for managers and supervisors back in 1930, the results highlighted that managers and supervisors were dissatisfied with the top-down budgeting approach.

Several scholars have defined participation budgeting in terms of the level of involvement and power that subordinators have in setting their budgets and selecting their own actions (Argyris, 1952; Milani, 1975). Govindarajan (1986) described participative budgeting as the involvement of responsibility centre managers in setting and making the budgets. French et al. (1960) defined participation in general as a joint process, by two or more parties, in decision making that would have future effects on them (Becker & Green, 1962). Shields and Shields (1998) also defined participation

in budgeting as a process whereby managers are involved and can influence the decisions of firms. Agreeing with all of the previous definitions of participative budgeting, Chong and Johnson (2007) defined it as a procedure in which individuals are involved in, and have power over, budget setting, and their performance is evaluated and possibly rewarded, based on achievement (Brownell, 1982b; Nouri & Parker, 1998).

The rationale for participative budgeting is that employee participation in budgeting would give them the opportunity to communicate their private information about their area of responsibility (Bamber & Parry, 2014). Furthermore, this approach will impact on their behaviours, as the usage of participative budgeting has powerful effects on subordinates' feelings, inducing them to show a higher level of commitment to meet the budget limits and keep to those budget limits. Since this approach positively impacts on subordinates' feelings, this would also be reflected in their job satisfaction. Seal et al. (2015) summarised the benefits from the usage of the participative budgeting approach as follows:

- The views and judgements of subordinates are valued by top management, and these employees are recognised as team members.
- Subordinates who are in the first line, or in direct contact with an activity, are the best source of information to formulate and estimate the budget.
- Subordinates would find it fulfilling to work with a budget in which they have participated.
- It is a unique control system, in which, if the budget limits were not met, the subordinates would blame themselves for this failure.

Seal et al. (2015) summarised the flow of information during the participative budgeting process. Figure 3 illustrates this flow.

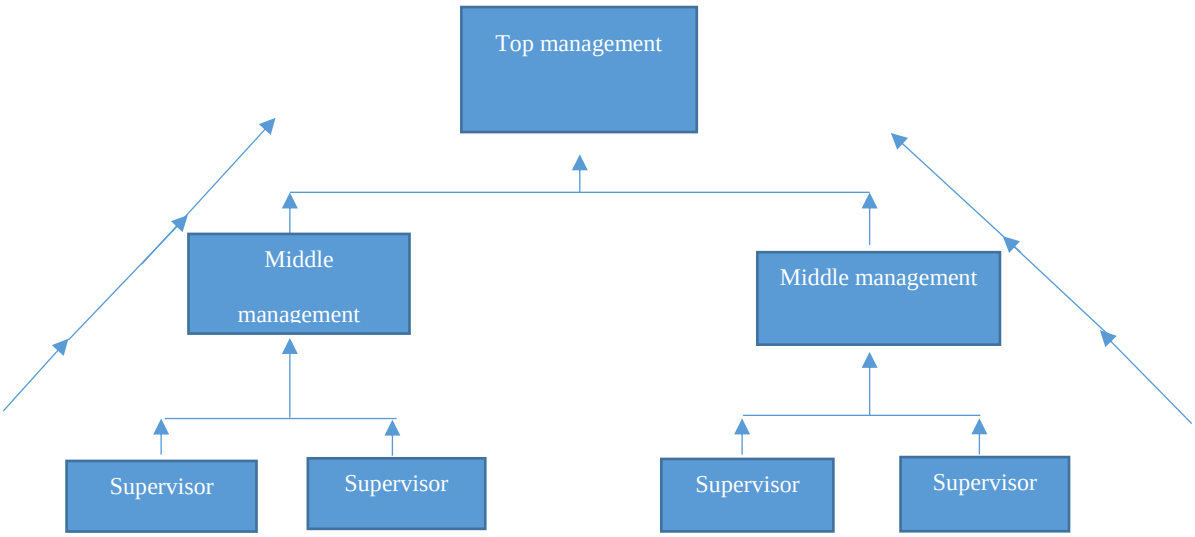


Figure 3: The flow of budget information

Source: Seal et al. (2015)

2.7 Behavioural Aspects of Budgeting:

For decades, participation in decision making was considered an effective process in organisations, although those thoughts were later challenged. Bruns and Waterhouse (1975) indicated that participating in budgeting tends to influence subordinate behaviours. Furthermore, Cherrington and Cherrington (1973) added that not only do budgets have effects on subordinates but also on the behaviour associated with them. In other words, there are both positive and negative consequences of using budgets.

Negative behaviours at work are usually linked to the design of the work process itself and the way of managing subordinates. Beer et al. (1984) concluded that the choices of the management regarding the work system would strongly impact on subordinates' behaviours, especially performance and loyalty toward the firm. In

addition, Chen (2003) has indicated that participation in the budgeting process would assist in coordinating the different activities across the different divisions within the firms. Libby and Lindsay (2010) and Derfuss (2015a) further explained that firms would plan to make amendments to their budgeting system, to include the "bottom-up" orientation, to have an effective mode of information communication between top management and line managers (Derfuss, 2015a).

As mentioned above, many scholars have called for the understanding of the psychological impact of participation in budgeting on subordinates' behaviours (Weetman, 2010). Argyris (1952) investigated the dynamics of behaviours within four firms' budgeting, and his study revealed that subordinates displayed negative behaviours, i.e. negative motivation and attitudes. Top management placed emphasis on outputs, rather than the processes by which they occurred (Reid, 2002). It has been argued that individuals who participate in budgeting tend to need to have a sense of belonging, self-esteem, and personal fulfilment, which will were reflected in subordinates' performance and satisfaction.

From this perspective, the influence of the design of the budgeting depends on how the budget is generated, i.e. the different approaches of preparing the budget. Top-down budgeting, for example, reflects simply the instruction of the superior to the subordinates, i.e. what the budget would be like. Such a method of budgeting is imposed by the top level management and would reflect only a single perspective. Also, superiors would not have a clear view of the reasonable limits of targets. As a result, subordinates who have a high level of commitment and ambition would feel negative impacts from such targets, i.e. become more frustrated and debilitated (Atkinson et al., 2011). If the superior had set unreasonable targets and provided a

limited budget for those targets, performance and also satisfaction would be affected and, in return, the firm would not meet its set goals.

On the other hand, to overcome those drawbacks of top-down budgeting, participative budgeting is used in preparing budgets. This approach involves joint decision making. In other words, different levels of the organisational structure would reach a common ground on the next budget. In this approach, top management will benefit from the private information that subordinates have, regarding the daily activities (Seal et al., 2015). From the above, it is very clear that budgeting highlights the importance of the interaction between the different levels within the organisation, which include resource allocation, organisation goals, motivation and performance.

Meanwhile, since budgeting is a tool for planning and is used also as a method to measure performance, as well as to control and influence subordinates' behaviours, managers tend to manipulate budget information, i.e. "budgeting games" (Atkinson et al., 2011:439). Since the budget is used to monitor performance, managers get into the habit of manipulating budget information, in order to achieve the budget targets and receive better rewards and bonuses. Along with budget games, there is budget slack, which means adding a safe margin to the budget limits. Atkinson et al. (2011:440) have defined budget slack as "the result of subordinates either (1) building excess resources above and beyond what they need to achieve for their budget objectives, or (2) distorting information about their ability to achieve a budget".

A good explanation of why subordinates' behaviour is impacted on by budgeting is because of the controllability and limitations of budgets. In other words, individuals who participate in budgeting would have a sense of ownership which, in turn, would increase their self-esteem (Weetman, 2010). Hopwood (1976) indicated

that, when making a budget, subordinates would feel that they are taking part in the firm's future and, as a result, will perform better (Drury, 2001). Furthermore, the budget targets will be more acceptable, as subordinates participated in developing and setting them (Wilson, 1992:269). Moreover, subordinates who participate in budgets would be more likely to have a positive attitude toward their organisation.

2.8 Participation and Mixed Results:

Previously, studies have indicated conflicting results of participation in the budgeting process. Some indicated that participation in budgeting would lead to better performance and satisfaction, while others disagreed with them. The source of the information, and the information itself, used in generating budgets, play a major role in their acceptance by subordinates. Numerous empirical studies have tested the influence of using participative budgeting within organisations on subordinate behaviour. Multiple scholars have highlighted that budgeting is one of the activities that would be reflected in individuals' reactions (Heinle et al., 2014; Jermias & Yigit, 2013; Kramer & Hartmann, 2014; Milani, 1975). Some of those reactions provided significant support for the impact of participative budgeting (Argyris, 1952; Dunk, 1993a; Hofstede, 1967). On the other hand, other scholars did not reach the same conclusion (Cherrington & Cherrington, 1973; Hopwood, 1976).

Shields and Shields (1998) reported the results of a meta-analysis conducted by Greenberg et al. (1994) which shows that one of the reasons for conflicting research results is due to the different research methods. Another point is the weak theoretical background of most of the studies, that is, previous empirical studies did not have the same theoretical foundation Also, there are "empirical links between their assumed reason for why participative budgeting exists and their dependent variables" (Shields

& Shields, 1998:50). That is, mixed results were driven by the difference between economic, psychological and sociological aspects.

Furthermore, Cherrington and Cherrington (1973) argued that the increased productivity of subordinates does not necessary mean that it is a result of their participation in making decisions. Also, they indicated that previous empirical studies had contradictory results. Nevertheless, Coch and French Jr (1948) in an investigation of the impact of workers' participation in making decisions, revealed that, when subordinates participate in setting their own limits, their productivity increases (Cherrington & Cherrington, 1973).

A few scholars tried to replicate the previous work of Coch and French Jr (1948) in different settings, i.e. different cultures and different company sectors. However, they found no impact of usage of participation on the subordinates' productivity. Another point that has been highlighted by Cherrington and Cherrington (1973) is the amount of control that the subordinates exercise during the budgeting period. That is, "control varies in degrees from no control at one extreme, to complete control at the other extreme" (Cherrington & Cherrington, 1973:227). Etemadi et al. (2009) indicated that a number of researchers have investigated the impact of culture on different management accounting areas i.e. budgeting (Awasthi et al., 1998; Birnberg & Snodgrass, 1988; Chow et al., 1991; Van der Stede, 2003). Their findings show that cultural differences yielded different results.

The mixed results were also the result of different models of testing. For example, in some studies the direct impact of participative budgeting as an independent variable, to have a direct impact on both performance and satisfaction, as dependent variables, was tested. Such an approach can be regarded as the first

generation of empirical studies. The second generation of participative budgeting studies tested the impact of participative budgeting as an independent variable on both satisfaction and performance, as dependent variables, which is moderated, mediated, or anteceded, by other behavioural variables. The third generation included the different views of both the first and the second generations. In other words, those studies would consider how both an antecedent and moderator/mediator variables would impact the relationship of participative budgeting, as an independent variable, on performance and satisfaction, as dependent variables.

Based on the aforementioned classification of generations of participative budgeting, this study will follow the same categories as the previous literature. That is, the following section will start by introducing the first generation of empirical studies i.e. studies that looked at the direct relationship between participative budgeting, performance and satisfaction. After that, the following section will reflect the studies of the second generation, those that investigated the impact of participative budgeting as an indirect relationship, reflecting the impact of a moderator, mediator or antecedent. Lastly, are the studies that fell under the third generation of empirical studies, in other words, studies that investigated the impact of participative budgeting on subordinate behaviours, from the point of having antecedents, moderators and mediators.

2.8.1 First generation of participative budgeting studies:

Many researchers have concentrated on testing the impact of participative budgeting on employees' and managers' behaviours. Studies have shown that subordinates' behaviours are affected by budgeting (Yuen, 2007). Those studies have tested the effect of participative budgeting as a direct relationship with performance

or satisfaction. However, those studies did not agree on a single conclusion that justifies the argument raised by the studies.

One of the early pioneers who investigated the impact of the usage of participative budgeting was Argyris. Argyris (1952) was one of the first to test the impact of participative budgeting on performance in a direct relationship. His empirical study pointed out that firms' goals are more accepted when the subordinates take part in making the budgets (Cherrington & Cherrington, 1973). Furthermore, his study highlighted that budget pressure would unite subordinates against the management. Moreover, supervisors would use the budgets to express their pattern of leadership and participation in budgeting. Also, his empirical study pointed out that the usage of participative budgeting would be the upper management's decision and performance would be affected, if subordinates participated in setting budgets. Specifically, he found that participative budgeting impacts the subordinates' performance. Argyris emphasised that subordinates were not fully participating in the budget but only expressing their opinion.

Hofstede (1967) extended the previous study by conducting a field study in six manufacturing firms. He argued that there are dimensions that were not considered by Argyris that could impact on the results. Hofstede noted that the relationship is built on a two-way communication between subordinates and management (Hofstede, 1967), resulting in a positive and significant relationship between participative budgeting and performance. In other words, when participative budgeting increases, performance rises. Also, he argued that such participation would lead to higher pressure and low satisfaction when applied excessively. Furthermore, he argued that communication methods, such as departmental meetings, positively affect both performance and satisfaction. Agreeing with Argyris (1952), Hofstede (1967) added

that there are moderating factors, such as the leadership style, between participative budgeting and those variables which affected their relationship. Moreover, he indicated that pressure might be relieved by using upward communication (Briers & Hirst, 1990).

Furthermore, other empirical studies (Brownell & McInnes, 1986; Kenis, 1979; Milani, 1975) have investigated the impact of participative budgeting on performance as a direct relationship. Their studies showed that participative budgeting affects performance. Milani (1975) for example, argued that most of the previous studies had investigated the reaction of subordinates as a group. His study tested the impact of participative budgeting on foremen's performance and satisfaction. His study revealed that participative budgeting had an insignificant relationship with performance on the foremen in his study. Furthermore, most scholars have agreed that participative budgeting is a process where the individual has the power to influence the budget and, after setting it, individual behaviour would be directed towards accomplishing and meeting its needs (Chong & Johnson, 2007; Yuen, 2006). From another perspective, Kenis (1979) indicated that budgets serve firms not only as a mode of planning but also as a method of measuring performance. Based on a survey of 500 managers and supervisors around the east coast of the USA, he concluded that participating in budgeting had a significant impact on subordinate satisfaction.

Milani (1975) investigated the manufacturing plants of an international heavy equipment producer, and supervisors of the production line were selected to represent the plant's lower level of management. Milani argued that the inconsistency within the literature is caused by budget involvement. Milani's study highlighted that there is

an insignificant positive relationship between participative budgeting and performance, which contradicted the findings of previous studies i.e. Hofstede and Argyris. In other words, the expedient pathway, P-D, was used by Milani's (1975) study, which was carried out with the influence of previous literature.

Similarly, using an expectancy model, Brownell and McInnes (1986) studied the relationship of participative budgeting, budget performance and motivation, as a direct relationship. They argued that the goals of both the subordinates and the management have to be congruent since they are serving the same cause. Specifically, participation in budgeting would increase the level of performance of the subordinates. Furthermore, they argued that previous studies lacked the consistency in measuring performance, i.e. using a single measurement. For this reason, Brownell and McInnes (1986) employed the expectancy theory model, which was developed by House (1971). They found that participation significantly affects subordinates' performance.

Furthermore, Dunk (1993c) investigated this phenomenon from a different angle, being motivated by the fact that job satisfaction means not only to having a satisfactory feeling about one's job but also playing a part in the organisation's functions. Dunk conducted a survey among 30 British manufacturing firms, to investigate this relationship between participative budgeting and satisfaction involving two different levels of managers, to take into consideration the managerial level of the participants. Taking into consideration those different levels of management, Dunk (1993c) concluded that managerial level would play a role in feelings of satisfaction about their jobs. His empirical testing revealed that managers within the high level of management had feelings of satisfaction about their jobs when participating in budget setting. On the other hand, lower level managers did not have the same feelings as the higher level managers.

Further scholars took Dunk's approach and included different elements that would help in understanding the true impact of participation. Looking at the impact of the usage of participative budgeting from a new angle, Douglas et al. (2007) investigated the impact of ethical positions and culture on participative budgeting . They referred to the suggestion of Hofstede et al. (1991) that different cultures would have an impact on the behaviours of the employees. Their empirical study had viewed the dilemma of participative budgeting within the Egyptian context. Previously, Frucot and Shearon (1991) had investigated the impact of participative budgeting within the Mexican culture. Their empirical results indicated that there was no significant impact of the usage of participative budgeting on Mexican managers' job satisfaction. Furthermore, they employed the locus of control and different dimensions to provide them with the ability to contrast between the different cultures. However, their results did not indicate any significant difference between the two cultures. As a result, and due to the relatively very limited empirical studies that were conducted within different cultures, Douglas et al. (2007) considered that the Egyptian culture would provide more information about the true impact of participative budgeting. Indeed, their empirical study results indicated that Egyptian managers working within US firms operating in Egypt were more relativistic when compared with other managers working only for Egyptian companies. Moreover, those working for US firms in Egypt had greater opportunities to participate in the budgeting process, than those working in Egyptian firms. Those results clearly indicated that, when firms operate within different cultures, it is up to the firm's management to allow and carry the firm's culture forward and pass it on to their subordinates.

However, Carroll and Tosi (1973) indicated that their results did not show any evidence of the impact of participation on satisfaction, which contradicts the results

highlighted by Cherrington and Cherrington (1973). Further, their empirical testing suggested that the true effect of participation on satisfaction is controlled by the perceived legitimacy of participation in making decisions being spread through the firm. In the same vein, Milani (1975) within the heavy equipment industry, found a non-significant, weak relationship, between participative budgeting and the performance.

Table 6 summarises different studies within the literature that studied the relationship of participative budgeting from a two dimensional perspective. Those studies show the inconsistency of findings on the impact of participative budgeting. Some studies indicate that participative budgeting affects subordinates' behaviour, while others find no effect on behaviours. In conclusion, many studies have investigated the effects of participative budgeting on subordinates' performance and satisfaction as a direct relationship. Yet, the evidence is inconclusive about the impact of the usage of participative budgeting within different firms.

Table 6: First generation studies of participative budgeting:

Author	Variables				Findings
	Antecedent	Independent	Moderators Mediators	Dependent	
Argyris (1952)	=	PB	=	PER & MOT	Significant Positive relationship
Hofstede (1967)	=	PB	=	MOT, SAT & PER	Significant positive relationship with MOT, SAT & PER
Cherrington and Cherrington (1973)	=	PB & Budget Based Incentive	=	PER and SAT	Significant positive relationship with incentives on PER and SAT
Carroll and Tosi (1973)	=	PB	=	SAT	Insignificant negative relationship with SAT.
Onsi (1973)	=	PB	=	Slack	Significant negative relationship with slack
Milani (1975)	=	PB	=	Attitude & PER	Significant positive relationship with Attitude. Insignificant relationship with PER.
Hopwood (1976)	=	PB	=	PER	Insignificant relationship with PER
Searfoss (1976)	=	PB	=	MOT	Significant relationship with MOT
Kenis (1979)	=	PB	=	Job Related Tension, Attitude, MOT & PER	A significant relationship with MOT, PER and Attitude. Negative relationship with Job-related tension.
Brownell and McInnes (1986)	=	PB	=	MOT & PER.	Significant positive relationship with MOT and PER
Chenhall and Brownell (1988)	=	PB	=	Role Ambiguity	Significant negative relationship with Role Ambiguity

Dunk (1993b)	=	PB, Information Asymmetry, Budget Emphasis	=	Budget Slack	Significant relationship between PB and budget slack, and information Asymmetry and Budget Emphasis
Shields and Young (1993)	=	Participation	=	Budget Based Incentives	Significant positive relationship with budget based incentives
Subramaniam and Lokman (2001)	=	PB Emphasis, Managers Work Values	=	Organisational Commitment	Significant relationship of budget emphasis with managers' work values on organisational commitment
Douglas et al. (2007)	=	Ethical position& Culture	=	PB	There is a significant relationship between Culture and PB

2.8.2 Second generation of participative budgeting studies:

Following the previous pioneers in the field of participative budgeting impact on subordinates' behaviours, the second generation scholars investigated the true impact of the usage of participative budgeting from a new angle, proposing that there are moderators, mediators, or antecedents, which modify the relationship between participation in budgeting and performance and satisfaction. Many studies have considered such factors, in an attempt to explain the inconsistency within the literature (Table 7).

Following the seminal studies (Argyris, 1952; Becker & Green, 1962; Cherrington & Cherrington, 1973) Brownell (1981) proposed that the locus of control would moderate the relationship of participative budgeting and performance. He claimed that internals, individuals who have control over their future, would favour and perform better in self-controlled circumstances, whereas externals, individuals who do not have control over their future, would prefer to work under controlled circumstances. More specifically, his laboratory study found that individual internal personalities will moderate the relationship between participative budgeting and performance. On the other hand, Brownell highlighted that participative budgeting has a negative impact on externals (Brownell, 1981). Moreover, Brownell (1981) demonstrated that the framing of participative budgeting in the individual's perception would be influenced by their judgement, as having an internal or external personality which, in turn, would impact on their final decision regarding their performance.

In order to extend his previous study, Brownell (1982a) investigated the moderating effects of locus of control variables on the relationship between participative budgeting and performance and satisfaction among 48 middle level managers. His study confirmed that locus of control is a moderator variable between

participative budgeting and satisfaction but does not moderate the relationship of participation with performance. The results indicated that participative budgeting is the most effective method for individuals with an internal, according to the locus of control theory. Another point is that, in this study, satisfaction was strongly confirmed to have a significant impact under the locus of control.

Further, Brownell (1983a) argued that there are important factors which had been indicated by Argyris (1952) that had not yet been addressed. Those factors were the impact of the leadership style and the extent of the participation (Brownell, 1983a). Brownell considered that the leadership style would impact on the subordinates' behaviour. The empirical investigation revealed that a considerate leadership style would have a strong positive impact on managerial performance when having high levels of budgetary participation. Furthermore, under a certain leadership style, the participative budgeting process would have a strong and positive impact on performance. When he tested for the impact of leadership style on satisfaction, the empirical study reported that, when the leadership style is high on consideration, there would be a strongly favourable impact, regardless of the level of participation in the budgeting process (Brownell, 1983a).

In the same vein, Brownell and McInnes (1986) highlighted that motivation would moderate the relationship between participative budgeting and subordinates' performance, among middle-level managers. Their empirical study of three manufacturing companies indicated that motivation would have a strong and positive relationship. However, there was no relationship between participation in budget setting and motivation. They added, "The indication of significant favourable effects of participation on managerial performance, which are not mediated by motivation, justifies further research" (Brownell & McInnes, 1986:122). Again, their empirical

investigation has revealed that participation was positively related to participation in a direct relationship.

In an investigation into the moderating variables that impact on the relationship between participative budgeting and satisfaction, Chenhall (1986) claimed that the inconsistency within the literature is due to examining the personality of the participants, whilst ignoring the impact of leadership style. He argued that participative budgeting relationship with satisfaction is influenced by the style of leadership used by the top management. Also, he asserted that, instead of studying the impact on an individual, it is important to investigate the impact on both parties associated within this relationship, i.e. the subordinates and the management (Chenhall, 1986; Terhune, 1970). His findings were in line with previous empirical studies (Argyris, 1952; Kenis, 1979). However, this study neglected significant variables that impact on personality and situational variables, such as culture and locus of control.

Furthermore, Mia (1987) examined the relationship between participative budgeting and performance, with both attitude and locus of control as moderating variables. This study adopted the contingency theory, in order to evaluate participative budgeting effectiveness. Mia highlighted that when a subordinate, who is motivated and has a positive attitude, participates in budget setting, it will have a favourable, positive, impact on performance. On the other hand, if subordinates are not motivated and have a negative attitude, participative budgeting will unfavourably impact on performance. This study resembles the revisionist pathway, I-P-D, within the Throughput model; this will be introduced in Chapter 4. This pathway would reflect the influence of information together with perception, to impact on the decision made. Moreover, Mia (1988) investigated how the impact of information collected prior to

the perception of participative budgeting would impact on the decision made, the subordinates' motivation.

Following her previous work, Mia (1989) continued investigating the true impact of participative budgeting from a new angle. Her empirical study involved mid-level managers from different sectors. The study considered job difficulties with participative budgeting to have an influence on the performance of management. His empirical results revealed that, when the level of participation and the job difficulty were proportionate, the level of performance was high. In other words, the level of participative budgeting and the job difficulty are highly related. Also, Mia's study revealed that participation in the budgeting process would result in an improvement in managerial performance showing, a significant relationship (Mia, 1989). On the other hand, when having a low perceived job difficulty, managers' performance would be unlikely to be impacted on by their participation (Mia, 1989).

In another study, Libby (1999) investigated the impact of budget participation from the angle of the organisational justice theory. Within her empirical study, Libby indicated that a fair budgeting process would have two components. First, it would include involvement of the subordinates within the budgeting process (voice). The second component is the ability to communicate the reasons for the final budget figures (explanation). Libby's empirical investigation revealed that there would be significant improvements in performance when those two components were combined in the performance of the subordinates (Libby, 1999).

Continuing with their previous work, Brownell and Dunk (1991) challenged the previous work of Brownell and Hirst (1986) they re-examined how the budgeting participation and budget emphasis would impact on the performance of the

subordinates, in the present of task uncertainty. "Participation may serve a critical purpose, whether the budget emphasis is matched with it or not. Specifically, participation may provide the opportunity for managers to gain access to resources, which can be used to buffer task performance from the unanticipated effects of others and to introduce new and better means to address tasks" (Brownell & Hirst, 1986:242).

From another perspective, Chong et al. (2005b) investigated the relationship of participative budgeting and performance in the terms of the cognitive participation in budget setting. The scholars investigated the impact of participative budgeting on performance, with job relevant information and job satisfaction as mediators (Chong et al., 2005b). They highlighted that their study was an extension to Kren's (1992a) study, which used a cognitive model that incorporated job satisfaction. They argued that when subordinates participate in setting and generating the budgets, it will result in better job performance. In other words, "participation in the budget-setting process will help managers attain values and that, subsequently, such value attainment of budgetary participation will manifest itself as higher job satisfaction which, in turn, enhances job performance" (Chong et al., 2005a:215). Their empirical results indicated that participative budgeting has a significant impact on performance, through role ambiguity, organisational commitment and job satisfaction, as moderating variables. Thus, their results show that the relationship between participative budgeting and performance is indirect

Looking at the impact of the usage of participative budgeting from a new angle, Chong et al. (2005b) investigated the impact of the intensity of market competition on the performance of subordinates who participated in making the budgets. The scholars conducted their investigation in financial service institutes, as a new environment, in which to conduct such a study. They commented that "Intensity of market competition

has been identified as a major reason for service organisations, such as those in the financial services sector, to choose a customer-focused strategy for gaining a competitive edge" (Chong et al., 2005b:116). Their empirical findings indicated that, in a high competitive market, the relationship between participative budgeting and both performance and satisfaction would be positive.

Moreover, Kren (1992a) investigated the impact of the usage of participation budgeting among 500 profit centres and managers of listed manufacturing firms. The results of the empirical testing revealed that participation in the budgeting process can facilitate the usage of the job-related information. Also, the scholar argued that, when managers participate, they have the opportunity to have an influence on the budget during the process of its finalisation. In Kren's view, participative budgeting would create an encouraging environment, to use and share the relevant information, the usage of job-related information (Kren, 1992a). The study also indicated that there is a significant relationship between budgetary participation and managerial performance. In other words, there is an indirect impact whereby, when the firms use participation in budget-making, there is an increase in job-related information sharing, which is positively linked to performance (Kren, 1992a).

Chong and Johnson (2007) empirically investigated the impact of an antecedent on job performance. They argued that task exception and task analyzability would act as antecedents to participative budgeting and impact on the subordinates' performance. They argued that previous scholars had found that, when subordinates participate in budgeting, their performance would have an impact on either an increase in the commitment to reach the budget goal or on sharing internal information with other members in the firm, i.e. during budget setting. Further, they argued that "task exceptions refer to 'the frequency of unexpected and novel events that occur in the

conversion process', while task analyzability refers to 'the extent to which work can be reduced to programmable mechanical steps'" (Withey et al., 1983:46). Budgetary participation, on the other hand, is defined as "a process in which individuals, whose performance will be evaluated, will possibly be rewarded, on the basis of their achievement of budgeted targets they are involved in, and have influence on the setting of these targets"(Chong & Johnson, 2007:4). After investigating and surveying 135 middle level managers from manufacturing firms in Australia, Chong and Johnson's empirical results indicated that the cognitive impact of the participation in budgeting enhances subordinates to share and exchange information and knowledge that is related to their jobs (Chong & Johnson, 2007).

Successive scholars have followed the same route of finding the true impact of participative budgeting on subordinate behaviours. Carrying on from the previous literature, (Chong and Chong, 2002; Chong and Johnson, 2007; Dunk, 1995b; Nouri et al., 1995; Libby, 1999 Frucot and White, 2006) they investigated the implementation of participative budgeting in second generation studies, and indicated overall that participative budgeting has a significant positive impact on performance of the subordinates.

On the other hand, Brownell and Hirst (1986) found no significant impact of participative budgeting on the performance. They tried to replicate the studies of both Brownell (1982c) and Hirst (1983), to reconcile their conflicting results. They argued that their objective was to assess the previous empirical study by Brownell and add an independent variable, the level of task uncertainty, which was used in the Hirst previous empirical study. More specifically, the arguments presented contradict their previous results (Brownell & Hirst, 1986). For example, "Brownell's result is more likely to occur in cases in which task uncertainty is low. The essence of the argument

is that, in low task uncertainty situations, participation should be matched with budget emphasis. That is, low participation should accompany low budget emphasis and vice versa" (Brownell & Hirst, 1986:242). Their findings highlighted that, when having performance as a dependent variable, participation and task uncertainty will not have a relationship with performance. That is, "when performance is the dependent variable, neither this three-way interaction nor the two-way interaction found by Brownell, was confirmed" (Brownell & Hirst, 1986:242).

Moreover, Lindquist (1995) investigated the association of distributive justice and procedural justice with participative budgeting relationship with performance. His study argued that fairness of standards (distributive justice), and the fairness of the procedures implemented to develop an effective standard (procedural justice), will impact on the level of participation of the subordinates.

In Table 7, there is a list of the different studies within the literature that have studied the impact of participative budgeting within the second generation of scholars. Those empirical studies indicated earlier investigated the impact of participative budgeting from a viewpoint that considered the relationship to involve other external factors. That is, the impact of the participative budgeting would be influenced by either a moderation factor, which would moderate the relationship, i.e. have an influence on either performance or satisfaction or, mediator factors would sway the relationship of participative budgeting and performance and satisfaction. In addition, such an external factor might have an antecedent impact on the relationship. Furthermore, the results of those previous scholars revealed that there is inconsistency in finding on the effects of participative budgeting. Some of those studies indicate that participative budgeting affects the behaviour of subordinates, whereas other studies provide no evidence that it affects their behaviours.

In conclusion, adding either a moderator or an antecedent to the relationship between the participative budgeting and the subordinates' performance and satisfaction did not clarify the inconclusive results about the usage of participative budgeting within firms.

Table 7: Second generation studies of participative budgeting

Author	Variables				Findings
	Antecedent	Independent	Moderators /Mediators	Dependent	
Brownell (1981)	=	Budget Participation	Locus of Control	PER	Significant positive relationship with (Personality Variables) locus of control on PER
Brownell (1982a)	=	Participation	Locus of Control	PER & SAT	Insignificant relationship on SAT via locus of control. Insignificant relationship between participation and PER via locus of control
(Brownell, 1983a)	=	Leadership Style	Participation	PER & SAT	Significant relationship with Performance and satisfaction, when participation is high
Brownell and Hirst (1986)	=	Task Uncertainty & Budget Emphasis	Participation	PER and Job related tension	Insignificant relationship of both budget emphasis and task uncertainty on PER and job related tension.
Chenhall (1986)	=	Participation	Authoritarian Dyad	SAT	Significant positive interaction participation with Authoritarian Dyad in SAT
Govindarajan (1986)	=	Participation	Environmental Uncertainty	Attitude, PER, Propensity to create slack	Significant relationship via Environmental Uncertainty on PER, Attitude and propensity to create slack

Mia (1987)	Task Difficulty & Locus of Control	Participation	=	Attitude	Significant positive relationship with Attitude
Mia (1988)	=	Participation	Attitude & MOT	PER	Significant relationship via Attitude on PER. Significant relationship via MOT on PER
Chalos and Haka (1989)	=	Participation	State Information & Skill	PER	Insignificant with Skill on PER. Significant interaction with State Information
Dunk (1989)	=	Budget Emphasis	Participation	PER	Significant relationship of budget emphasis via participation on PER.
Mia (1989)	=	Participation	Job Difficulty	MOT PER	Significant relationship via Job difficulty on PER
Brownell and Merchant (1990)	=	Participation	Product Standardisation	PER	Significant Interaction via Product standardisation on PER.
Brownell and Dunk (1991)	=	Task Uncertainty, Task Difficulty, Task Variability and Budget Emphasis	Participation	PER	Significant relationship between Budget emphasis and Task uncertainty on PER via participation. Significant relationship with Budget Emphasis and Task difficulty on PER via Participation.
Frucot and Shearon (1991)	=	Participation	Locus of Control	PER &SAT	Significant positive relationship with SAT, significant relationship via locus of control on PER

Dunk (1992)	=	Participation	Managerial Level	SAT	Significant relationship via Managerial Level on SAT
Harrison (1992)	=	Budget Emphasis	Participation & National Culture	Job-Related tension, SAT	Significant relationship between budgeting emphasise and Job-related tension. Insignificant relationship between Budget emphasis and SAT
Kren (1992a)	=	Participation	Environmental Volatility	Job Relevant information	Significant positive relationship between participation and Job relevant Information
Kren (1992b)	=	Participation	Locus of Control	Effort& PER	Significant relationship via locus of control on PER.
Dunk (1995b)	=	Participation	Manager interest in innovation	Departmental PER	significant relationship of participation via Interest in innovation on departmental PER
Gul et al. (1995)	=	Participation	Decentralisation	PER	Significant relationship of participation via decentralisation on PER
Lindquist (1995)	=	Participation	Budget Attainability	PER & SAT	Insignificant relationship via budget attainability on PER, significant interaction with budget attainability on SAT
Nouri et al. (1995)	=	Participation	Socially Desirable Responding	PER	Significant relationship via socially desirable responding on PER.
Nouri and Parker (1996)	=	Participation	Organisational Commitment	Budget Slack	Significant relationship via Organisational Commitment on Budget slack

Alam (1997)	=	Uncertainty budgeting	task environment	Budgeting process	Significant relationship via Budgeting Process.
Nouri and Parker (1998)	=	Participation	Budget Adequacy, organisational commitment	PER	Significant relationship via Budget adequacy and Organisational Commitment on PER
Libby (1999)	=	Participation	Voice& explanation	PER	Significant improvement in PER when both Voice and Explanation are used
Subramaniam and Lokman (2001)	=	Participation & Decentralisation Structure	Managers Value orientation towards innovation	Organisational Commitment	Significant relationship via Manager's value orientation towards Innovation on Organisational Commitment
Subramaniam and Ashkanasy (2001)	=	Participation	Managers perception of organisational culture	Managerial job related outcomes (PER & Job related Tension)	Significant relationship via Managers' perception of organisational cultural on PER
Chong and Chong (2002)	=	Participation	Budget goal commitment, job relevant information	PER	Significant relationship via Budget goal commitment and Job relevant information on PER.
Lau and Lim (2002)	=	Procedural Justice	Participation	PER	Significant relationship of Procedural justice on PER, via participation
Chong et al. (2005a)		PB	Job relevant information and Job Satisfaction	Job performance	Significant relationship between PB and both Job relevant information and job satisfaction. Also significant relationship between both of

					the job relevant information and job satisfaction and job performance.
Chong et al. (2006)	=	PB	role ambiguity, organisational commitment & SAT	Job PER	PB has a direct relationship with Job PER. The objective of this study was to test three mechanisms (i.e., Cognitive, Motivational and Value attainment) by which PB influences subordinates' job PER.
Frucot and White (2006)	=	PB	Managerial Level	Managerial PER and SAT	There is a positive relationship of PB and managerial level on Job PER and SAT.
Chong and Johnson (2007)	=	Participation	Budget goal level, Job relevant information, Budget goal commitment and Budget goal acceptance	PER	Significant relationship of performance via Budget goal level, job relevant information, Budget goal commitment and Budget goal acceptance on PER.
Yuen (2007)	Sense of Achievement and Positive work attitude	PB	=	Job PER	Significant impact of both Antecedents on PB. Significant indirect relationship of the Antecedents and PB on Job PER
Byrne and Damon (2008)		Participation	Voice& explanation	PER	Significant impact on PER via main explanation and non-significant to Voice explanation.

Dow et al. (2012)	=	Situational Participation	Intrinsic Involvement & Influence	MOT & SAT	Situational Participation has significant impact on MOT and SAT with intrinsic involvement as a moderating variable. However, Influence has no significant relationship with MOT
Heinle et al. (2013)		Top down and PB	Economic merits	The flow of private information	In PB there is an incentive for managers to misreport favourable information

2.8.3 Third generation of participative budgeting studies:

The previous section has reviewed most of the previous empirical investigations of the impact of the use of participative budgeting on subordinate behaviours, i.e. performance and satisfaction. A few studies have viewed this dilemma from a unique angle. This generation of scholars have investigated the impact of participative budgeting from the perspective that this relationship reflects the impact of both antecedent and moderator/mediator factors. Those empirical studies are listed in Table 8 below.

This generation of scholars started with Brown et al. (2009). In their empirical study, they argued that the agency theory plays an important role in this relationship. For this reason, they analysed the previous literature on participative budgeting studies, in order to see if the findings were as predicted by the agency theory. Also, they argued that agency theory is widely used in the area of management accounting and it provides a benchmark for other investigations. Furthermore, the scholars highlighted that "modifications to agency theory may be warranted, when the following three conditions are met: (1) empirical evidence contradicts the theory, (2) such evidence is replicated in subsequent studies and (3) the magnitude of the deviation is economically significant" (Brown et al., 2009:318). They asserted the need for a theory that covers both the economic and the behavioural points of view. In their investigations, they, therefore, claimed to make a major addition and contribution to developing theory and argued that future research and researchers showed on implement the agency theory, rather than avoiding it. As a result of their investigation they argued, "We believe that, as the most general and well-developed source of existing theory in the managerial accounting literature, agency theory provides the most appropriate benchmark for our analysis" (Brown et al., 2009:339).

Furthermore, Jermias and Yigit (2013) studied the impact of participative budgeting within a developing country. They argued that previous inconsistent results on the impact of participative budgeting on subordinates' behaviours were due to the incomplete picture of the relationship (Shields & Young, 1993). Furthermore, they highlighted that participation in budgeting would lead to better satisfaction levels and better performance of subordinates. This is because such participation would make the subordinates perceive that they are a valuable addition, and therefore partners in reaching the final budget (Jermias & Yigit, 2013). They indicated that subordinates' level of information asymmetry is an antecedent to the relationship of participative budgeting with performance and satisfaction, which is moderated by role ambiguity and goal commitment. Their findings revealed that both role ambiguity and goal commitment mediate the relationship between participative budgeting and satisfaction and performance. "On the other hand, the mediating effect of goal commitment on the relationship between budgetary participation and performance is not statistically significant. We also cannot find any evidence that information asymmetry is an antecedent for budgetary participation" (Jermias & Yigit, 2013:46).

In the same vein, Chong and Johnson (2007) tested the impact of participative budgeting within a four-dimension view. This study extended the study of Chong and Chong (2002), which explored the impact of participative budgeting in three dimensions, by proposing that task uncertainty would be an antecedent of participative budgeting. Chong and Johnson (2007) study found that task uncertainty plays an important role as an antecedent of participative budgeting and has a significant impact on job performance. They argued that the more uncertain the task is, the greater the need to participate in budgeting which, in turn, would increase performance.

Recently, Derfuss (2015a; 2015b) further investigated the previous literature related to the participative budgeting impact on subordinates' behaviours, in areas such as performance and satisfaction. Table 8 summarises the different studies that investigated the effects of participative budgeting on the subordinates, from the third generation point of view. Those studies revealed the inconsistency of the findings within the literature. Some studies found a significant relationship between participative budgeting and subordinates' behaviour, whereas other studies found no effects on behaviour.

Table 8: Third generation studies of participative budgeting

Author	Variables				Findings
	Antecedent	Independent	Moderators	Dependent	
Chong and Johnson (2007)	Task analyzability and Task exceptions	PB	Job relevant information, Goal level, goal commitment and goal acceptance	Job related PER	Both task exceptions and analysability impact on PB as antecedents. PB has a significant relationship with PER, through the Moderating variables.
Brown et al. (2009)	Participation	Inventive structure & OR Information environment	Agency theory & Competing Behaviour	Employees reporting and production decisions	Many of the studies are in line with the agency theory's predictions. However, some studies have different predictions e.g. Young's (1985)
Jermias and Yigit (2013)	Information Asymmetry	Budget Participation	Goal commitment & Role ambiguity.	SAT & PER	Insignificant relationship of PB and Goal Commitment with PER and SAT. Significant relationship of PB and Role Ambiguity on PER and SAT.

2.9 Conclusion:

This chapter has highlighted the different generations of scholars within the management accounting area, more specifically, the impact of budgeting on subordinates' behaviour. Those studies reflect the high demand for understanding the true impact of allowing subordinates to participate in making their own budgets. The reason for having different generations that investigated the impact of the participative budget is that there have been mixed results on the impacts on subordinates' behaviours. Indeed, such results highlight the need to investigate this phenomenon further.

Furthermore, those different generations reflect different schools of thought on the impact on the subordinates' behaviours, of participation in making decisions about budgets. Cleveland (1907) was a pioneer in reflecting on the usage of participation budgeting. After his study, scholars started to investigate the impact of using participative budgeting. The three different generations had their unique views as to the true impact of PB implementation.

The first generation started with Argyris (1952), who investigated the impact of the usage of participative budgeting as having a direct relationship on performance and motivation. Following the same strategy, Hofstede (1967) further investigated participative budgeting, considering more variables, such as performance and satisfaction. Both scholars reached the same conclusion that participative budgeting has a significant positive impact. However, Carroll and Tosi (1973) found no positive relationships between participative budgeting and performance and satisfaction. This inconsistency motivated different scholars to continue investigating this dilemma (Brownell & McInnes, 1986; Chenhall & Brownell, 1988; Cherrington & Cherrington, 1973; Dunk, 1993c; Hopwood, 1976; Kenis, 1979; Milani, 1975; Onsi, 1973)

The second generation started to investigate this dilemma by proposing either an antecedent, moderator or mediator, in the relationship. They carried on from previous scholars on the investigation of the true impact of participative budgeting. As a result, scholars such as Brownell (1981; 1982a; 1982b; 1983b), Brownell and McInnes (1986) Brownell and Hirst (1986), Mia (1988), Dunk (1989) and Nouri and Parker (1998) investigated the possible impact of a moderator or mediator variables making the relationship of participative budgeting performance and satisfaction as an indirect relationship. Those scholars' empirical tests ranged from having the locus of control as a mediator of the relationship between participative budgeting and performance and satisfaction to proposing another behavioural factor as having an important impact on the relationship. Their results also revealed that there was a significant positive relationship between the implementation of participative budgeting and subordinates' behaviours, such as performance and satisfaction On the other hand, other empirical investigations carried out by other scholars, such as Lindquist (1995), Brownell and Hirst (1986) and Tiller (1983) found no significant relationship between the implementation of participative budgeting and subordinate's behaviours.

The third generation of scholars have investigated the relationship as an indirect one, having both antecedent and moderator/ mediator variables. This generation of studies began with Chong and Johnson (2007) and Brown et al. (2009). Those scholars found a significant relationship between implementation of participative budgeting and subordinates' behaviours. However, Jermias and Yigit (2013) did not reach the same conclusion as the previous scholars.

After highlighting the generations of scholars that have investigated the impact of participative budgeting on the subordinates behaviours, it is very clear that there is

still inconsistency in the results. The next chapter will introduce the social capital factor and its different dimensions.

Chapter 3. Social Capital Background.

Table: 9: Position of the current chapter within the research.

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

3.1 Introduction:

Social capital is one of the concepts most successfully exported from sociology to social sciences over recent years. This concept of social capital has been employed in numerous different disciplines within the social sciences, such as in sociology, psychology, political sciences, economy, management, marketing and business studies (Adler & Kwon, 2002; Berggren & Jordahl, 2006; Chou, 2006; Coleman, 1988; Cooke, 2007; Hoffman et al., 2005; Inkeles, 2000; Inkpen & Tsang, 2005; Jacobs, 1961; Les Tien-Shang & Badri Munir, 2007; Nahapiet & Ghoshal, 1998; Tansley & Newell, 2007; Tokman et al., 2007; Tsai, 2007; Warde et al., 2005; Watson & Papamarcos, 2002; Woolcock, 1998).

Indeed, the concept of social capital is gaining more notice among researchers. More scholars are attracted to this new concept, in order to indicate its effects on the individual's different behaviours (Adler & Kwon, 2000; Burt, 1992; 1997a; Burt, 2000; Cuevas-Rodríguez et al., 2014). Adler and Kwon (2002) have indicated that different behavioural researchers have increased their interest in social capital. In

addition, scholars have conceptualised social capital as a set of social resource networks, which are embedded in individuals' relationships (Tsai & Ghoshal, 1998). Other researchers have indicated that, as a concept, social capital is not limited to just the relationships that individuals have; it also includes the norms and values that are associated with them (Coleman, 1990; Portes & Sensenbrenner, 1993; Putnam, 1995; Tsai & Ghoshal, 1998).

Moreover, those researchers have investigated the impact of social capital, in order to assist them to further understand different phenomena in areas such as career success (Burt, 1992), interunit resource exchange (Tsai & Ghoshal, 1998), relationships with suppliers (Baker, 1990) and intellectual capital (Nahapiet & Ghoshal, 1998). In addition, the internet has played a major role in making social capital very dominant, by empowering individuals to communicate easily with other individuals and to discuss and examine different interests in the online realm (Lee & Lee, 2010). In other words, individuals will be able to have more opportunities to network with other individuals, through web applications and online communication (Ellison et al., 2007). Thus, social capital as a concept lends itself to a variety of definitions and interpretations, which reflect different perspectives. Kogut and Zander (1996) cited in Nahapiet and Ghoshal (1998:245) have also indicated "that a firm be understood as a social community, specialising in the speed and efficiency of the creation and transfer of knowledge".

This wide range of application of social capital has created confusion regarding its true meaning and dimensions. In order to give a clear view about social capital and its different dimensions, this chapter will review the social capital literature in depth. The chapter is organised as follows. First, it starts with the different definitions of

social capital. Following that, the different dimensions of social capital, relational, structural and cognitive, will be highlighted. Table 10 illustrates the topics covered in this chapter

Table 10: Chapter Three Structure.

3.1	Introduction
3.2	Social Capital Definitions
3.3	Social Capital Features
3.4	Social Capital Dimensions
3.5	Conclusion

3.2 Social Capital Definitions:

Many researchers have considered that social capital is a buzz word (Lappe & Du Bois, 1997; Narayan & Pritchett, 1999). That is, social capital is "a wonderfully elastic term" (Lappe & Du Bois, 1997:119). that, it means "many things to many people" (Narayan & Pritchett, 1999:872). Adler and Kwon (2000) have indicated that, over the past years, many social scientists have provided definitions of social capital. For example, Coleman (1988) argued that social capital is developed over time, to formulate a structure for individuals with common interest or purpose (Sandefur & Laumann, 1998). Other scholars have introduced social capital as the goodwill that is available for individuals or groups. The concept of goodwill is defined as "a kind, helpful, or friendly, feeling or attitude" (Seok-Woo & Adler, 2014:412).

Depending on the primary focus of its substance, source and effect, social capital scholars' views have been divided into three different perspectives that differentiate the source of social capital. Those perspectives reflect scholars' different views of the real world. The most essential element here is individuals, who are the main factor in formulating those different views of the social capital concept. Knowing this, the different views of those individuals reflect the following views of social

capital. The first view is the internal view, which indicates the relationships that individuals have within a specific boundary, i.e. a unit, a community, a department, or a firm. The second view is the external view, which is the individual's relationship with a different unit, community, department or firm. The third view is a mixture of the previously indicated views (Adler & Kwon, 2000; 2002).

Adler and Kwon (2000; 2002) have summarised the different definitions of social capital and divided them according to their sources, based on the above typology, see Table 11.

Table 11: Definitions of Social Capital

External versus Internal	**Authors**	**Definitions of Social Capital**
External	Baker	"a resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors" (1990: 619).
	Belliveau, O'Reilly, &Wade	"an individual's personal network and elite institutional affiliations" (1996: 1572).
	Bourdieu	"the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised

		relationships of mutual acquaintance or recognition" (1985: 248). "made up of social obligations ('connections'), which is convertible, in certain conditions, into economic capital and may be institutionalised in the form of a title of nobility" (1985:243).
	Bourdieu& Wacquant	"the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition" (1992: 119).
	Boxman, De Graaf, &Flap	"the number of people who can be expected to provide support and the resources those people have at their disposal" (1991: 52).
	Burt	"friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital" (1992: 9). "the brokerage opportunities in a network" (1997b: 355).
	Knoke	"the process by which social actors create and mobilise their network connections within and

		between organisations to gain access to other social actors' resources" (1999: 18).
	Portes	"the ability of actors to secure benefits by virtue of membership in social networks or other social structures" (2000: 6).
Internal	Brehm&Rahn	"the web of cooperative relationships between citizens that facilitate resolution of collective action problems" (1997: 999).
	Coleman	"Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure." (1990: 302).
	Fukuyama	"the ability of people to work together for common purposes in groups and organisations" (1995:10). "Social capital can be defined simply as the existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them" (1997).

	Inglehart	"a culture of trust and tolerance, in which extensive networks of voluntary associations emerge" (1997: 188).
	Portes& Sensenbrenner	"those expectations for action within a collectively that affect the economic goals and goal seeking behaviour of its members, even if these expectations are not oriented toward the economic sphere" (1993: 1323).
	Putnam	"features of social organisation such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (1995: 67).
	Thomas	"those voluntary means and processes developed within civil society which promote development for the collective whole" (1996: 11).
Both	Loury	"naturally occurring social relationships among persons which promote or assist the acquisition of skills and traits valued in the marketplace... an asset which may be as significant as financial bequests in accounting for the maintenance of inequality in our society" (1992: 100).
	Nahapiet& Ghoshal	"the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an

		individual or social unit. Social capital thus comprises both the network and the assets that may be mobilised through that network" (1998: 243).
	Pennar	"the web of social relationships that influences individual behaviour and thereby affects economic growth" (1997: 154).
	Schiff	"the set of elements of the social structure that affects relations among people and are inputs or arguments of the production and/or utility function" (1992: 160).
	Woolcock	"the information, trust, and norms of reciprocity inhering in one's social networks" (1998: 153).

Source: Adler and Kwon (2002)

Furthermore, Hanifan (1916) has also "identified social capital as goodwill, fellowship, mutual sympathy, and social intercourse, among a group of individuals and families who make up a social unit (Aldrich & Meyer, 2014)". Among the scholars who produce a systematic analysis of social capital is Pierre Buodieu (Portes, 2000). Boudieu (1985:245) defined social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition."

Meanwhile, Maurer and Ebers (2006) have indicated that social capital is an asset that has a significant value for individuals and that it is available through relational networks. Also, social capital would enable and increase the accessibility of

information and resources within those relational networks (Maurer & Ebers, 2006). Moreover, Inkpen and Tsang (2005:150) have indicated that social capital is "the aggregate of resources embedded within, available through, and derived from, the network of relationships possessed by an individual or organisation, a definition that accommodates both the private and public good perspectives of social capital". Other scholars, such as Lin (2002) have visualised the concept of social capital from an economic point of view, Lin indicates that the social capital concept is more like the general term, 'capital', which is "an investment of resources with expected return in the market place" (Lin, 2002:6).

Similarly, Nahapiet (2008), in an effort to explain social capital and its theoretical background, makes the point that social capital reflects a resource-based perspective. That is, the different connections and interactions between individuals would grant them access to various resources related to their common interests. However, other perspectives have been taken on networking and trust, that were not under the concept of social capital. For example, Burt (1992) introduced the idea of "structural holes" and used it in explaining non-redundant relationships. "A structural hole is a relationship of non-redundancy between two contacts. The hole is a buffer, like an insulator in an electric circuit. As a result of the hole between them, the two contacts provide network benefits, that are in some degree additive rather than overlapping" (Burt, 1992:65).

Basically, social capital acts as a resource for information that is generated from the networks of social ties that are developed by the trust exchanged between the different network members (Coleman, 1990). Furthermore, social capital, according to Nahapiet and Ghoshal (1998), can be expressed as the available resources within the personal and business network. Those sources of information are affected by their

shared history, independence level and frequent interactions (Nahapiet & Ghoshal, 1998; Nohria & Eccles, 1992; Wasko & Faraj, 2005).

Furthermore, there are different forms of social ties within social capital that impact on the relationships between individuals who contribute in reaching the network goals (Nahapiet & Ghoshal, 1998). Those different social ties reflect a set of informal values and shared norms among the social network members (Coleman, 1990; Nahapiet & Ghoshal, 1998; Putnam, 1995; Woolcock, 1998). These different connections are developed through the availability of trust, conjoint understanding and the values and behaviours shared among the network members (Inkpen & Tsang, 2005; Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). Indeed, those various social connections bind the network members together, which supports the cooperative action that takes place within the social network. Moreover, those social connections enable the continuity of the network development, which supports the network ties among the members (Anderson & Jack, 2002; Smith & Lohrke, 2008).

Those different definitions of social capital highlighted three main principles. The first principle is that all of the actual and potential resources will build a social network among the network members (Inglehart, 1997; Inkpen & Tsang, 2005; Leana & Van Buren, 1999; Loury, 1992; Portes, 2000). The second principle is that those social networks establish and create common values among the network actors (Nahapiet & Ghoshal, 1998). Lastly is the accumulation of those social principles among the network members (Inglehart, 1997; Nahapiet & Ghoshal, 1998; Putnam, 1995; Woolcock, 1998). The most comprehensive definition of social capital should contain all three principles.

In view of the aforementioned, the main elements of social capital are the exchange and the accessibility of information at different levels and having a network

of non-redundant resources. This enables mid-level managers to have their own resources and network that will empower them with a network of connections. This network would expand their opportunities to advance their interests. Moreover, referring to the earlier mentioned typology of social capital; internal, external and a mix of the two, this study will view social capital from their three perspectives. In other words, it will view social capital from the internal, external and mixed perspectives. In this respect, it follows the approach of Nahapiet and Ghoshal (1998) and other scholars who have taken the same view. For the purpose of this study, social capital will be defined as "the sum of the actual and potential resources embedded within, available through, and derived from, the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilised through that network" (Nahapiet & Ghoshal, 1998:243). This definition has important features that would reflect on the individual's decision-making process. That is, when individuals communicate with others, their knowledge and experience would differ. According to Rodgers (2006), individuals' perceptions reflect their own values and norms, that were established and formulated to form the decision maker's framing process. Here, the network that the decision makers develop over the years would affect their own framing of problems and dilemmas. Supporting Rodgers (2006) view, Rodgers and Gago (2003) indicated that when individuals have strong relationships, those relationships would be reflected in their own ethics and values. Those ethics and values would influence their daily activity and, in return, those individuals would keep the same values and apply them when needed.

Those different definitions and views of social capital and view have increased the need to understand and view the different features within this concept. The next section introduces the different features of social capital.

3.3 Social Capital Features:

Reviewing the literature on social capital shows that scholars have indicated that two of social capital operates at individual level and firm level (Inkpen & Tsang, 2005; José Carlos, 2013; Leana & Van Buren, 1999; Portes, 2000). For example, at the individual level, social capital is considered as sources from which individuals which gain information (Adler & Kwon, 2002; Bourdieu & Wacquant, 1992; Boxman et al., 1991; Coleman, 1988). Moreover, Burt (1992) added that the individual level of social capital refers to relationships that are characterised as strong connections among the network members i.e. friendships. Also, this level of social capital would assist in understanding by what means the different relationships between the network members are formed (Kaasa, 2009; Van Oorschot & Arts, 2005).

On the other hand, social capital at the firm level reflects the relationships between organisations. That is, at this level, the social connections would be outside the individual's own network (Ahuja, 2000; Burt, 2000; Coleman, 1990; Tsai & Ghoshal, 1998). This study will consider these two views. That first view concerns the impact of the relationships between the employees of the firm on their decision-making process. The other view is the relationships that those employees have with others outside their own firms. In other words, this study will investigate the impact of the individual and the firm levels on the employee's thinking process.

Other scholars have argued that social capital should be analysed under the concepts of 'bonding' and 'bridging' (Adler & Kwon, 2002; Narayan & Pritchett, 1999; Putnam, 2001; Woolcock, 1998). Here, bonding refers to the establishment of strong relationships between network members within the same community and organisations**,** while the bridging concept refers to weaker connections and networks

(Burt, 1992). Lawson et al. (2008) argued that bridging strengthens the network of relationships of the organisation with other parties of interest, i.e. stakeholders. Bonding and Bridging social capital, according to different social capital scholars, refer to interfirm and interfirm social capital respectively (Adler & Kwon, 2002). Within the Throughput model approach to decision making, those two resources would enable decision makers to share their views and connections with others within their spheres of interest. Also, decision makers would improve their perception of different situations that other network members have been through. As an illustration, Rodgers (2006) indicates that when buying a car, the decision would be based on the need and the quality of the car. With bonding, the intrafirm network would provide the decision maker with a review about the car, the point of interest. On the other hand, if the intrafirm network did not provide the decision makers with a review, they would start bridging their network with interfirm members, in order to reach and build a perception about the car.

Indeed, various scholars have indicated that interfirm social capital exists in the relationships exchanged between firms and the individuals who represent them (Coleman, 1990; Sandefur & Laumann, 1998). Conversely, intrafirm social capital is the degree and quality of the relationships among the individuals and units inside an organisation (Leana & Pil, 2006). Intrafirm social capital is characterised by the mechanisms and structures that supports the employees within the organisation/department, to employ and share their experiences to the benefit of the organisation (Kilpatrick, 2002). Again, the external social capital reflects the context of the relationships that are produced from the bridging. In this study, decision makers would be different individuals who are from different backgrounds. Their

relationships would be both the intrafirm and interfirm. Knowing this, their thinking process and decision making would be significantly impacted on by those existing relationships. However, this study will focus on intrafirm relationships.

From another perspective, Putnam (2001) suggested that social capital reflects social ties that connect and link different individuals who share the same social class, values and norms. That is, bonding is simply having a connection with other individuals who are within one's limits, having the same social network. Further, Putnam has continued into the second approach, that is, bridging, which having connections and ties to other network members. This view of social capital was indicated earlier by Granovetter (1983).

Despite the significant role of social capital in adding value to organisations, it "is difficult, if not impossible, to quantify and measure social capital" due to its "intangible and ephemeral qualities (Bresnen et al., 2005:237)". Various social capital scholars have indicated two approaches to social capital measurement. The first approach is a uni-dimensional approach. Krause et al. (2007); Tokman et al. (2007); Watson and Papamarcos (2002) described social capital as uni-dimensional, consisting of one general factor. On the other hand, other scholars have indicated that the measurement of social capital should be multi-dimensional, involving relational, structural and cognitive dimensions. Having those dimensions in mind, this study will adopt the multi-dimensional view of social capital, which helps in explaining the different mechanisms by which social capital impacts on decision makers' thinking process. In order to fully understand those dimensions of social capital, the next section will discuss each in details.

3.4 Social Capital Dimensions:

Putnam (1995:10) argued, "We must sort out the dimensions of social capital, which is clearly not a uni-dimensional concept". Subsequently, a number of social capital scholars have deeply investigated social capital, to reveal its true dimensions (Burt, 1997a; Chiu et al., 2006; Newell et al., 2004; Wasko & Faraj, 2005). However, scholars have not agreed on the same dimensions. This was mainly a result of different approaches to definition of social capital. Granovetter (1983) indicated that 'weak ties' would give different individuals to have the ability to have access to more individuals, and more information resources, from different networks. Moreover, Constant et al. (1996) indicated that, within computer-mediated networks, individuals with weak ties get more out of those networks than those with strong ties. In other words, weak ties provide individuals with more valuable information.

Indeed, those different views of social capital indicate that it is hard to reach a common ground on the different dimensions of social capital (Cuevas-Rodríguez et al., 2014). Most social capital scholars have indicated that the concept of social capital has two dimensions i.e. relational and structural (Cuevas-Rodríguez et al., 2014; Granovetter, 1992; Moran, 2005). However, other scholars, such as Nahapiet and Ghoshal (1998), propose that social capital has three dimensions; relational, structural and cognitive.

For the purpose of this study, we assume that social capital has three dimensions, structural, relational and the cognitive, that will influence decision makers' perceptions when making decisions. Decision makers would be powerful in employing one of those dimensions. Indeed, if the decision makers had the ability to employ all three dimensions, this would be the ultimate decision, and here the decision

maker would employ the P➔D pathway of the Throughput Model. The next section will introduces the three dimensions of social capital and their definitions.

3.4.1 The relational dimension of social capital:

It is highly recommended that employees maintain strong and continuing ties among themselves (Cuevas-Rodríguez et al., 2014). This dimension of social capital reflects and describes the different personal relationships that the individual develops throughout their lifetime. The significance of keeping solid and ongoing ties among employees is becoming more challenging (Adler & Kwon, 2000; Cuevas-Rodríguez et al., 2014; Morgan & Shelby, 1994). Nahapiet and Ghoshal (1998) have argued that the relational dimension of social capital is "the kind of personal relationships people have developed with each other through a history of interactions". The theory of social capital argues that the main goal of any organisation is to maintain continuing and trusting, relationships between the employees and the other stakeholders (Cassar et al., 2007; Cuevas-Rodríguez et al., 2014; Morgan & Shelby, 1994). The literature and scholars of social capital indicate that relational social capital characterises the strength of the links between parties (Adler & Kwon, 2002; Cuevas-Rodríguez et al., 2014; Krause et al., 2007; Lawson et al., 2008; Putnam, 1995). The strength of those ties is a consequence of a history of social interactions and goal congruence among the network members (Cuevas-Rodríguez et al., 2014; Inkpen & Tsang, 2005; Liao & Welsch, 2003; Tsai & Ghoshal, 1998).

Establishing and building trusting relationships between network actors is what the relational dimension of social capital focuses on (Nahapiet & Ghoshal, 1998). According to Lawson et al. (2008), informal processes of socialisation are the main means of creating the relational dimension of social capital. It is the power of

connecting different individuals to generate a network of co-dependent social interactions (Axelrod, 1986; Jones & George, 1998; Williams, 2001).

Within the social capital literature, scholars have adopted two different views in defining that relational dimension, termed the narrow and the broad views. The narrow view considers the cost benefit analysis for the value of the firm as an impact of internal and external relational networks (Gulati & Kletter, 2005), the type of the personal relationships (Nahapiet & Ghoshal, 1998), or the interactions and processes that are built on trust, social interactions and shared goals between parties (De Clercq & Sapienza, 2006). On the other hand, the broad view of the relational dimension refers to collections of assets that organise and direct the organisation's relationship with external members (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). Members of the same network will have significant similarities and will have a reflective influence that will form their perceptions. Indeed, those different resources are generated from the common trust established between the parties (Chow & Chan, 2008; He et al., 2009; Inkpen & Tsang, 2005; Kale et al., 2000; Lawson et al., 2008; Tsai & Ghoshal, 1998; Yang et al., 2008). This research adopts the broad view of the relational social capital.

However, different scholars have proposed different viewpoints of relational dimension. A few scholars of social capital have identified it as trust (Chow & Chan, 2008; He et al., 2009; Inkpen & Tsang, 2005). Other scholars have introduced it as trust and trustworthiness (Barney & Hansen, 1994; Tsai & Ghoshal, 1998; Uzzi, 1996). Still, others have indicated that social capital is built on trust and norms or expectations (Liu & Besser, 2003; Montazemi et al., 2008). Some scholars have argued that the resources of this dimension are trust, trustfulness and friendliness (Liao & Welsch, 2003), or trust, obligation and reciprocity (Lawson et al., 2008). Further, scholars think of relational social

capital as friendship, reciprocity and trust (Dyer & Singh, 1998; Kale et al., 2000; Lawson et al., 2008; Yang et al., 2008). Nahapiet and Ghoshal (1998:243) have indicated that "The relational dimension of internal SC describes the types of relationship people develop throughout the history of interactions within a firm". In particular, this concept refers to specific relationships, such as friendship, trust and respect, which influence behaviour" (Cuevas-Rodríguez et al., 2014:268). Here, it is essential to select one of those different views of the relational dimension of social capital. In this respect, the selection is significantly influenced by the nature of this study. In addition, it is highly noticeable that many scholars have agreed on the term 'trust', which makes it essential to consider it when measuring this dimension. Thus, in this research, the investigation takes the view that the relational dimension of social capital is reflected in internal and external relationships. This would be in line with Barney and Hansen (1994) Uzzi (1996) Tsai and Ghoshal (1998) Tsai (2002) Merlo et al. (2006) Sherifet al. (2006) Chow and Chan (2008); He et al. (2009).

The view of the relational dimension of social capital here refers to the sources of trust between individual actors. Other aspects of this dimension include reciprocity and friendship, present and formulate trustworthiness. Meanwhile, trustworthiness itself resembles an essential dimension of trust. Kaasa (2009) and Cousins et al. (2006) have argued that reciprocity and friendship are the key factors that shape and develop trustworthiness between network actors. However, the literature's unclear on the relationship that connects reciprocity, friendship and trustworthiness. Thus, this study will seek to clarify those relationships, by defining them and explaining the different relationships between them. First, reciprocity can be defined as a norm driven by the feeling of gratitude. That is, there is an expectation that good is returned for good received, in which each party in the relationship has both rights and obligations (Gouldner, 1960). Also, it has been argued that reciprocity is individuals acting together for the benefit of

others and, in return, expecting to receive assistance when it is needed. That is, reciprocity means that each individual should act honestly in order to achieve the other party's interest, in which the aim of trustworthiness is truly reflected. Both Kaasa (2009) and Ben-Ner and Halldorsson (2010) have argued that reciprocity is one of the important norms that create trustworthiness between the network actors.

It has also been suggested that friendship is one of the important dimensions of trustworthiness. Cullen et al. (2000) indicated that friendship as a part of trustworthiness indicates how the network actor will behave with friendliness towards other network actors. Consequently, reciprocity and friendship are different factors that create trustworthiness.

It should also noted that scholars have debated that trustworthiness is truly a dimension of trust, or it can stand by itself (Ashraf et al., 2006; Ben-Ner & Halldorsson, 2010; Buchan et al., 2008; Crosby et al., 1990; Hardin, 2002). Some have argued that trustworthiness can stand by itself from trust and would be described as a feature of an individual, or an entity (Ashraf et al., 2006; Buchan et al., 2008). Conversely, other scholars have considered trustworthiness as one of the dimensions that formulate trust, or as a component of the broad definition of trust (Mayer et al., 1995; Tyler et al., 2007).

As a result of the interconnection between trustworthiness and trusting behaviour, researchers have referred to trust as a broad phenomenon that results from the interaction between perceived trustworthiness and trusting behaviour (Mayer et al., 1995; Tyler et al., 2007). The intrafirm relational dimension of social capital describes the trusting social relationships within any organisation (e.g. among employees, different departments, branches, units), while the interfirm relational dimension of social capital reflects trusting social relationships with external partners, e.g. different suppliers and competitors (Tsai & Ghoshal, 1998; Yli-Renko et al., 2001). This study concentrates on both intrafirm and

interfirm relational social capital (Liao & Welsch, 2003; Tsai & Ghoshal, 1998). Intrafirm relational social capital engenders trust between employees (Chow & Chan, 2008; Inkpen & Tsang, 2005; Tsai & Ghoshal, 1998). Moreover, it creates a base for transferable knowledge and information between internal departments (Kale et al., 2000). It also boosts the transfer of "best practice" between firms' members (Nahapiet & Ghoshal, 1998).

Even though the interfirm relational dimension of social capital plays an important role in enhancing an organisation's performance, most scholars have focused on the interfirm relational dimension of social capital (Capello & Faggian, 2005; Kale et al., 2000). There is a shortage of studies that cover both the internal and external parts of this relational dimension. As a result, this study will look at both the internal and external relational dimensions of social capital.

3.4.2 The structural dimension of social capital:

The structural dimension of social capital concentrates on the properties of the social capital system and the links and relations as a whole (Nahapiet & Ghoshal, 1998). This dimension reflects the different patterns of connections among network members. In other words, this dimension refers to the individual's ability as a network member to connect with others within the community, which will help in reducing time and effort when obtaining information. The presence or the absence of network ties among the different network members an important facets of the structural dimension (Liao & Welsch, 2003), which reflects the density connectivity and the hierarchy of the links created by the network members (Coleman, 1988). As a fundamental aspect of social capital, social ties create opportunities for social capital (Adler & Kwon, 2002). Burt explored this dimension extensively, and his studies provided guidance for subsequent researchers (Burt, 1987; Burt, 1992; 1997a; Burt, 1997b). Moreover, this dimension has

been widely investigated as one that encompasses two dissimilar notions, intellectual capital and social capital (Firer & Williams, 2003; Ordóñez de Pablos, 2004). Thus, this research will view this dimension as one of the dimensions that form social capital.

The development of this dimension as one dimension of social capital was driven by the contributions of different theories, such as social network, social resource, structural holes and social exchange (Burt, 1992; Granovetter, 1973; Seibert et al., 2001; Wasko & Faraj, 2005). The structural dimension involves the pattern and structure of relationships between network actors (Adler & Kwon, 2002; Liao & Welsch, 2003). Indeed, those relations are derived by routines associated with basic sharing of information and the involvement level among the different network members (Krause et al., 2007).

Structural capital creates structural embeddedness between the network members, by establishing formal and informal connections. Those connections generate, acquire and transfer knowledge between the network actors (Ordóñez de Pablos, 2004). Those connections also generate strong social and interpersonal ties among network members, which facilitate closeness and establish an effective social interactional structure between them (He et al., 2009; Lee & Lee, 2010; Nahapiet & Ghoshal, 1998). Scholars have reported that an effective structural dimension reveals a high level of social interactions among the network actors (Liao & Welsch, 2003). Indeed, in this study, we follow the viewpoint that the structural dimension facilitates social interactions, as endorsed by Chiu et al. (2006); Lu and Yang (2011); Putnam (1995); Tsai and Ghoshal (1998); Yli-Renko et al. (2001).

Mehrabian and Russell (1974) explain the social interactions as a series of personal exchanges. They include a collection of behaviours, like small group interactions, friendship formation, participation and helping (Jones & Shirley, 2012). Chen and Huang

(2007) indicate that social interactions mirror the extent to which the network members network with each other, in terms of communication and co-operation. Furthermore, this type of social interaction concerns how the overall network configuration assists, or blocks, the flow of the resources between the network actors. The social interactions here may be among members of a department or may extended to include members across the entire organisation (Friedlander, 1987; Heffner & Rentsch, 2001; Louis, 1980; Van Maanen, 1972). In the literature, the structural dimension is more precisely the conduct of social interactions of both internal and external networks i.e. inside and outside the firm or department (Bresnen et al., 2005; Sherif et al., 2006; Tsai & Ghoshal, 1998). Internal (intrafirm) social interactions are the interactions among the individuals within a social entity, such as a firm (De Clercq et al., 2010; Hornsby et al., 2002). Those social interactions develop because of the social bonding which occurs among members of the same firm, often across subunits. In contrast, external (interfirm) social interactions represent the interactions between the firm and its different stakeholders (Griffith & Harvey, 2004; Merlo et al., 2006; Tokman et al., 2007).

As indicated earlier, this study adopts the intrafirm and interfirm viewpoints of social capital. However, here, this section will consider the internal structural dimension. The internal structural dimension is considered as the facilitator of resource exchange inside an organisation and the booster for social interactions among employees (Chua & Petty, 1999; Cushen, 2013; Liao & Welsch, 2003; Lu & Yang, 2011; Nahapiet & Ghoshal, 1998; Seibert et al., 2001; Tsai, 2002; Tsai & Ghoshal, 1998; Yli-Renko et al., 2001).

Arguably, the firm as a social entity has an objective, which is to support social interactions among its employees, to increase their performance (Chen & Huang, 2007). Kilpatrick (2002) argued that social interactions among employees help them to exchange their skills and knowledge, for the benefit of the organisation. These social interactions permit employees to get to know each other and share resources and information, which

enable them to achieve their tasks. Moreover, social interactions would encourage co-operative behaviour, which facilitates the development of new ties of association (e.g. friendships), and the innovation within the firm (Liao & Welsch, 2003; Putnam, 1993). Another point is that it has a significant role in the explanation of the execution-oriented management tasks for the employees (Krause et al., 2007), which will give the organisation many advantages. Chen and Huang (2007) argued that social interactions would have a positive effect on the firm's competitive advantages. Chen et al. (2005) also highlighted that the structural dimension enhances the firm's revenue growth and profitability. Likewise, Liao and Welsch (2003) indicated that social interactions will have a positive and direct impact on the growth of non-technology related entrepreneurs.

Furthermore, Tsai and Ghoshal (1998) have argued that social interactions have a significant positive impact on exchange of information within the department, and on product innovation. Villena et al. (2011) also highlighted that social interactions between employees have a positive direct effect on the strategic performance of the firm. As a result, here we need to investigate how social interactions are developed within firms. The operative social interactions are established within the firm through encouraging elaboration, questioning and free discussion between the staff members. Furthermore, the in-depth discussion of the core issues between employees (Chiu et al., 2006; Sivadas & Dwyer, 2000) and sharing resources and ideas informally among employees (Friedlander, 1987; Heffner & Rentsch, 2001) facilitate these relations. Martín de Castro and López Sáez (2008) expressed the same view. They indicated that the purpose of social interactions is to allow a suitable context to communicate, co-operate, adhere and identify. Effective social interaction among employees also enables the decision-making process within the organisation and supports employees to advance in their decision-making skills. In order to keep a positive effect of social interactions within organisations, we need to

investigate their elements and discuss how this aspect of social capital can extend for a long time.

The social interactions among the employees are impacted by a number of elements such as open communication (Hoegl et al., 2003), co-operation (Wasko & Faraj, 2005; Yli-Renko et al., 2001), collaboration (Kreijns et al., 2003; Ku et al., 2007), affiliation and social support (De Clercq et al., 2010) and the sharing of knowledge (Chen & Huang, 2007; De Clercq & Sapienza, 2006; Inkpen & Tsang, 2005; Tsai & Ghoshal, 1998). Indeed, this study will highlight these different elements and investigate how they can enhance the social interactions among employees and consequently enhance an organisation's performance. In terms of communication, common and open communications generate a robust sense of positive association between employees, which supports social interactions (De Ruyter et al., 2001). Certainly, such communication would enable the transfer of different levels of information and knowledge between different departments (Hoegl et al., 2003). Moreover, open communication will make employees aware of new options and provide them with opportunities to detect the expertise required to handle work problems (Merlo et al., 2006).

Indeed, open communication is needed in order to establish relationships between employees (Deeter-Schmelz, 1997). Another point is that open communication has a positive emotional and motivational impact on the relations among employees and encourages co-operation between them. The co-operation among subordinates requires leveraging their resources and arranging their efforts, to produce better outcomes than a single member would achieve (Anderson, 1995; Bowrin & King, 2010).

Sharing the same view, Tsai (2002) and Chen and Huang (2007) suggested that the social interactions between employees within an organisation allow them not only to have access to information and sources but also to conveniently exchange and utilise

knowledge. Tappeiner et al. (2008) also indicated that knowledge spread within the social networks needs social interactions between employees. At the same line, Nahapiet and Ghoshal (1998:244) have highlighted that social interactions play a significant role in the exchange of informal knowledge by the co-operation, communication and learning between the firm's employees. Tsai (2002) argues that knowledge sharing between the competing units inside the same organisation enhances the united behaviour between employees, which improves social interactions.

3.4.3 The cognitive dimension of social capital:

The cognitive dimension of social capital is the last of the three social capital dimensions (Krause et al., 2007). Nahapiet and Ghoshal (1998:244) indicated that the cognitive dimension is "those resources providing shared representations, interpretations, and systems of meaning among parties". This dimension captures a variety of concepts, such as shared norms and the system of meanings and values. However, Lee (2008) indicated that the literature is short of the studies on the cognitive dimension of social capital. One of the reasons for this is that different scholars have different definitions of social capital. Nevertheless, Butler and Purchase (2008:533) indicated that the cognitive dimension of social capital can be defined as the "ability of individuals to create understandings of network behaviour and the aspects involved in the joint learning process".

Furthermore, He et al. (2009) indicated that this dimension highlights that shared norms will guide network members' behaviours and how they think and make a decision. That is, "the cognitive dimension is embodied in the attributes like a shared code, or a shared paradigm, that facilitates a common understanding of collective goals and proper ways of acting in a social system (Nahapiet & Ghoshal, 1998:465)". Those different

definitions of this dimension represent an influence which produces common interests, co-ordinated activities and behaviour. Those common factors would influence the different network members to have shared goals (Burt, 1997a), powered by the resources that network members have, such as shared values and norms (He et al., 2009).

The cognitive dimension is influenced by three factors: the similarity between the perceptions of the network members, their common goals and how they interact with each other within the network (Tsai & Ghoshal, 1998). According to those definitions of the cognitive dimension of social capital, it represents a power that generates shared interest, actions of coordination, common behaviour and joint learning, which will assist the network members in having common goals.

Unfortunately, social capital scholars have not agreed on a unified view of this dimension. Within the social capital literature, different scholars have taken two different views of this dimension. One view is to focus on the combination of shared norms, narratives, and codes (Edelman et al., 2004; He et al., 2009; Liao & Welsch, 2003; Montazemi et al., 2008). This view would be suitable for assessing the different factors that constitute the cognitive dimension. The other view of this dimension is in terms of a shared vision (Chiu et al., 2006; Chow & Chan, 2008; Krause et al., 2007; Tsai & Ghoshal, 1998) Tsai and Ghoshal (1998) indicated that the cognitive dimension would have a great influence, especially when there is a common vision among network members. Such an influence would provide the network members with a common and shared perspective, which will enable them to observe and understand different events (Nahapiet & Ghoshal, 1998).The second view of this dimension, and the most suitable for this study reflects the interpretation and the understanding between the employees. It also reflects the perspective of most of the internal social capital theorists, since it reflects a logical method to measure cognitive dimension through this approach. It is widely used in multi-dimensional social capital empirical studies, as recommended by Tsai and Ghoshal

(1998), Chiu et al. (2006) and Chow and Chan (2008) The shared norms between the different network members would increase their co-operation with each other, in order to reach their common goals. Also, they improve subordinates' practice and performance within an organisation to reach their common goals, the organisation's goals.

Various studies within the literature have indicated that shared vision and shared goals are interconnected concepts. Numerous scholars indicated that shared vision is exhibited in shared goals (Merlo et al., 2006; Tsai & Ghoshal, 1998). For example, Tsai and Ghoshal (1998) employed shared vision, which embodies shared goals, to measure the cognitive dimension of social capital. Furthermore, McLean (2005) also indicated that a shared vision enables the employees to reach agreement on the best goals for them and how they would unite to solve their problems and produce thoughts to recognise what the true issues are, rather than focusing merely on just reaching the goals. Here, this research follows the point of view of Merlo et al. (2006) on shared vision. They indicated that "shared vision should be seen principally in terms of agreement on the goals to be achieved, including the fundamental purpose of the organisation, and not in terms of an agreed view on the means by which the end is realised" (Merlo et al., 2006:1217).

3.5 Conclusion:

This chapter has introduced the concept of social capital. This concept has attracted different scholars' attention, to test its impact on subordinates' behaviours. However, scholars' views of this concept are very varied. Social capital has been defined from internal and external lenses or both. However, those viewpoints share so many common features, that it is hard to differentiate between them. Therefore, this study has clearly indicated that both views would be followed, to have a much clearer view of this concept and indicate its true impact. Further, this chapter has indicated that this concept has three different dimensions: the relational, structural and cognitive. Those dimensions were introduced, showing how they influence network members in their daily activities.

Chapter 4. The Throughput Model Background.

Table 12: Position of the current chapter within the research.

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

4.1 Introduction:

Decision making is a process of selecting among competing alternatives. Individuals, in their daily activities, are faced with events and alternatives that are important for their future. Ultimately, those individuals would appreciate making the right decision for such events. Individuals' daily activities involve a thinking process that arranges their thoughts, to select and pick the most suitable option available. Those processes and arrangements are reflected in the different factors of the Throughput model. This chapter is structured as follows. Firstly, we introduce the Throughput model and its different components (factors). Secondly, along with the factors, we highlight the different pathways that connect those different factors. Finally, we highlight the steps for successful decision making. Table 13 illustrates the topics covered in this chapter.

Table 13: Chapter Four Structure.

4.1	Introduction
4.2	The Throughput Model
4.3	Pathways of Successful Decision Making
4.4	Combining the Six Pathways
4.5	Conclusion

4.2 The Throughput Model:

Any decision making involves different phases which reflect the individual's thinking process (Rodgers & Gago, 2006a). Researchers and practitioners appreciate having a model which helps them to understand different decision-making situations (Brass et al., 1998; Jones, 1991; Rodgers & Gago, 2006a). The Throughput model was introduced by Professor Waymond Rodgers as a model that captures the different methods and levels which individuals use when making a decision (Foss & Rodgers, 2011; Guiral et al., 2015; Guiral et al., 2011; Rodgers, 1991; 1997; 1999; 2006; Rodgers et al., 2013; Rodgers & Guiral, 2011; Rodgers et al., 2015). This model has simplified the process of making a decision, having introduced a new and unique structure which involves and reflects the common steps in any decision making. Having said that, this model takes into consideration the knowledge inputs that were gathered by individuals over their lifetime and are embedded in their behaviours. In other words, "knowledge inputs are necessarily embedded into a context representing cognitive behavioural, both individual and social, that constrains their discovery, their transfer from one set of actors to another, and their usefulness in different problems (Postrel, 2002)"(Rodgers & Gago, 2003:192).

The Throughput model is advantageous in selecting the different phases that represent the decision-making process, which individuals go through before reaching their final decision (Rodgers & Gago, 2006a). According to Rodgers and Gago

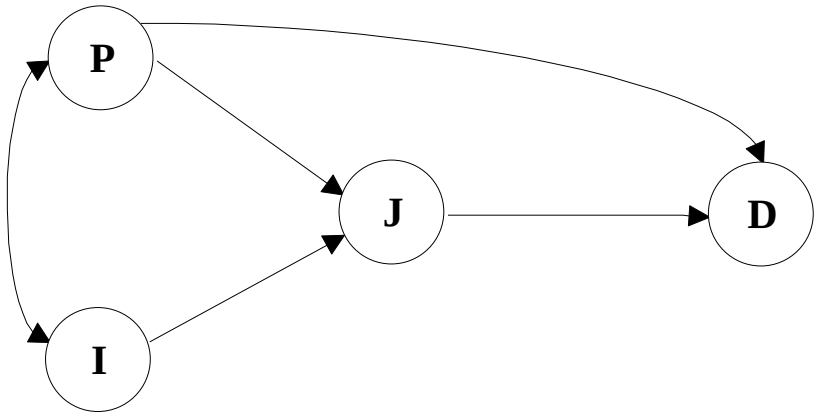
(2006a:126), making a decision is "a multi-phase information processing function, in which cognitive and social processes are used to generate a set of outcomes." In other words, individuals who wish to make a decision will start to by evaluating different alternatives. As a result of this evaluation, they would then rank those alternatives based on their suitability. Here, the Throughput model illustrates the different steps that are used in reaching the final decision. Humans usually get into the habit of approaching decisions with different strategies which reflect their own preference. Such a preference would be unique to them since it reflects their personality, accumulated knowledge and experience. Agreeing with Rodgers (1997), Parker and Fischhoff (2005) highlighted that any decision made by individuals would pass through different phases, before reaching the final decision. Foss and Rodgers (2011) introduced the Throughput model by the conceptualization of assessments, as the outcomes interact with the different factors within the model i.e. information, perception, judgement and decision.

Moreover, researchers have indicated that the patterns of decision making are reflected in the process of information, which can be biased by decision makers' previous framing and perception of the information (Anderson, 1995). In other words, an individual's behaviours would be mirrored in their thinking process and, ultimately, their decision choice. Malakooti (2012) highlighted that the most complex of human behaviours are when people are trying to make a decision. Also, Scott and Bruce (1995) suggested that the decision-making process is a matter of habit. In other words, it is the habit of following the same pattern, when making a decision. Bavoár and Orosová (2015) referred to "the learned habitual response pattern exhibited by an individual when confronted with a decision situation. It is not a personality trait, but a habit-based propensity to react in a certain way, in a specific decision context (Scott

& Bruce, 1995:820)". The key issue here is that the scholars did not consider the impact of other essential factors (e.g. time pressure), which could play a major role in making a decision. However, the Throughput model overcomes this limitation, by taking into consideration the different situations that individuals are in. For example, within the accounting world, and especially management accounting, time is essential in many decisions made by decision makers, i.e. managers.

According to Mitchell and Beach (1990), not all decision makers have thinking habits which reflect their thinking process. This is an indicator of the significance of the modelling and thinking process. Furthermore, "Hogarth (1981)contended that behavioural decision research needs to focus on continuous prediction occurring in a dynamic and complex task environment" (Rodgers, 1999:126). The process of making decisions for decision makers would be influenced by their educational background. Furthermore, Rodgers and Gago (2001) highlighted the significance of information to the decision makers and especially managers. They indicated that both financial and managerial accounting information would aid managers when making a decision. Indeed, information that is available to decision makers would be considered a major influence, especially if it is relevant and reliable for the current circumstances. Foss and Rodgers (2011) further tested the Throughput model in relation to line managers' influence with the corporate audit. They argued that any information that is available to the line managers was an earlier recommendation which was made by the auditor. In Rodgers (1999) study about loan officers, he indicated that the use of accounting information would rely on the prior influence of information. Moreover, Rodgers and Gago (2006b) indicated that decision makers' choices were influenced by their own values and that their weighting for each alternative would differ.

The Throughput model divides the thinking process into four dimensions. Those dimensions are *Perception, Information, Judgement and Decision*. Those factors are linked by six different pathways, which reflect decision makers' behaviour in selecting among the alternatives. In figure 4, the arrows reflect the six pathways between different factors, *Perception, Information, Judgement and Decision*, which would lead the individual to make a decision or reach a conclusion. This model has a unique strategy that helps to construct and formulate the individual's thoughts to be successful (Rodgers, 2006).



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 4: The Process Thinking Model

Source: Rodgers, 2006

The Throughput model here provides a structure of different factors impacting on the individual's decision making (Rodgers, 2006). The importance of this model is that it conceptualises how an individual uses different pathways, which represent the interactions among those four factors, and then ultimately reaches the final decision (Rodgers & Gago, 2001). The four factors that control the individual's thinking process are linked by six conceptual pathways that are used in the decision-making

process and based on the individual's rationalisations; some of those pathways may be more heavily used, than others

The Throughput model has been implemented in different subjects and topics which reflect the different situations of decision making. One of those areas which has been evaluated is the risk assessment made by loan officers (Rodgers, 1991). Here, the Throughput model indicated how different loan officers would be impacted by the information presented to them. That is, knowledge representation played a major influence in the loan officer's final decision. Furthermore, the Throughput model was used in the business ethics setting (Rodgers & Gago, 2003) and was used to test the impact and the differences of cultures within business ethics (Rodgers & Gago, 2001). The Throughput model supported managers and decision makers during their managerial and financial tasks. With such an emphasis on ethics, the different pathways reflected the different ethical positions, including egoism, deontology, relativism, utilitarianism, virtue ethics and ethics of care. Another study of the Throughput model had verified the impact of the stakeholders in the long run on the firm's different strategies (Rodgers & Gago, 2004). The most important reflections of the usage are that companies and management were significantly influenced by the stakeholders' positions. Also, companies had shifted to have more money paid toward education and community support.

After introducing the Throughput model as a whole, here, we continue by introducing the different factors that compose this model, in order to understand the different pathways among the four factors of the Throughput model.

4.2.1 Perception:

The Throughput model starts with the individual's perception about issues involved in decision making. Here, the perception is the frame of the thinking process. The Throughput model conceptualises the individual's framing of problems, according to their previously stored knowledge. In other words, this frame explains how the individual views the issue, based on their own previous experience (Rodgers, 2006). Also, this would include the definition of the problem on which the decision is to be made and the process by which it would be viewed (Rodgers & Gago, 2004). This type of framing requires a level of knowledge and experience to guide in viewing, rejecting or accepting the information available.

Indeed, decision makers would react to the different situations as they interpret them, which would be subject to bias and strategies. Here, the bias would be reflected in the decision maker's particular point of view in different situations. In other words, the knowledge that the decision makers have will influence their next move or decision (Rodgers & Gago, 2003:192). According to Rodgers (2006), strategies are reflected in the different views that decision makers take. For example, when walking or driving to the workplace, an employee will not recall everything that he/she has passed (e.g. stores' names); he/she would get into the habit of the driving or walk, without paying any attention to the surroundings. This analogy applies in the business world, to finance managers' daily activities. They get into the habit of selecting specific items from the balance sheet or the income statement, without paying much attention to the other amounts within the same sheet. Furthermore, the perception includes the internal and external factors that would impact the decision maker's decisions. This explains the double-ended arrow that connects perception and information.

In order to clearly understand the perception, the framing of information, decision makers would identify and reflect the process of classification and categorization of the present information. Decision makers usually have difficulties in identifying the dilemma that they face. These difficulties are reflected in that the individual would have worries in identifying the problem. Rodgers (2006) highlighted a tendency for individuals to mistakenly either identify the problem by a solution suggestion, miss the main problem, or detect the reflections of the problem.

The double-headed arrow between the perception and information indicates that the information influences the framing process (perception). Conversely, perception and the framing process would also influence the type of information that the decision makers would be looking for. When an individual knows the orientation of his current employer, he/she would take this into consideration when making a decision in the future. Simply, the decision maker would ignore any decision that does not go along with the company's views. Indeed, the identification of the guidelines is mainly influenced by the perceptual function.

Continuing on the issue of framing, the words used in the process of making the decision would influence the decision maker's decision, either positively or negatively. Moreover, Tversky and Kahneman (1975) added that the decision maker's background and the wording used in communication can potentially assist in reaching the best alternative. As indicated earlier, the knowledge accumulated over the individual's life is what would be used in making the decision. Our brains would repeatedly return to that stored knowledge, in order to evaluate the current situation. As a result of this understanding of the situation, the decision maker would use the same pathways that reflect the same stored results. Most importantly in understanding how the human brain works, there are two types of framing (Rodgers, 2006). The first

one is the general framing, where decision makers have a wide perspective. On the other hand, in the specific frame, the decision maker would identify the problem that needs to be solved, based on the information available. For example, in the general framing, if an individual is at a grocery store trying to buy some coffee, the decision would be to get some coffee, without the influence of any other factors, e.g. strength of the coffee. However, within the specific framing, the decision maker would be looking for a special type of coffee, e.g. strong coffee.

Furthermore, most decision makers would consider the level of confidence they have as subjective. Decision makers who have analytical and well-structured skills would be more confident about their decisions. This, when decision makers have a high level of knowledge and expertise, they would start making decisions without the need for further analysis. Their brain would have made a frame that enables them to make the final decision, without the need to pass through the judgement factor. On the other hand, less confident decision makers would be less skilled in the areas of analytical analysis and structure (Rodgers, 2006). A high confidence level would provide the decision maker with the power of directly making a decision (the P➔D pathway, which will be explained later in this chapter).

Another important factor within the framing process is expertise. When making a decision, experts e.g. a supervisor experienced in their field of expertise have an advantage over others. Rodgers (2006) added that experts are in an advanced position in making a decision since they are highly familiar with the situation. On the other hand, expertise has two important roles in the thinking process of decision makers. "First, expertise contributes to the refinement and modification of the reasoning process in the perception and judgement" (Rodgers, 2006:45). That is, the more experienced the decision maker, the better his/her skills in problem solving.

Second, the more experience and problem solving skills the decision maker has, the more the he/she will rely on them during later decisions.

4.2.2 Information:

The information factor within the Throughput model includes all the available data for the individual to use and to assist in the decision-making process. Rodgers (2006) indicated that the information factor includes all of the information that has been collected via the different senses of the decision maker. Here, the data would be unprocessed information. This unprocessed information would then be evaluated for its reliability and relevance to the current situation. The reliability of information is based on the source it comes from, as a known and dependable source. Information relevance means it is available at the right time and sufficient for its purpose. After the evaluation, the relevant and reliable information would be considered by the decision maker. Individuals would respond to the different situations based on their interpretation (Rodgers, 2006). This information would influence the previously framed perception, especially when it contradicts that perception. That is, both the information and perception have an interchangeable relationship between each other (the double-ended arrow). According to Rodgers (2006), there are various types of information that decision makers would have, including political, economic, managerial, social and financial.

Thus, the decision maker would have the ability to process different types of information, as mentioned above. To illustrate those types of information, for example, political information, decision makers here check for the legal side of the organisation and its functions. In other words, here, the decision maker would check for the reality of the entity's functions. Economic information would include events and challenges that are out of the control of both the decision maker and the entity

itself. Indeed, the decision maker would take into consideration the changes happening in society as a whole, which would impact on their preferences, e.g.. consumer behaviour, which would, for example, reflect on a company's future performance. Managerial information, explains the relationship between two individuals, e.g. the boss-employee relationship, the father-son relationship and friend to friend relationship. The information collected in those relationships will provide the decision maker with knowledge of how individuals around them are processing their information. Moreover, financial information would reflect monetary matters, g.e. the financial health of the entity or organisation. According to Rodgers and Gago (2006a), financial information would also include calculations of different financial statement numbers, i.e. financial ratios which reflect the different areas of the company. Finally, social information would include unwritten rules, ethical considerations and culture, which formulate information that is highly important to the decision makers.

Information may be viewed as being very clear and precise or being unclear and vague. When the information is clear, it is precise and has only one interpretation, such as facts. On the other hand, vague information can not be easily interpreted in a single manner. For example, within the business world, if a finance manager wanted to order supplies for production, the information that the finance manager would have would be very limited, as the manager does not have the ability to see the differences, for example, in the products presented. In other words, the information presented to the decision makers is out of their scope of knowledge. Another example is when decision makers are faced with an ethical decision. Here, the information would have many interpretations, which would prove very cloudy for decision makers.

4.2.3 Judgement:

Judgement refers to the action of analysing and weighting of the decision, based on the available information and perception, in order for the decision maker to compare and select among alternatives (Rodgers, 1999). Usually, the judgement process is heavily influenced by the decision maker's preferred strategy. That is, when decision makers prefer to avoid complex situations or solutions, they would then lean toward decisions that go along with their strategy. Moreover, Rodgers (2006) indicated that decision makers have two strategies in relation to conflicts: conflict confronting or a conflict avoiding. For example, when an individual wants to buy a car, the negativity of the low number of miles per gallon will not impact on a conflict confronter's decision to buy a big engine car. On the other hand, the conflict avoiding decision maker will not consider buying the low mileage per gallon car.

Normally, the process of judgement is either compensatory or non-compensatory, in evaluating the perception and the information collected by the decision maker. Indeed, decision makers would have an evaluation i.e. the use of a scale, of the different dimensions of the decision made. That is, the decision makers would calculate the total number of those scales. The choice (i.e. the decision) with the greater total number would be selected. One of the drawbacks of this type of judgement is that those scales may be misidentified, which would impact on the scaling process, e.g. when individuals (such as production managers) have different alternatives of raw material to select from. Here, the compensatory method of evaluation would be reflected in, but not limited to, the quality, price, availability and vendor dimensions. Each of those dimensions would be evaluated, having a scale, e.g. from 1-10, for each raw material alternative. After the evaluation of that alternative, the decision maker will have the ability to compare and select between the alternatives.

Finally, the decision of the production managers would be the alternative which scored the most, in total, for all of the different dimensions compared. Guiral et al. (2015) highlighted that different weights would be given for the information items, in order to be able to compare the different alternatives.

On the other hand, the non-compensatory method of evaluation is basically by having a single element that combines all the dimensions of the decision. That is, only one factor would be used during this evaluation, from which the decision maker would reach a decision. Carrying on from the previous example, the production manager here would use a single dimension to compare the alternatives. The drawback of using this type of evaluation is that the decision makers would reflect their own preferences. That is, an alternative would be eliminated for failing to pass within a single dimension (e.g. price), without considering other merits that this alternative may have.

4.2.4 Decision:

The last factor in the Throughput model is the decision. Here, the individual selects the best course of action amongst the different available alternatives, which the individual has collected within the information and perception factors and then evaluated, via the judgement factor. That is, the individual here would seek to ensure that the decision made is the most satisfactory and the most suitable decision available. Rodgers (2006) indicated that, at this stage, the decision maker would be confronted with three types of decision making. The first one is choice when the decision makers have very well-defined alternatives from which to select one that represents the most suitable alternative. The second type of decision is evaluation. Here, the decision maker would have a set of alternatives, in which each one has been evaluated and provided with a value. After that, the decision maker would select and pick the highest in value, i.e. the greatest evaluation among the different alternatives. The third and

final type of decision is the constructive decision. Here, the decision makers would rely on their perception in making the decision. This type of decision is linked with the P➔D pathway (to be explained later in this section). The decision makers would be matching previous events and frames to be used in finalising this decision.

4.3 Pathways for Successful Decision Making:

After explaining the different factors that make the Throughput model, the following reflects the different pathways that link those factors together, to formulate successful decision making. The Throughput model has different pathways which reflect the different strategies followed by decision makers, to reach their final decisions. For example, when the decision makers are under a certain pressure, such as time or peer, their strategies would differ compared to those they would use if those factors were not present. External influence such as pressure, availability of information, the level of knowledge and previous experience of the decision maker, would influence the numbers of factors used before reaching the decision factor. That is, the decision makers may use as few as two factors, P➔D, or up to four factors, to reach a decision, I➔P➔J➔D or P➔I➔J➔D. Different pathways reflect different factors that are considered important during the decision-making process. Rodgers (2006) has indicated that the different pathways between the TP factors have two different levels. As a result, six different pathways link the four factors of the TM. Those pathways and levels are as follows (Rodgers, 2006):

-	Expedient Pathway	P→D	Primary Level Pathways
-	Ruling Guide Pathway	P→J→D	
-	Analytical Pathway	I→J→D	
-	Revisionist Pathway	I→P→D	Higher Level Pathways
-	Value Driven Pathway	P→I→J→D	
-	Global Perspective Pathway	I→P→J→D	

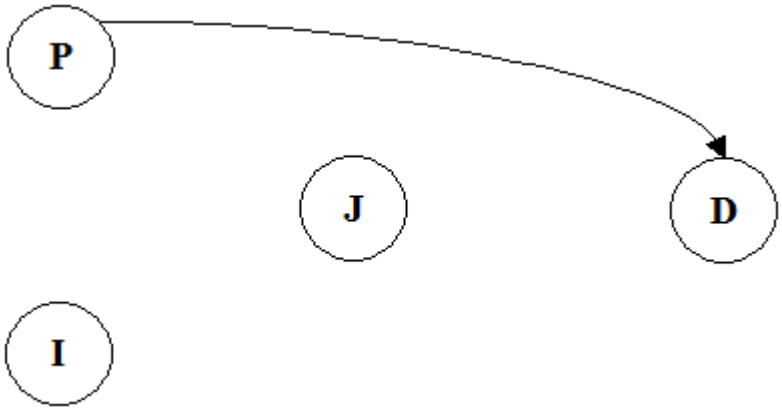
Rodgers (2010) indicated that the three pathways that are motivated either by the framing of the problem or the information available would be the primary pathways within the TP model. Here, the decision makers would be faced with insufficient information, lack of time, or a rapidly changing environment, in which any source of information might be ignored. Furthermore, with the use of those different primary level pathways, the decision makers will rely more on the level of trust and, as a result of the perception, the framing factor would play a major role in the decision made i.e. P➔D or P➔J➔D. However, if the information collected was reliable and relevant, i.e. would reflect the trust built, then the decision maker would make use of that information, I➔J➔D. Another point is that the decision makers would either rely on the framing of the problem, or the information available, but not both. Since the main impact here is built on trust, any two individual, decision makers would be less likely to reach the same conclusion regarding the present situation (Rodgers, 2010).

The next level of pathways is the higher level, at which decision makers would rely on both the information available and the framing factor when making a decision. Moreover, they would be selective during their thinking process, the double-ended arrow reflecting their interrelation. As a result, the decision maker's framing would be based on information collected, I➔P➔D and I➔P➔J➔D. On the other hand, as information guides the decision makers' thinking process, the framing factor would also influence the type of information that the decision makers seek, P➔I➔J➔D. That is, decision makers' framing would increase the selectivity of information during their thinking process, to reach a final decision (Rodgers, 2006).

4.3.1 Expedient pathway P➔D:

The first pathway to start with is the shortest pathway to reach a decision, figure 5. Rodgers and Gago (2006a) argued that the expedient pathway reflects in an ethical position, ethical egoism, where the decision makers prefer to serve their own interest. This particular pathway also serves the decision makers with a great level of expertise and knowledge, which gives them the ability to ignore, or not use, any information present at the time of the decision (Rodgers, 2006). However, this ignorance of information is due to the decision makers' own assessment of its relevance and adequacy. This confirms the argument of (Rodgers & Gago, 2006a), that the decision makers will not benefit from the information and will rely only on their own assessment.

Furthermore, pressure has an important impact on the type of strategy used in reaching the final decision. Rodgers (2006) argued that decision makers can do well if they are under pressure. That is, being under a pressure (e.g. time) would significantly impact on the decision makers' final decisions. This could happen due to different types of pressure, e.g. from peers, which would limit the decision maker's thinking process. Decision makers rely on their years of experience within the company and/or their level of education and qualifications achieved. Moreover, decision makers might be under pressure, i.e. time or peer, to consider other options available; or the information may not be complete, or is irrelevant to the decision. Under the SC concept, Aldrich and Meyer (2014) argued that SC is built upon individuals' relationships. Strong relationships could be an asset, especially during a disaster (time pressure) (Hurlbert et al., 2000).



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 5: Expedient pathway
(Rodgers, 2006)

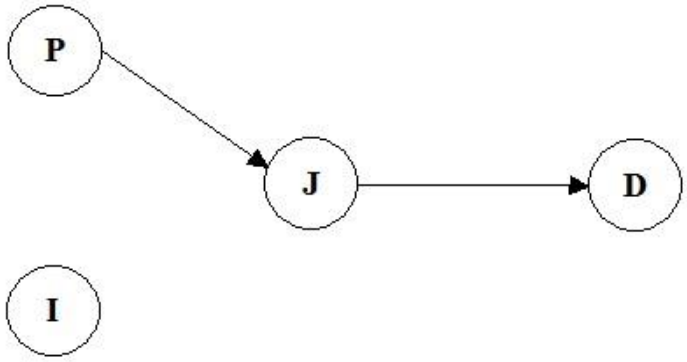
That is, the individual may rely heavily on his prior knowledge and experience of those conditions that have time pressure factors or, in other words, implement the P→D pathway. To further clarify this pathway, for example, when decision makers, the financial managers, are in negotiation discussing investing in another company when receiving an offer that looks very attractive, they will not hesitate to make such an investment, without the concurrence of the board of directors. Here, the decision makers rely on the P➔D pathways, reflecting the pressure prevailing during the negotiations.

4.3.2 Ruling guide pathway P➔J➔D:

The second pathway is the ruling guide, P→J→D, figure 6. This pathway applies when there is a lack of information, due to its unavailability, or insignificance to the current situation. Further, this pathway is non-consequential, which implies that procedures or rules take precedence over information sources. Hence, an individual is guided by rules (perception) that shape his decision (Rodgers et al., 2009). In other words, the decision makers have a structured environment (i.e. a rule-based pathway) along with the lack of information. This would provide the decision makers with rules,

pre-defined frames, which would control their thinking process and control the pathways used in reaching a decision. The decision here is guided by external rules, laws, or internal rules, norms, which will have control over the decision maker, regardless of the level of information available (Rodgers, 2006).

Also, the name of this pathway indicates that decision makers already have a pre-existing frame, which is used to assist in analysis of the current situation, before reaching the final decision. Furthermore, previous knowledge and experience would assist the decision makers and guide them into the different alternatives available to choose from. Rodgers (2006) indicated that depending upon the stability of the environment, individuals' beliefs would have the power to control their decisions.



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 6: Ruling guide pathway

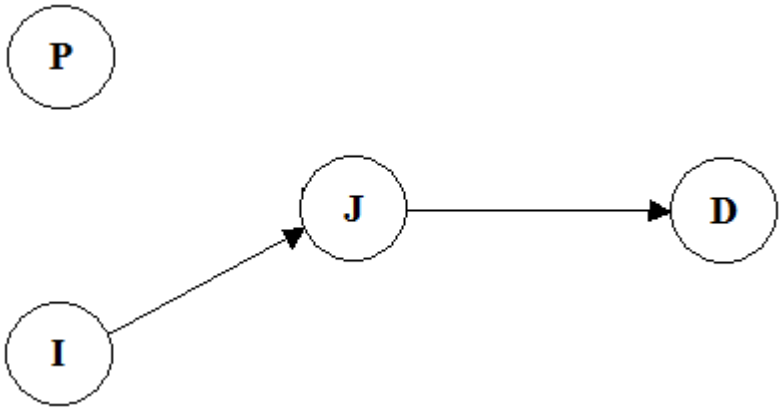
(Rodgers, 2006)

For example, when an individual believes in a specific political party, he/she would take those beliefs into consideration every time that she/ he is voting during elections (Rodgers, 2006). According to Baker's (1990) definition of SC, the social structure would form and shape resources for its members, which they would follow to achieve their interests. From this perspective, decision makers rely on those resources, in order to frame their views (i.e. *perception*), and then adapt to those

resources that fit into the current situation (i.e. *judgement*) enroute to making a decision choice.

4.3.3 Analytical pathway, I→J→D:

The third pathway is the analytical pathway, I→J→D, Figure 7. This pathway does not consider the perception of the individual during the process of decision making. Instead, in this particular pathway, the decision maker weighs factors and identifies all the alternatives available (Rodgers, 2012). This pathway is consequential in that the goal influences the types and weights of information to be implemented in the analysis. Hence, the objective that is to be accomplished drives the selection and weighting of the information. For example, when a member of the same ethnic group (or a family member) provides information or advice about areas that no previous *Perception* formulated, lacking prior knowledge and experience indicates that decision makers may perceive the advice and information, influenced by source reliability, as facts (Adler & Kwon, 2002; Aldrich & Meyer, 2014; Portes, 2000). In this situation, decision makers have no previous knowledge or experience regarding the existing situation and may judge the information as a reliable source, without any impact on their perception, thereby implementing the I→J→D pathway to make a decision.



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 7: Analytical pathway

(Rodgers, 2006)

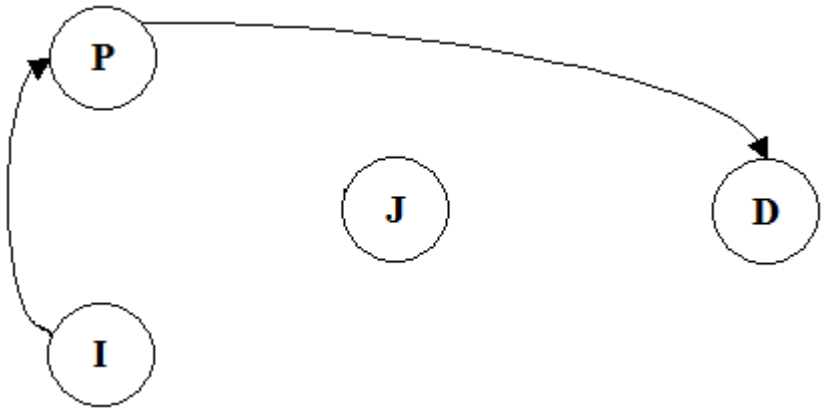
This type of decision making is useful for highlighting individuals' detailed steps of selecting the type of information to be used in the judgement factor and then reaching a decision. Also, the information collected here has to be highly reliable and relevant, in order for decision makers to consider this specific pathway. For example, when a group of investors are planning to invest in a company, knowing the financial health of the company would have an impact on their final decision about investing, or not investing, in that company. That is, the information received from the financial statements regarding the financial health of the company has provided the decision makers, the investors, with reliable and relevant information, to conclude their investing decision.

4.3.4 Revisionist pathway I→P→D:

The fourth pathway is the revisionist pathway, I→P→D, Figure 8, in which the decision makers have some time to review the available information but may not have enough time to make further decisions. Rodgers (2006:58) indicated that decision makers would "use all of the available information to influence your perception before rendering a decision". Also, the information here is so highly valuable for the decision

maker, that it cannot be ignored. Indeed, the information would serve as the beginning point that provides the decision makers with essential signals that assist in shaping the current dilemma, before taking any further actions (Rodgers, 2006). However, in an unstable situation and with vague information, the decision maker would be in a difficult situation to match the information collected with their perception.

Rodgers and Gago (2006a) added that when decision makers are using the revisionist pathway, the different individuals around them would influence their final decisions. In other words, decision makers' current beliefs and thoughts would be modified according to their current stage and circumstance. Rodgers et al. (2009) further explained that the decision makers would have a conflict between their own interests and values, and those of the different individuals around them. "A clash of values, interests and tensions between what is, and what some groups believe, can prevent accommodations with other interested parties (Coser, 1957)" (Rodgers et al., 2009:351).



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 8: Revisionist pathway

(Rodgers, 2006)

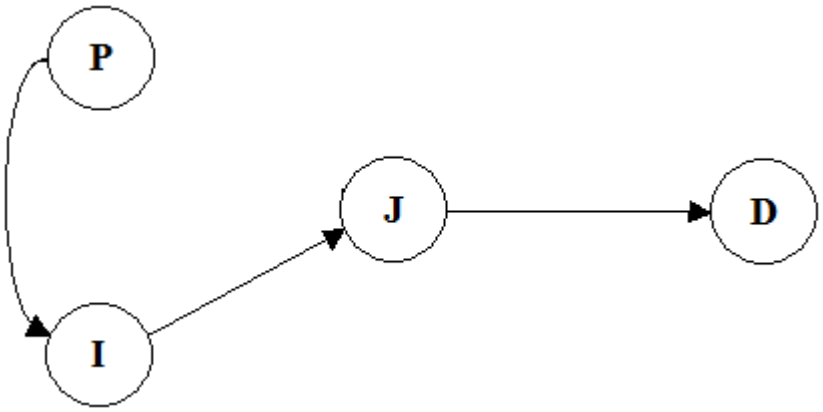
Nonetheless, in some situations, the information and perception available may be sufficient to draw a conclusion for the current situation, if the decision maker has a level of expertise in the firm, or a high educational level (Rodgers, 2006). For example, relationships amongst family members may enhance one's perception of assisting other members when necessary. When a family member is in financial need, members of his the family will typically assist him/her without hesitation. Therefore, decision-makers rely on their framing of relationships among the members of the family. Hence, *perception* and *information* are sufficient to make a decision, using the I→P→D Pathway.

Another good example of this pathway is when a manager is following a set of standards for trading. Meanwhile, the company that the manager is working for operates in other countries, where the standards followed differ from the ones followed by their head office. Here, the same manager has to modify the standards followed for the operations in that other country. For example, while giving a bribe to a governmental official is a felony and an unethical situation in the head office country, it may be acceptable in another country, usually a third world country, where bribery is common within the business world.

4.3.5 Value driven pathway P→I→J→D:

The fifth pathway is the "value driven" pathway, P→I→J→D, Figure 9 (Rodgers, 2006). In this pathway, individuals' perceptions influence the information that is used for making a conclusion. Framing (perception) of the situation influences their analytical processes (I→J→D). Therefore, decision makers' refinement of their experiences, education and training, may override or influence their analytical processes. In other words, the decision maker will search for information that is in

accordance with the perception developed which, in turn, would impact on both the judgement and final decision process.



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 9: Value driven pathway

(Rodgers, 2006)

Furthermore, "this pathway is influenced by information-processing limitations, complexity and coherence, between perception and the available information" (Rodgers, 2006:27). Indeed, the perception of the individual will greatly impact the information used in reaching the decision. Rodgers (2006) has indicated that the framing process would act like the "conveyor belt" of the available information, which is selected and then analysed in the Judgement factor, in order to make a conclusion about the current situation.

Here, the selection of information represents a perspective of the decision maker. Usually, this perspective is driven by social culture or a decision maker's way of understanding. The SC goal is to benefit the whole group and get help from other members if assistance is needed. For example, if a member needed help to find a job, he/she would seek a person with a connection to get support in finding a vacancy

(Aldrich & Meyer, 2014; Coleman, 1988). Consequently, decision makers attempt to seek precise and accurate *information,* in order to assist them in reaching their ultimate goal of finding a job. As a result, decision makers employ the P→I→J→D.

Moreover, Rodgers and Gago (2003) added that decision makers who are concerned about their company's reputation will employ this pathway, P➔I➔J➔D. This indicates the pre-existing framing influence over the information used in reaching the decision. Furthermore, Rodgers and Gago (2003) indicated that "some of the models developed in the agency theory indicated that managers are motivated by not only salary-effort-risk but also by their image and reputation. Thus, Holmstrom and Ricart (1986) advocated that "reputation" influence should be considered in agency relationships". Indeed, the relationship established over a period of time would build a reputation for both parties involved in this relationship. As a result, each party would prefer not to compromise this reputation and would try to strengthen this relationship.

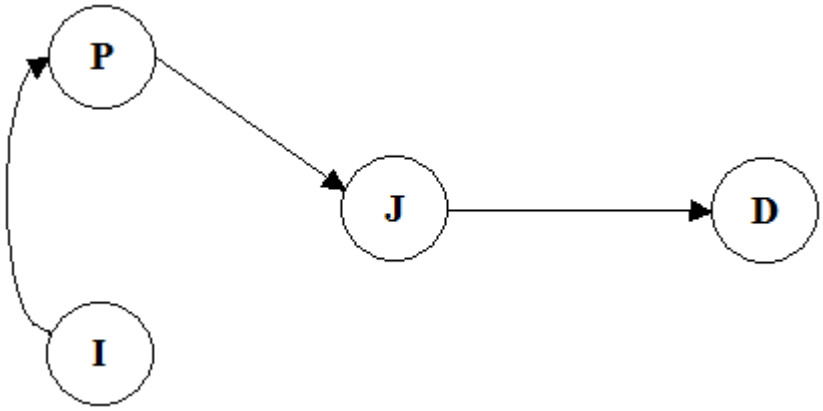
For example, this pathway would change how decision makers look at the information around them. They would search for specific characteristics within the information. In the end, this information collected would be in accordance with decision makers' framing of the situations. The decision makers' problem framing "suggests that a morally-bound individual with good motivation is more likely to understand what task should be performed, more so than a morally- lacking individual" (Rodgers & Gago, 2006c:21).

Another example which illustrates this pathway is when an individual is have doubts about his/her current employer, and this same individual is searching for a new car to buy. Here, the frame of the instability of the employer would significantly influence the amount and the finance method used to obtain the car. The decision

maker here would take into consideration that the monthly salary would be his/her main source of financing to obtain the car. Therefore, this individual has to consider another source of income besides the current employer, since the current employment situation is unstable. The main influence here, or the frame used, is unsuitable employment status.

4.3.6 Global perspective pathway, I→P→J→D:

The sixth and final pathway is the global perspective pathway, I→P→J→D, Figure 10, in which the decision maker's perception is influenced by the available information before the evaluation and analysis, then making the decision choice. In this pathway, informational sources influence a non-consequential ruling guide process (P→J→D). In other words, decision makers may opt out of a standard procedure or rule based process, if information sources are very compelling for changing a ruling guide process. In this situation, the information available to the decision maker would either positively or negatively impact the frame (perception) about the current situation. For instance, when a new member joins a company, moves to a new community, or starts a new relationship with other members of a group, much of the information received from this relationship would frame the behaviours of the new member (Aldrich & Meyer, 2014; Coleman, 1988; Seok-Woo & Adler, 2014). Since the new member has no prior knowledge, or prior experience, of the values and norms of that community, the interaction with other members, and information, may influence his/her perceptions to be consistent with others. Hence, decision makers will rely on the I→P→J→D pathway to formulate their decision choices.



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 10: Global perspective Pathway

(Rodgers, 2006)

Moreover, Rodgers (2006) argued that this pathway, I➔P➔J➔D, would allow the decision maker's information source to influence and possibly change the framing of a current situation, impacting on both the judgement and analysis processes and ultimately making the final decision. As a result, this might require significantly longer time for the information to reach the right framing process. Rodgers (2006) further argued that when decision makers have a wider perspective and viewpoint, their perception would be influenced by that viewpoint. "Our new informed perceptions will help guide the analysis (J) to be undertaken, before reaching a decision" (Rodgers, 2006:59).

Rodgers et al. (2009) argued that the global perspective reflects stakeholder theory. That is, the decision makers wish to please all of the individuals who are satisfied with their decision. Again, Rodgers (1999) stated that managers and decision makers would receive valuable information from the company's internal auditor, which would influence their framing process and, ultimately, the decision made.

Rodgers et al. (2015:880) argued that the "ethics of care behavioural control systems rests on the understanding of relationships, as a response to another, in terms of their particular needs. Moreover, it focuses on the moral value of being concerned toward other stakeholders (e.g. suppliers, customers, community, etc.), with whom the organisation has distinctive and valuable relationships."

4.4 Combining the Six Pathways:

As discussed earlier, the six different pathways that lead decision makers to successful decision making simplify the different rationalisations made by decision makers. That is, upon the availability of the four different factors within the Throughput model, the decision makers would reflect their process of thinking accordingly. The following table, Table 14, reflects the different groups of decision-making pathways. Those groups are the no information, no perception, no judgement, and the complete set of factors, Table 14.

Table 14: Groups of Pathways

Group	Pathways
No Information	P➔D P➔J➔D
No Perception	I➔J➔D
No Judgement	P➔D I➔P➔D
The complete set	I➔P➔J➔D P➔I➔J➔D

4.5 Conclusion:

In this chapter, we have introduced the TP model and its different factors, information, perception, judgement and, finally, the decision. Those different factors resemble the important steps that any decision maker would follow, to reach the ultimate goal of their decisions, starting with the information factor, which is the type of information collected by the decision makers to assist in reaching a decision. Following this is the perception, which reflects the framing process, i.e. how the decision maker views the current information. The judgement factor is how the decision maker evaluates their information, according to their perceptions. Finally, comes the decision factor, where the decision maker reaches a conclusion based on the available information, the framing process and the judgement and scaling factors.

As indicated earlier, those factors are connected by six different pathways. Those different pathways reflect the influence of the previous experience and knowledge of the decision makers. Along with knowledge and experience is the framing process, which reflects the viewpoint from which decision makers are viewing the current situation. The first pathway is the P➔D pathway, which reflects the lack of information and lack of judgement, for example, due to the lack of time, i.e. time pressure. The second pathway is the P ➔J➔D, which reflects the lack of information, as the information available is not enough or not reliable. The third pathway is the I➔J➔D, which ignores the perception factor, i.e. the framing does not exist. The fourth factor is the I➔P➔D, in which the decision maker's framing process is significant, to make conclusions about the current situation. The fifth pathway is P➔I➔J➔D, where the decision makers' framing process is involves selecting and searching for a specific piece of information, which is significant for making

decisions. Finally, in the sixth pathway, I➔P➔J➔D, all of the different factors of the TP model are used to reach the final decision.

Chapter 5. Conceptual Framework.

Table 15: Position of the current chapter within the research.

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

5.1 Introduction:

After highlighting the different backgrounds for the dilemma of the decision makers when implementing and using participative budgeting, this chapter introduces the conceptual framework that indicates the whole picture. This framework proposes that the social capital factor of the decision makers will have a significant part in their formulating and reaching their final decision. Knowing the mixed results of the implementation of participative budgeting on subordinates' behaviours, it is highly important to merge those essential factors and theories together to formulate a basis to approach this dilemma. This chapter will also describe the employment of the Throughput model along with the social capital concept in the participative budgeting setting, in order to indicate the impact on subordinates' behaviours.

The chapter is organised as follows: first, the significance of the theoretical background for clarifying vagueness among decision makers within the participative budgeting process well be discussed. This is followed by considering the importance of social capital in the decision makers' process of thinking. After that, the

implementation of the Throughput model and the social capital factor within participative budgeting will be highlighted, along with hypothesis development. This section is divided according to the different elements of the Throughput model. The first is the information factor for the decision makers. After that is the perception of those making the decision, which in this study is divided into subsections reflecting the different dimensions of the social capital factor. Then the judgement factor and the assessment of budgeting participation will be discussed. Finally, the decision makers' performance and satisfaction will be addressed as the final step of the Throughput model. Table 16 illustrates the topics covered in this chapter.

Table 16: Chapter Five Structure

5.1	Introduction
5.2	The Significance of the Theoretical Background
5.3	The Significance of the Social Capital Factors in Participative Budgeting
5.4	The Significance of the Throughput Model
5.5	Throughput Modelling in Participative Budgeting
5.6	Tested Pathways
5.7	Conclusion

5.2 The Significance of the Theoretical Background:

In any study, scholars present the theoretical background for their argument. Indeed, Field (2013) highlighted that theories play an important role in the analysis and discussion of the research findings. Those theories provide researchers with a guidelines as to the likely outcomes of their study and enable them to make predictions and test them. In other words, those theories will provide the researcher with a framework in the form of hypotheses that reflect likely results of their study, which help them in explaining the research problem, and explaining observed behaviour (Bourne Jr & Russo, 1998). Furthermore, those theories would provide the researcher with guidance as to the relevant factors to focus on for the research. Therefore, the

framework selected will prompt the questions to be asked, which will be answered by the study results. Thus, it acts as a lens thrash which the researcher views the research problem. Brown et al. (2009) indicated that among participative budgeting scholars, the agency theory is the most widely accepted and comprehensive theory of managerial accounting. They added that "by 'agency theory,' we mean formal theories that analyse the optimal design of the organisational and incentive arrangement between a self-interest principal and one or more self-interest agents" (Brown et al., 2009:318).

5.2.1 The agency theory:

During the 1960s and 1970s, economists explored the importance and leverage of sharing information between different individuals and groups. The agency theory takes into consideration this leverage and the risk associated with such sharing of information. "Agency theory broadened this risk-sharing literature to include the so-called agency problem that occurs when cooperating parties have different goals and division of labour"(Eisenhardt, 1989:58). The agency theory is mainly concerned with the problems that arise from an agency relationship. Simply the agency theory assumes that there is a dual relationship between a principal and an agent. Agents take instructions from their principal. Consequently, an agency relationship will exists when the principal assigns different tasks to the agents. However, Young (1985) highlighted that there exists information asymmetry between the principal and the agent, which has gained importance among agency theory scholars (Young, 1985:829).

Furthermore, Dunk (1990) indicated that a good case for the link between participation and performance is provided by the agency theory literature. Participation in budgeting can enable budgets to be improved when the principal

(superior manager) is aware of any information held by the agents (the subordinate manager) prior to the setting of the budget (Magee, 1980). The agency theory literature suggests that if agents would increase their participation in making the budgets, there would be an agreement among the agents and principals (Dunk, 1990:173). Thus, the agency theory focuses on the efficient framework that governs the relationship between the agents and the principals that is based on assumptions of the individuals. Those assumptions are of that individuals would have a self- interest with reaped to risk and are bounded rationality (Eisenhardt, 1989). The Agency theory displays two problems that might develop in the relationship between the agent and the principal. "The first is the agency problem that arises when (a) the desires or goals of the principal and agent conflict and (b) it is difficult or expensive for the principal to verify what the agent is actually doing. The problem here is that the principal cannot verify that the agent has behaved appropriately. The second is the problem of risk sharing that arises when the principal and agent have different attitudes toward risk. The problem here is that the principal and the agent may prefer different actions because of the different risk preferences" (Eisenhardt, 1989:58). The following table, Table 17, indicates the different assumptions of the agency theory.

Table 17: An overview of the agency theory

Perspective	Assumptions
Key idea	Principal-agent relationships should reflect efficient organisation of information and risk bearing costs
Unit of analysis	Contract between principal and agent
Human assumptions	Self-interest, Bounded rationality Risk aversion
Organizational assumptions	Partial goal conflict among participants, Efficiency as the effectiveness criterion

	and Information asymmetry between principal and agent
Information assumption	Information as a purchasable commodity
Contracting problems	Agency (moral hazard and adverse selection) Risk sharing
Problem domain	Relationships in which the principal and agent have partly differing goals and risk preferences (e.g., compensation, regulation, leadership, impression management, whistle-blowing, vertical integration, transfer pricing)

Source Eisenhardt (1989)

To summarise, "the domain of agency theory is relationships that mirror the basic agency structure of a principal and an agent who are engaged in cooperative behaviour, but have differing goals and differing attitudes toward risk" (Eisenhardt, 1989:59). Here, the decision making process of the agents is influenced by their relationship with the principal. Agents will try to seek their principal acceptance and share information with them. However, they would not all have the same perspective toward their principal. Indeed, as it was highlighted Eisenhardt (1989) agents might have different views that their principals. Such a conflict would highlight the importance of the thinking process and the impact of the social relations that those agents have developed within their company. This leads to the next section, which highlight the importance of social relations for decision makers.

5.3 The Significance of the Social Capital Factor in Participative Budgeting:

Social capital plays a major role as a source of information accumulated from the social relations and networks that subordinates has developed over the years by trust exchanged with other network members (Coleman, 1990). This ability to have access to information and knowledge through social relations, i.e. social capital, has

been highlighted by Nahapiet and Ghoshal (1998) as an available resource within individuals' personal and business network. Such resources of information will be affected by their shared history, independence level and frequent interactions (Nahapiet & Ghoshal, 1998; Nohria & Eccles, 1992; Wasko & Faraj, 2005). For this reason, the goal of having subordinates participate in budgeting is to provide them with the opportunity to communicate and exchange their private information about their area of responsibility (Bamber & Parry, 2014). The result of this participation is that subordinates would be more comfortable to exchange information, which will have a positive impact on their behaviour toward their firms. Indeed, they will show a greater level of involvement and commitment to satisfy budget limits and not exceed them. This will have positive impacts on the subordinates' behaviours, and also will be reflected in their performance and satisfaction.

With the above considerations in mind, Agbejule and Saarikoski (2006) indicated that research on participation in budgeting should be re-directed to consider the process of knowledge transfer and information exchange. Also, they argued that the efficacy of budgeting participation within the organisational process lies not in its potential to promote motivation or commitment, but in its ability to facilitate information exchange and the transfer of knowledge among subordinates. Locke et al. (1997) indicated "that it is critical to identify the specific contingencies that influence the efficacy of participation" (Agbejule & Saarikoski, 2006:436). In this study, this is reflected in the relational dimension of the social capital factor. This dimension indicates that the significance of having solid and ongoing connections among the employees is in having a greater access to information (Adler & Kwon, 2000; Cuevas-Rodríguez et al., 2014; Morgan & Shelby, 1994). This dimension's main concern is the type of the personal relations that people have developed with each other (Nahapiet

& Ghoshal, 1998). In any organisation, the main goal is to maintain ongoing and trusting relationships among the employees and the other stakeholders (Cassar et al., 2007; Cuevas-Rodríguez et al., 2014; Morgan & Shelby, 1994).

Further, Wasko and Faraj (2005) have argued that subordinates can gain benefit from their external networks as those networks, would enable them to have access to new information and ideas that were not available within their local connections, within the firm. Moreover, Cuevas-Rodríguez et al. (2014) indicated that the external networks that subordinates have would provide effective informal control mechanisms. It has been suggested that trust and reciprocity will help to mitigate the advantageousness and safeguard exchange in associations with the external network (Dyer & Singh, 1998). It is conducting to an atmosphere in which the decision makers would not feel that they have to shield themselves from the self interested behaviour of others and will no longer consider hierarchical controls to be essential(Gulati & Singh, 1998; Inkpen & Tsang, 2005; Padula, 2008). This, in turn, would enable subordinates to proceed more efficiently by lowering their concerns about the loss of proprietary skills and knowledge (Cuevas-Rodríguez et al., 2014).

The third dimension of social capital that would help in understanding the dilemma of participative budgeting and its impact on subordinates' behaviours is the cognitive dimension. Nahapiet and Ghoshal (1998) defined this dimension as "those resources providing shared representations, interpretations, and systems of meaning among parties (1998:244)". This dimension involves such concepts, as shared norms and systems of meanings and values. However, Lee (2008) argued that within the literature there is a shortage of studies that review the cognitive dimension of social capital. One of the reasons for this is that different scholars have different views of the meaning of social capital. Following Nahapiet and Ghoshal (1998) approach

Butler and Purchase (2008:531) defined the cognitive dimension as the "ability of individuals to create understandings of network behaviour and the aspects involved in the joint learning process". For the purpose of this study, this dimension is assumed to impact the decision maker's choice and thinking process through their awareness of the different norms and values within the organisation. This leads to consideration of the Throughput model, as an explanation of different approaches and consideration in decision making.

5.4 The Significance of the Throughput Model:

Over the past years, the Throughput model has provided a framework for various studies in a variety of business areas. The process thinking approach has been implemented and used to assess the impact of the perceptual process on decision makers when faced with financial accounting information (Rodgers, 1992). This decision making model constitutes a framework that can provide a standard and points of reference for decision makers within firms (Rodgers & Thomas, 1998). This decision making model also presents the thinking process of decision makers in an organised manner (Rodgers & Thomas, 1998).

This study depicts that the conflicting results on the impact of the employment of participative budgeting on subordinates' behaviours can be explained by a combination of theories, i.e. the agency and contingency perspectives, and the methods used to indicate the true impact. Indeed, the previous theories have failed to reach a common ground on the impact of participative budgeting. In response to such inconsistency, this study takes a different approach, focusing on the different steps that decision makers follow in the thinking process. After highlighting the different factors

that the agency theory considers, it is essential to shift the view from those relationships to the actual thinking process of the agents.

The key point is that the agency theory focuses on difference in the desires or goals of the principal and agent instead of the differences in their thinking process. A problem with agency theory is that it is difficult for the principal to confirm what the agent actually knows. The dilemma here is that the principal will not have the ability to verify whether agents have behaved appropriately. Furthermore, the difficulty that arises when the principal and agent are have different attitudes and views toward risk would be avoided by focusing on their different thinking processes. The dilemma here is that both the principal and the agent may well favour different actions as a result of their dissimilar risk preferences (Eisenhardt, 1989:58). Here, this theoretical model, the Throughput model, will provide a new angle to view and evaluate the impact of employment of participative budgeting.

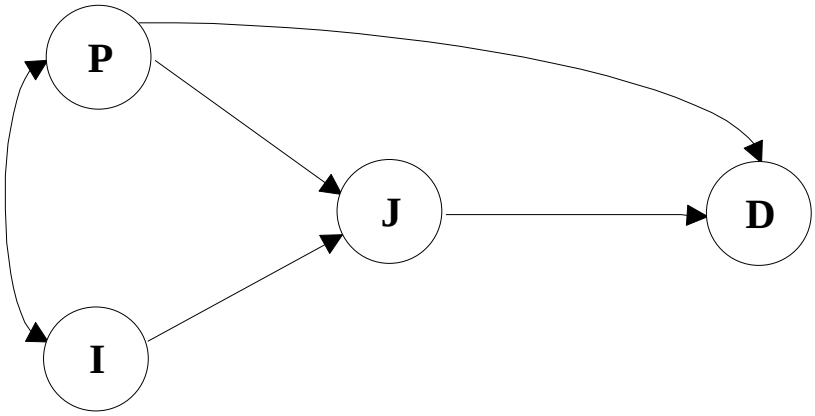
The Throughput model provides an extensive conceptual framework for examining the true impact of the employment of participative budgeting on subordinates' behaviours. It comprises four different factors: information, perception, judgement and decision, that reflect the different thinking process of subordinates. Those four factors are connected with six different pathways of the decision makers' thinking process. Rodgers (1999) indicated that this model has two different stages. The first stage reflects the impact of information and perception on judgement. In the second stage perception reflects both the decision and judgement. This theoretical background provides six different pathways: expedient, ruling guide, primary level, analytical, revisionist, value driven and global perspective, that indicate the thinking process of the decision makers' strategy. This research will provide simultaneous

analysis of the interactions of different dimensions of the Throughput model to show how individual's perception would influence their decision making process.

Starting with perception, it has been indicated that "some researchers classify perception as discovering what the environment represents by adapting to it through the process of transforming, recoding, assimilating, classifying, and categorising information into some meaningful form , e.g. Gibson (1979); Neisser (1976). A number of researchers provide alternative models of perception, e.g. Anderson (1985); Lindsay and Norman (1977); Massaro (1975); Shiffrin and Schneider (1977) in depicting human information processing."(Rodgers, 1992:68). This study proposes that social capital would play a major role in formulating the perception of the decision makers. That is, when decision makers have strong ties with the community and their colleagues, those ties would act as a guidance to those decision makers. In other words, when confronted with a dilemma, individuals would seek assistance from those with whom they have strong ties. Those ties and relationships reflect the phenomena on discussed: social capital.

5.5 Throughput Modelling in Participative Budgeting:

The Throughput model explains individuals' thinking process in terms of four different factors, i.e. Perception, Information, Judgement and Decision. Those factors are connected by six different pathways, which reflect the decision maker's behaviour in choosing among alternatives. Figure 11 indicates those four factors and the arrows show the six different pathways among the factors, Perception, Information, Judgement and Decision, which reflect the steps in making a decision (Rodgers, 2006).



Where P= perception, I= information, J= judgement, and D= decision choice.

Figure 11: The Process Thinking Model

Source: Rodgers (2006)

The Throughput model here provides a framework that shows the different factors that influence the individual's decision making process (Rodgers, 2006). It plays an important role in conceptualising how subordinates use the different pathways, which embody the interactions between those four factors and then ultimately reach the final decision (Rodgers & Gago, 2001). Depending on the individual's rationalisations; some of those pathways may be more heavily used than others.

Having introduced the Throughput model and how it can help in understanding the thinking process of those who are about to make decisions, it is necessary to consider how those factors might apply in participative budgeting. The following figure, figure 12, reflects the full framework of this study, taking into consideration that social capital factors also play a major role in access to information from the different network members. The following sections will gradually introduce the framework of this research, starting by the information factor of the Throughput model

then perception factor, then the judgement factor and finally the decision factor. Knowing that the social capital factor has three different dimensions which highlight different views, the perception factor of the framework of this study is divided into three parts addressing, respectively, the relational dimension as the subordinates' perception, the structural dimension, and the cognitive dimension of social capital

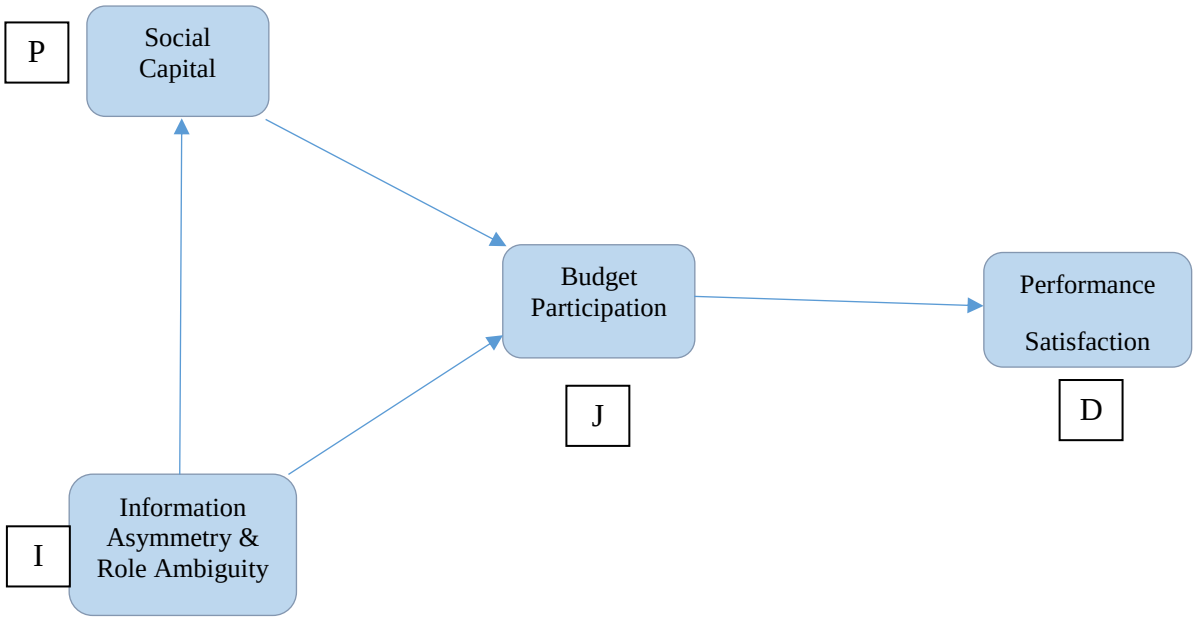


Figure 12: The proposed framework

5.5.1 Information factor:

As indicated earlier, the information factor includes all of the information available for the subordinates that assists in the decision making process. Such information will be evaluated for its reliability and relevance to the present situation. The reliability of information is built on its source, i.e. coming from a recognised and trustworthy resource. Information relevance reflects that it is obtainable at the right time and is sufficient for the purpose. After having the information evaluated, relevant and reliable information will be considered by the decision maker (Rodgers, 2006). The information will influence the previously framed perception, especially when it conflicts with that perception.

For the purpose of this study, the information factor is information asymmetry. Young (1985) indicated the importance of information asymmetry among subordinates since it focuses on getting a true picture of their inside information. Information asymmetry can be clarified as information that a subordinate has, that is relevant for the usage of higher level managers who may not have that information, which is shared with them (Dunk, 1993a). Shields and Young (1993) argued that information sharing is one of the most important elements that would influence participation in budgeting process. Indeed, within the participative budgeting setting, the issue is that the possession of private information may increase the tendency to build excess into the budget(Young, 1985:830). According to the agency theory, a significant motive for participation is to have information transferred between subordinate and superior, and there are possible gains for both parties "(e.g., better information, resource allocation, incentive plans, performance, compensation)" (Maiga, 2005:216). Management face a dilemma when planning and controlling expenses, i.e. budgeting for the upcoming periods. Subordinates' information is superior to that of the higher management, and such information would assist in coordination and evaluation of the firm's activities(Waller, 1988:85). Dunk (1990) indicated that when subordinates participate in budgeting setting, it would enable the managers to be aware of local information held by the subordinate, resulting in a better budgeting process and estimations.

In this framework, the subordinates' perception (frame) would be influenced by their own private information (information factor) that is relevant and reliable for decision making. This leads to the following hypothesis:

H_1: <u>There is a significant interaction between the level of information asymmetry (information factor) and different social capital dimensions (perception), I➔P.</u>

Also, the information factor will have a significant influence on budgeting participation, i.e. the judgement factor within this study. In other words, the local information available to those subordinates would influence their behaviour in sharing this information with higher level management during participation in the budgeting process. This leads us to the following hypothesis:

H_2: <u>There is a significant influence of information asymmetry (information factor) on the level of participation in the budgeting process, I➔J.</u>

Indeed, previous researchers have investigated the influence of information asymmetry within budgeting settings (Chow et al., 1988; Fisher et al., 2000; Fisher et al., 2002; Jermias & Yigit, 2013; Young, 1985). Those studies involved subordinates who participated in setting their budgets. This participation in budgeting usually takes the form of a negotiation process. Typically, the superiors will have a key influence on the overall final budget (Fisher et al., 2002:28). Furthermore, it is important to realise how information asymmetry influences this process. Previous empirical studies have shown that information asymmetry has an influence over this process. As cited by Jermias and Yigit (2013) Shields and Young (1993) indicated that information sharing is a highly significant antecedent variable for participative budgeting. Within the participation process, subordinates have the chance to share their local (private) information with their superiors, which will simplify their task of achieving the budget (Jermias & Yigit, 2013:33).

The second element of the information factor is role ambiguity. This element can be viewed as unclear expectations of the tasks that are under the subordinate's

responsibility. Chenhall and Brownell (1988) indicated that the relationship between participative budgeting and role ambiguity can be seen in three different ways. It can be viewed as the "the extent to which clear information is lacking regarding (a) the expectations associated with a role, (b) methods for fulfilling role expectations, and/or (c) the consequences of the role performance" (Chenhall & Brownell, 1988:226). The reason for having participation in budgeting is to clarify those areas of unclearness. Furthermore, Jackson and Schuler (1985) have indicated that when the subordinates are participating in the budgeting settings, high participation levels, there would be less ambiguity, lower levels of role ambiguity. However, this contradicts the findings of Chenhall and Brownell (1988). They have indicated that there is a negative association between the level of participation and the role ambiguity. Within this study, we propose that role ambiguity would play a role as the information factor. That is, when subordinates are asked to perform a task, they would seek advice and extra information from their colleagues. This would lead to the following:

H_3: There is a significant interaction between the level of role ambiguity (information factor) and the different social capital dimensions (perception), I➔P.

Indeed, this study would propose that there is a significant influence of role ambiguity on the level of participation. This would lead to the following:

H_4: There is a significant influence of role ambiguity (information factor) on the level of participation in the budgeting process I➔J.

This argument leads to the next factor of the Throughput model, perception, which in this study is social capital. In other words, the main reason for participation in budget setting is to voluntary share local information with higher level management. Shields and Young (1993) and Jermias and Yigit (2013) indicated that information asymmetry plays a major role as an antecedent variable to participative budgeting. The

significance of the social capital factor is access to more information and increased the access to other information networks.

5.5.2 Perception factor:

The second element within the Throughput model is the individual's perception about issues involved within decision making process. For this study, the perception factor is the framing of the thinking process. This framing explains how the individual views an issue, based on previous experience. This would include the definition of the problem on which the decision is to be made and the process by which it would be viewed (Rodgers & Gago, 2004). This type of framing requires a level of knowledge and experience to guide the individual in viewing, rejecting or accepting the information available.

Locke et al. (1997) cited in Agbejule and Saarikoski (2006) indicated that participation scholars should shift their investigation to the process of knowledge transfer and exchange information. They argued that the adequacy of the participation process as an organisational strategy lies not in its possibility to motivate the subordinates, but it lies in the ability to smooth information exchange and knowledge transfer. "They contend that it is critical to identify the specific contingencies that influence the efficacy of participation" (Agbejule & Saarikoski, 2006:436). Furthermore, Ahearne et al. (2014) suggest that managers depend on three basic assets to attain their goals. Those assets are the information, resources, and support available for the subordinates. This study draws on previous scholars' "suggestion that social networks are informal structures through which middle managers build informational and reputational social capital that enables them to be more effective in their adaptive strategy implementation (e.g., Burt, 2000; Tsai, 2000)" (Ahearne et al., 2014:71). Thus, the concept of social capital reflects the perception factor of the Throughput

model. Social capital would play a major role in the process of framing and viewing the different elements of the participation process. Also, the perceptions of decision makers would be significantly influenced by those dimensions of social capital. For example, personal relationships and connections would establish shared values and norms that are followed by those members of the network. As a result, those members would have similar views and perceptions.

As indicated earlier, the social capital concept should be viewed as combination of three different dimensions. Thus, the social capital has an elastic definition that increases its significance toward the personal, departmental, and external world, i.e. relational, structural and cognitive dimensions, respectively. This study employs all of those dimensions. Next, the different dimensions of the social capital factor that influence the subordinates will be explained.

5.5.2.1 The relational dimension framework:

The relational dimension of the social capital factor encompasses two different views, the internal and the external (Cuevas-Rodríguez et al., 2014). It concerns the type of personal relationships (Nahapiet & Ghoshal, 1998:244), or interactions and processes that are made based on trust, social interactions and shared goals between parties (De Clercq & Sapienza, 2006). It holds that members of the same network would share significant similarities that will reflect and influence their perception. These are generated from the common trust established between the parties (Chow & Chan, 2008; He et al., 2009; Inkpen & Tsang, 2005; Kale et al., 2000; Lawson et al., 2008; Tsai & Ghoshal, 1998; Yang et al., 2008). The distinction between them is the perspective on the analysed units (Cuevas-Rodríguez et al., 2014).

Rodgers (2006) indicated that the perception of the decision makers as a frame through which they view the dilemma. Based on the previous argument, the available networks and connections that different mid level managers have would frame their decision making process. In the perspective of the internal relational dimension, the frame of viewing would be based on the availability of connections within the subordinate's department. Those connections would influence both their participation in the budgeting process and their performance and satisfaction, with a significant impact on the subordinates thinking process. As a result, this study proposes the following hypothesis:

H_5: <u>There is a significant influence of the internal relational dimension of social capital (perception) on the level of participation in the budgeting setting (judgement), 'P➔J.</u>

Moreover, from the perspective of the external dimension, the framing of the dilemma would be based on the connections and networks that decision makers have outside their department, which would influence those decision makers, through access to external information. This would lead us to the following hypothesis:

H_6: <u>There is a significant influence of the external relational dimension of social capital (perception) on the level of participation in the budgeting settings (judgement), 'P➔J.</u>

The different hypotheses concerning the relational dimension of social capital, are reflected in the following figure, Figure 13. The next section addresses the second dimension of the social capital factor.

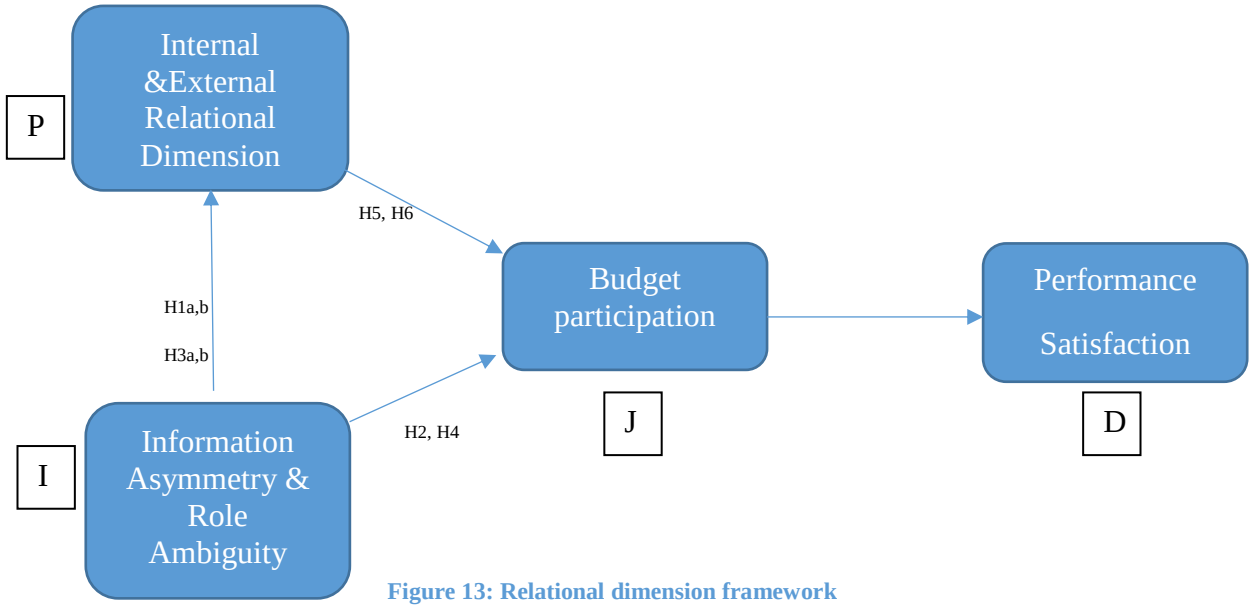


Figure 13: Relational dimension framework

5.5.2.2 The structural dimension framework:

As introduced earlier in this study, the structural dimension focuses on the links and relations as a whole and the system of social capital (Nahapiet & Ghoshal, 1998). That is, this dimension indicates the different connections among the members of the network. It states that individuals' ability to connect with others within their community helps them in obtaining information. This method and network would influence decision makers' perception, to be parallel with those of other network members. Thus, the presence or absence of social ties among the members of a network is among the important facets of the structural dimension (Liao & Welsch, 2003).

Understanding of social interaction is derived from several theories: the social network, social exchange, social resource, structural holes, and social capital (Burt, 1992; Granovetter, 1973; Seibert et al., 2001; Wasko & Faraj, 2005). Adler and Kwon (2002) argued that social interaction reflect the different patterns and the relationships structure between the network actors. Those relationships and patterns reflect information sharing and level of the involvement between the different network

members (Krause et al., 2007). Social interaction create structural embeddedness among network members, by building formal and informal links. Those links reflect the generation and transfer of knowledge among the different network actors (Levin et al., 2015). Moreover, those links create robust social interaction and interpersonal relations among the network members, which reflect the closeness of those relationships and establishes the operative structure of social interactions between them (Lee & Lee, 2010; Nahapiet & Ghoshal, 1998).

Social interaction concentrates on the properties of the social capital system and the links and relations as a whole (Nahapiet & Ghoshal, 1998). It reflects the different patterns of connections among network members. In other words, this refers to the individual's ability, as a network member, to connect with others within the community, which will help in reducing the time and effort when obtaining information. Those links among the network members reflect the density connectivity and the hierarchy of the links created by the network members (Coleman, 1988). Social interaction creates opportunities for social capital (Adler & Kwon, 2002). Burt has explored the social interaction extensively, and his studies acted as guidance for fellow researchers (Burt, 1987; Burt, 1992; 1997a; Burt, 1997b).

This argument has indicated the significance of social interaction, i.e. the structural dimension of social capital. Decision makers would start implementing this factor within their thinking process. This study proposes the following hypothesis.

H_7: <u>There is a significant influence of the structural dimension of social capital (perception) on the level participation in the budgeting settings (judgement), P➔J.</u>

The different hypotheses of the structural dimension of social capital are indicated in the following figure, Figure 14. The following section will explain the third and final dimension of the social capital factor.

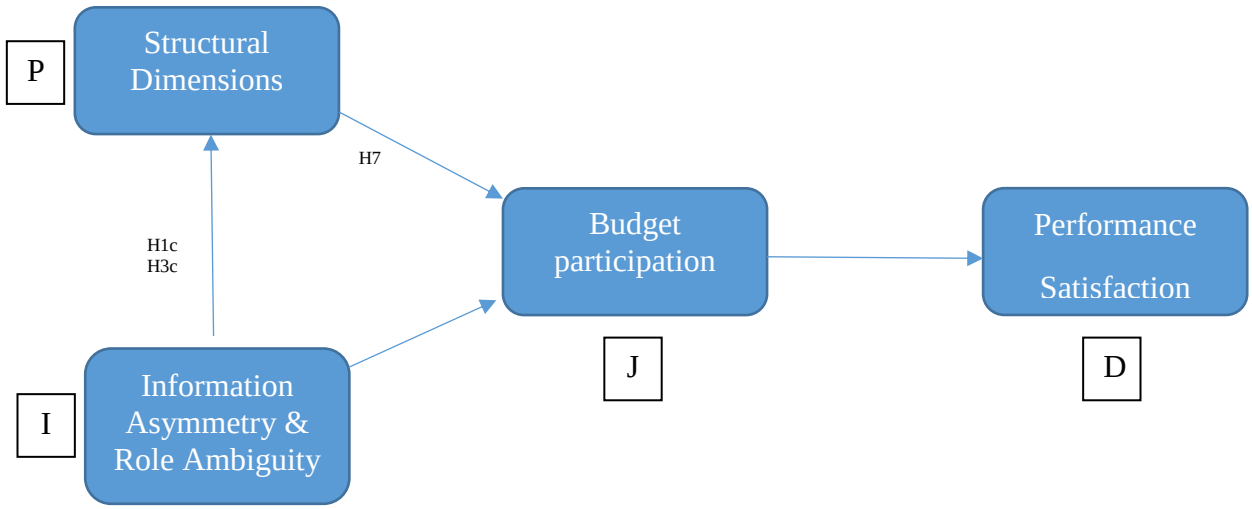


Figure 14: Structural dimension framework

5.5.2.3 The cognitive dimension framework:

The third and final dimension of the social capital factor is the cognitive dimension of social capital. Nahapiet and Ghoshal (1998) argued that this dimension consisted is "those resources providing shared representations, interpretations, and systems of meaning among parties" (1998:244). The cognitive dimension captures different concepts, such as the shared vision, the system of meanings and values. Indeed, Lee (2008) argued that there is a lack of literature the impact of the cognitive dimension of social capital. This is a result of different scholars have diverse views of defining this dimension of social capital. Butler and Purchase (2008:533) study revealed that this dimension is defined as the "ability of individuals to create understandings of network behaviour and the aspects involved in the joint learning process".

Furthermore, Chiu et al. (2006) highlighted that the cognitive dimension of the social capital indicates that shared norms will be the guidance for the network members' which would shape their behaviours and how they think and make a decision. In other words, "the cognitive dimension, is embodied in the attributes like a shared code, or a

shared paradigm, that facilitates a common understanding of collective goals and proper ways of acting in a social system" (Nahapiet & Ghoshal, 1998:465). Indeed, those different values and norms shared within the network members would significantly influence the decision making process. For example, Rodgers (2006) highlighted that decision makers' thinking process would be influenced by the shared norms within the community. This influence will be the form of common interest, co-ordinated activities and behaviour. Those mutual factors would sway the different network members to have common and shared goals (Burt, 1997a).Those common goals and the different sources that network members have, such as shared values and norms (He et al., 2009).

The previous argument leads us to propose the following hypothesis regarding the cognitive dimension of social capital, which is followed by, Figure 15, illustrating the hypotheses related to this dimension.

H_8: <u>There is a significant influence of the cognitive dimension of social capital (perception) on the level participation in the budgeting settings (judgement), P➔J.</u>

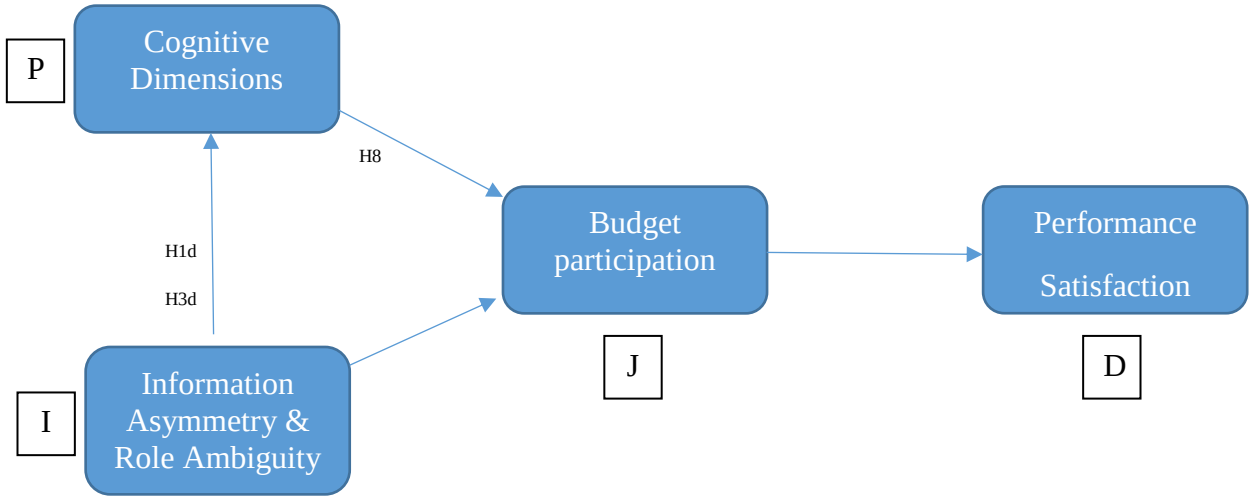


Figure 15: Cognitive dimension framework

5.5.3 Judgement factor:

As indicated before, the Judgement factor of the Throughput model refers to the action of analysing the available information for the reliability and validity. After that, the decision makers would weight and judge the information, which would lead them to the decision (Rodgers, 1999). Typically, the judgement process is deeply influenced by the strategy of the decision makers. For example, when decision makers favour avoiding difficult situations or solutions, they will then lean to those decisions that go along with their strategy. Rodgers (2006) highlighted that decision makers would have two different strategies to resolve their conflicts. They are either conflict confronters or conflict avoiders. For example, when an individual would like to buy a car, the negativity of the low number of miles per gallon will not impact on the decision of a conflict confronter, whereas a conflict avoiding decision maker will not consider buying a low mileage car.

As indicated within the framework of this study, the judgement factor would reflect the budgeting participation of decision makers, who have a perspective on revealing information to those in a higher positions. Also, "While it appears that an increase in participation in decision making can often improve morale, its effect on productivity is equivocal at the best, increasing it under some circumstances but possibly even decreasing it under other circumstances. The practical problem is in trying to identify which conditional factors determine the wider impact of a particular type of participative management programme"(Hopwood, 1976). Also, it has been highlighted that cooperation during the goal setting can be enhanced by encouraging subordinates to participate in setting the budget. In setting the goals of the firm, both the firm's goals and the subordinates goals should be incongruent with each other (Daroca, 1984:13). in addition, Young (1985) indicated that participation is would

provide a means of sharing the information between the higher level of the management and the subordinates.

In the budgeting, subordinates' participation would grant them with a valuable opportunity for interference that bridges different levels of the organisation(Dunk, 1995b). This interference would influence their judgement of the thinking process. Hence, giving the opportunity for subordinates to participate in budget setting would significantly influence their thinking process, which would raise several issues regarding their own performance and satisfaction. Therefore, this will lead to the following hypotheses which are reflected in the following figure, Figure 16:

H_9: <u>There is a significant influence of the level of participation in the budgeting setting (judgement) on the subordinate's performance (decision), J➔D.</u>

H_{10}: <u>There is a significant influence of the level of participation in the budgeting settings (judgement) on the subordinate's satisfaction (decision), J➔D.</u>

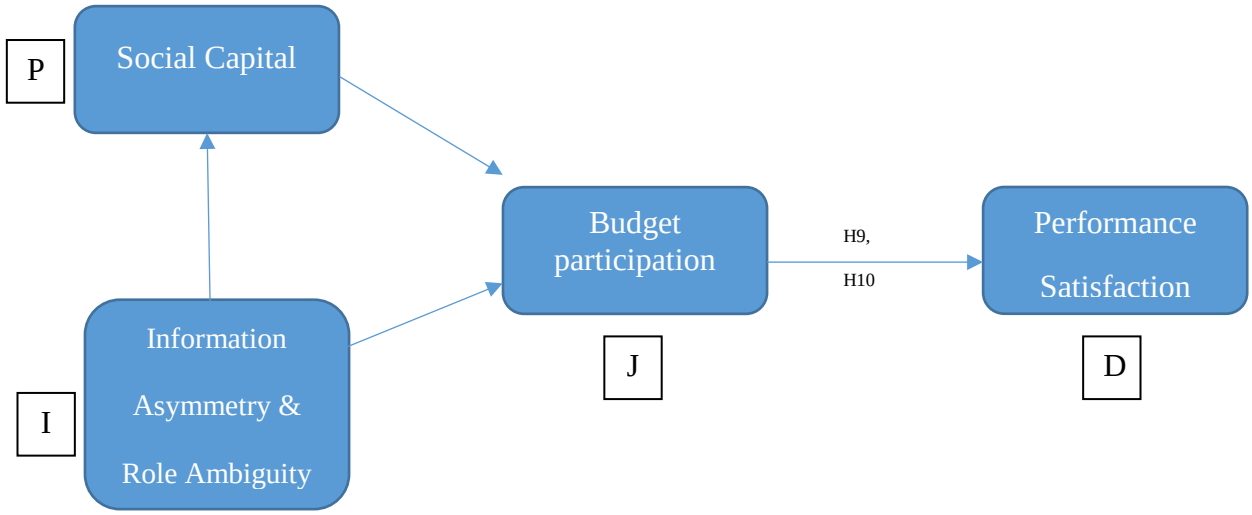


Figure 16: Judgement to decision framework

5.5.4 Decision factor:

Within this study, the decision factor of the Throughput model refers to selecting the best alternative among the different choices available to the decision maker. As indicated before, the subordinates decide on the best course of action among the different available alternatives, which are collected via the information and perception factors and then evaluated, by the judgement factor. In this respect, the subordinates here seek to confirm that the decision made is the most satisfactory and the most suitable decision available. Rodgers (2006) highlighted that, within this stage, the decision makers would be challenged with three sorts of decision making. The first one is choice when the decision makers have very well-defined alternatives from which to select the most suitable. The second type of decision is assessment. Here, the decision makers have a set of substitutes, of which each is assessed and provided with a value. After that, the decision makers would choose the highest in value, i.e. the greatest evaluation among the different alternatives. The third and final type of decision is the constructive decision. Here, the decision makers would rely on their perception in making the decision. This type of decision is linked with the P➔D pathway. The decision makers would match previous events and frames to be used in finalising this decision.

In this study, the concern is the impact of participative budgeting on subordinates' behaviours. Chalos and Haka (1989) indicated that when the thinking process is more narrowly defined in terms of participation, as a set of assigned goals, the conclusions are more consistent with more broadly defined measures. Indeed, those studies indicated the importance of two different behaviours to consider when studying participative budgeting: the subordinate's performance and satisfaction

(Brownell, 1982c; Chenhall & Brownell, 1988; Chow et al., 1988; Dunk, 1993c; Jermias & Yigit, 2013; Milani, 1975).

In previous studies, scholars have typically focused on motivation and other contingent variables, in order to investigate the influence of participative budgeting on subordinate performance. Evidence on the relationship between the budget participation and performance has been highlighted by Gul et al. (1995); Jermias and Yigit (2013); Lau et al. (1995); Milani (1975). Some studies have revealed that there is a positive relationship between budget participation and performance. However, others have found a nonsignificant positive relationship (Hopwood, 1976; Milani, 1975), or a negative relationship (Jermias & Yigit, 2013; Kenis, 1979) between those two variables. As a result of these inconsistent findings, several scholars called for further investigation the effects of the participative budgeting on performance (Jermias & Yigit, 2013).

In this study, the inconsistency among previous studies raises an important question. The performance of subordinates is a significant indicator for the success of participative budgeting within the firm. Hence, it is essential to include this variable within this study. Here, the subordinate's performance reflects the final decision making step within the Throughput model. Technically, this refers to the last impact of implementing participative budgeting within firms.

The second variable, as introduced earlier, is the subordinate's satisfaction. This element is not less important than the performance factor. The satisfaction of the subordinates has been shown to have an important role within previous research.(Chenhall & Brownell, 1988; Chong et al., 2005b). As a result of this importance, this study includes this variable as the second element within the decision

factor of the Throughput model. This satisfaction of subordinates is another indicator for the successful of implementation of participative budgeting within firms.

5.6 Tested Pathways:

As was discussed within the Throughput model chapter, there are six different pathways that reflect the different steps within the decision making process. Testing all of those pathways would require an extended time that was not available for this study. As a result, this study considers only three pathways to be included within the analysis. Those pathways are the analytical pathway, I➔J➔D, the ruling guide pathway, P➔J➔D and the global perspective pathway, I➔P➔J➔D. Those pathways have been selected because they reflect the different studies within participative budgeting. In other words, the first pathway, I➔J➔D, reflects the second generation of studies. Further, the second pathways reflects the implementation of social capital's different factors within the participative budgeting literature. This pathway would indicate the extent of the influence that the different social capital factors have over the participative budgeting and the performance and satisfaction. Finally, the third pathway reflects a combination of the first two pathways. Those different pathways are reflected in the next figures, Figure 17, 18 and 19.

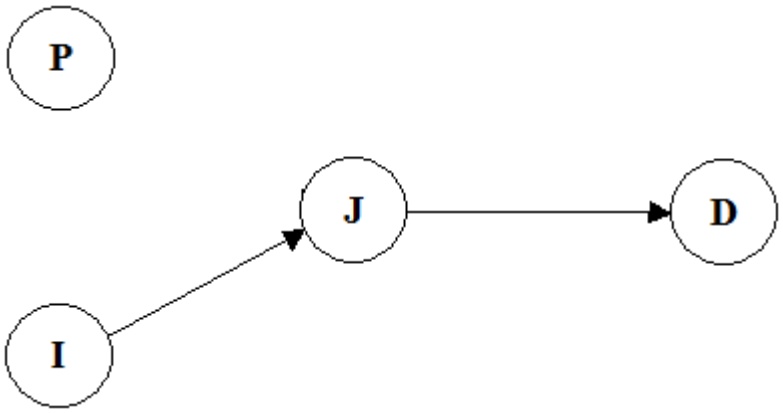


Figure 17: The first tested pathway

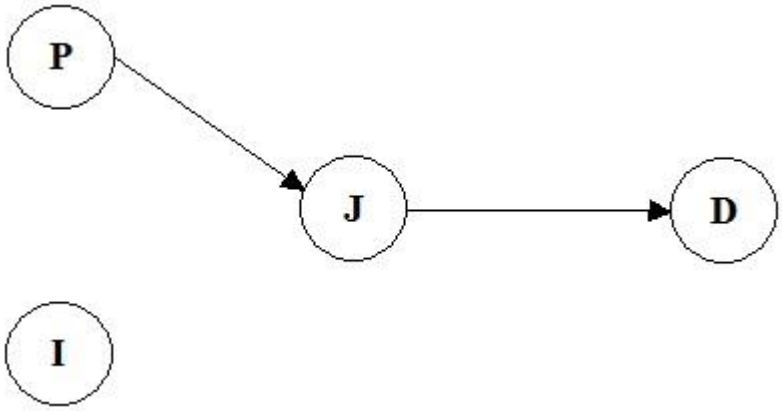


Figure 18: The second tested pathway

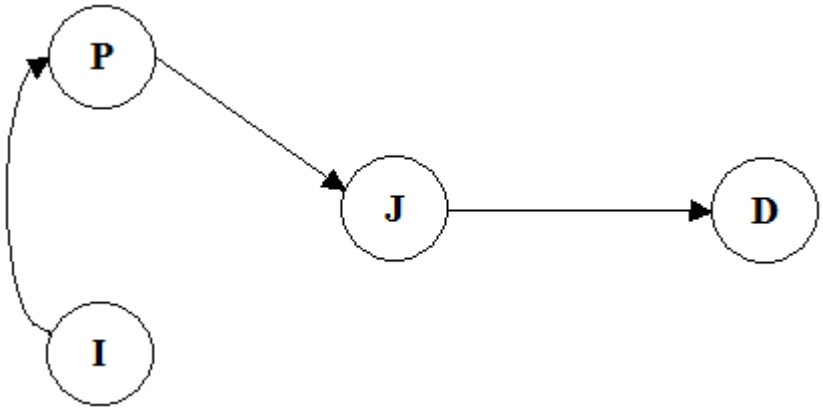


Figure 19: The third tested pathway.

5.7 Conclusion:

This chapter has introduced the study framework to be tested within this study. It includes new elements that were not addressed in the participative budgeting literature. Of key importance is the social capital factor, which encompasses the three different dimensions. Each of those dimensions plays a significant role within the decision making process of those within the firm. Indeed, any decision maker would highly appreciate having the views of others within their network and connections. After knowing this framework, it is time to consider the research methods used to investigate these issues. This is the subject of the next chapter.

Chapter 6. Research Methodology and Design.

Table 18: Position of the current chapter within the research.

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

6.1 Introduction:

Continuing from the previous chapter, this chapter introduces the different research methodologies and methods used within this study. In addition, it explains the process of developing the questionnaire and the process of its distribution. This chapter is organised as follows; it starts with an introduction to the research methodology and methods then outlines the design of the research. After that, the method used to collect the data is described, followed by the ethical considerations and the targeted respondents for the study.

The purpose of this study is to investigate the relationship between participative budgeting and the employees' behaviours, specifically their performance and satisfaction. To empirically investigate such a relationship, there are a variety of research philosophies and methods, that could be adopted by the researcher (Saunders et al., 2011). This chapter explains the research design, which includes the research philosophy, the nature of knowledge used, and the methods adopted. The research design here is the plan that was followed to structure, to investigate, to write and to answer the research questions. Saunders et al. (2011) explained research design by "the onion diagram", which shows simply the different philosophies and methods in research, specifically in business. Each layer of this "onion" has to be peeled in order to reach the central point of the research. Table 19 illustrates the topics covered in this chapter.

Figure 20: The Research Onion

Source: © Mark Saunders, Philip Lewis and Adrian Thornhill 2008

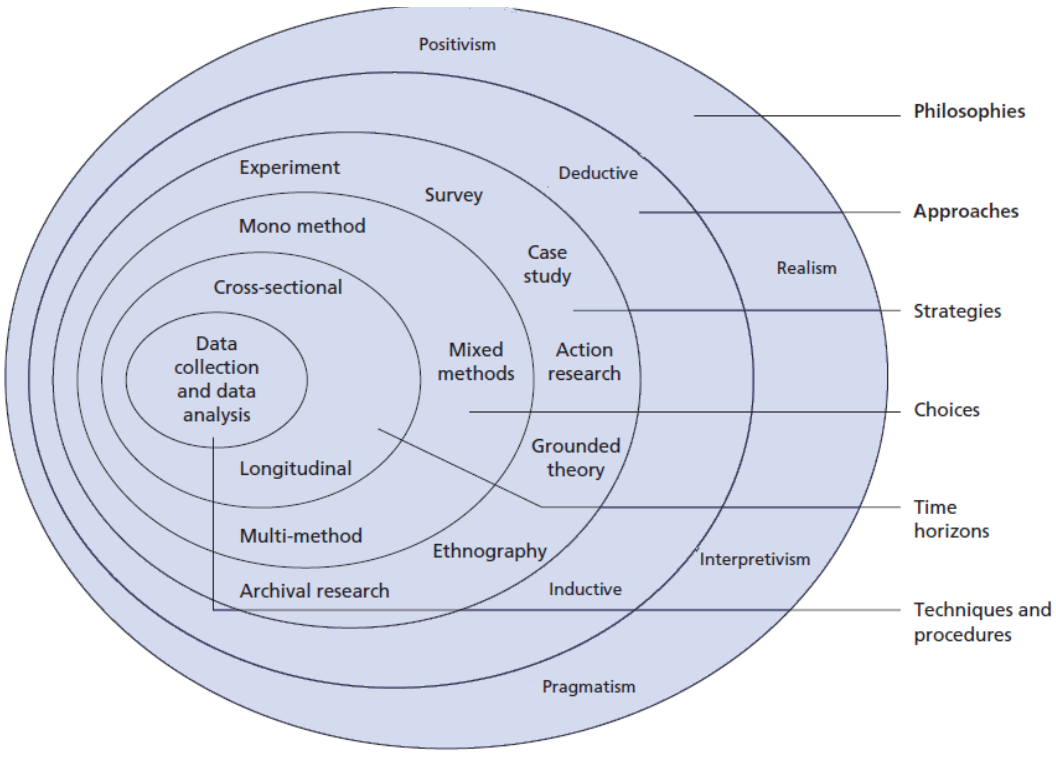


Table 19: Chapter Six Structure.

6.1	Introduction
6.2	The Research Ontology
6.3	Research Methodology
6.4	Research Approach
6.5	Research Design
6.6	Data Collection Method
6.7	Ethical Considerations
6.8	Target Respondents and Sample Planning
6.9	Conclusion

6.2 The Research Ontology:

Before searching a problem, it is important to identify the researcher's assumptions about the world, which underpin the selection of an appropriate design. The first assumption relates to ontology, which concerns assumptions about the nature of the phenomenon under investigation (Saunders et al., 2011). What constitutes reality is the basic concern of ontology (Partington, 2000). As Lancaster (2007) explains, the ontology of the research is "a philosophical approach to theory building based on investigating the universal and necessary characteristics of all existence". The ontology concentrates on the nature of the reality around the research and the researcher. It reveals the researcher's view of how the world operates(Saunders et al., 2011). Most researchers within the business and management field have either an objectivist view of the nature of reality or a subjectivist view, i.e. the qualitative view. The objectivist point of view, i.e. quantitative view, is that social entities exist as external factors in the world. On the other hand, subjectivists would view phenomena as being created in the perceptions of social actors (Burrell, 1979). The following subsections further consider the differences between those two ontological assumptions of research in the management field.

6.2.1 The objectivist 'quantitative view':

Saunders et al. (2011) have indicated that objectivism views a social entity as having a reality, which is external to social actors. In other words, the participants' beliefs and opinions will not influence the researcher (Saunders et al., 2011; Sarantakos, 2013). For example, Saunders et al. (2011:110) highlighted that researchers might "argue that management is an objective entity and decide to adopt an objectivist stance to the study of particular aspects of management in a specific organisation." Such a viewpoint would limit the participants' role within the research process and their influence on its results (Smircich, 1983).

6.2.2 The subjectivist 'qualitative view':

The subjectivist point of view treats the social phenomena as being created by the perceptions and experiences of social actors (Saunders et al., 2011). In other words, the participants' responses would influence the researcher's beliefs, and the researcher's own beliefs would also influence his or her interpretation of the social world. Indeed the subjectivism considers the 'reality' to be an outcome of social interaction among participants in a social context.

The debate among social science philosophers can be illustrated by different perspectives towards organisational culture, for example (Saunders et al., 2011). It has been noted that researchers who tend to be objectivists view the organisational culture as something organisations 'have' whereas subjectivist viewing the culture of the organisation as what the organisation 'is'. Sarantakos (2013) has summarised the differences between those two concepts, see Table 20. Indeed, those different viewpoints would view this relationship from different angles. On the one hand, the subjective point of view would consider that there is a need to view and construct relations based on the participant's perspective. On the other hand, objectivists would

view the participants' perspective based on existing theories. For those reasons, within this study, the objectivist point of view was adopted, since the phenomenon researched is the impact of participative budgeting on the subordinates' performance and satisfaction, which are seen as factors that exist within the real world. From this standpoint, the objectivist viewpoint is by far the most suitable alternative to answer and achieve the objectives of this research. It is also important that this study is implementing well established theory, i.e. the social capital theory and the Throughput model, within a participative budgeting setting, which supports an objectivist viewpoint. Here, the viewpoint is to investigate the impact of participative budgeting on the performance and satisfaction of the subordinates and decision makers by implementing social capital and the Throughput model.

Table 20: The differences between the views of the reality.

Criterion	Quantitative Methodology	Qualitative Methodology
Reality is	Objective, 'out there', to be found. Perceived through the senses. Perceived uniformly by all. Governed by universal laws. Based on integration.	Subjective, in people's minds. Perceived not through senses only. Diverse; perceived differently. Created, constructed not found. Interpreted differently by people.

Source: Sarantakos (2013)

6.3 Research Methodology:

Collis and Hussey (2009) indicated that a few researchers use the word methodology and methods interchangeably during their research, because "it makes them sound more impressive" (Collis & Hussey, 2009:54). However, within this study, we distinguish between those two different terms. Johnson and Clark (2006) highlighted that research methodology is about not only the collection of the data but also how to support the collected data with evidence. Simply, the research methodology is a "framework that guides how research should be conducted, based on people's philosophies and their assumptions about the world and the nature of

knowledge" (Collis & Hussey, 2009:54). It is more about the nature of explanation and how this explanation would be formulated. Research methodology is the science of finding knowledge by using different epistemologies. Sekaran (2010) believes that the core aim of any research is to get answers and solutions to the problem under investigation by following an organised structure and systematic approach to collect evidence about the problem under investigation. How knowledge is developed from those explanations depends on the methods used. The research methodology of a well-developed research project reflects both the research questions and objectives. Moreover, Collis and Hussey (2009) indicated that the purpose of research is to review existing knowledge, produce newer knowledge, investigate existing problems and propose a solution. It includes the research philosophy and approach. Meanwhile, the methods reflect the different means of data collection of the phenomena (Collis & Hussey, 2009:55).

6.3.1 Research philosophy:

The research philosophy is the overarching umbrella of knowledge development and the nature of that knowledge. Specifically, it is the blueprint for the researcher in developing knowledge in a specific field. Research philosophy is based on a variety of assumptions that the researcher has to choose from in order to formulate a point of view of the world. This point of view would be a great help in underpinning the researcher's chosen research strategy and methods(Saunders et al., 2011). Johnson and Clark (2006) have stated that business and management researchers have to be familiar with the implications of the philosophical and research strategy followed. It is important to select a philosophy that fits the research objectives and questions. Based on Saunders et al. (2011) research onion, there are four main research

philosophies used in the area of business and management. They are Positivism, Realism, Interpretivism and Pragmatism.

Those four philosophies reflect different epistemologies, which are views on what forms acceptable knowledge in the researcher's field of study. Realism considers that what the human senses would define as reality would be considered as the truth. In other words, objects are assumed to exist independent from the mind. Interpretivism considers the researcher's understanding and human beings' role as social actors(Saunders et al., 2011). It emphasises the difference between conducting research among humans and objects. In the pragmatist philosophy, the research question is the most important factor governing the epistemology, ontology and axiology. If the research questions do not suggest unambiguously either the positivist or the interpretive philosophy, pragmatism would be applied. Positivism adopts the natural scientists' point of view. In addition, the positivist point of view seeks to find a prediction and explanation of the real world, identifying regular relationships between different elements. This study seeks an explanation of the relationship between participative budgeting and aspects of subordinates' behaviours, i.e. performance and satisfaction while having the influence of the different social capital factors. For this reason, the positivist perspective is adopted in this research, since it is appropriate for the generation and testing of hypotheses in order to investigate their relationships (Saunders et al., 2011). According to Collis and Hussey (2009), some scholars associate the positivist perspective with quantitative research. The next section will highlight the different features of the positivist perspective.

6.3.1.1 Positivist perspective:

As cited by Saunders et al. (2011:113) Remenyi and Williams (1998) indicated that positivists prefer to work "with an observable social reality and that the end

product of such a research can be law-like generalisations similar to those produced by the physical and natural scientists". Many researchers are attracted to positivism due to the way it views reality, the creation of knowledge, and the nature of the research (Sarantakos, 2013). Positivists assume that the social reality is an object to where the researcher can apply measures and statistical methods, to test causal effects (Neuman & Robson, 2012). The phenomena that the researcher can perceive will result in credible data. In order to start searching and collect data, the researcher, within this approach, would be more likely to implement an existing theory and develop hypotheses to predict these phenomena. Such hypotheses will be tested and may be supported, which would confirm the theory used, or refused, leading to the further development of theory, which then may be tested by further research (Saunders et al., 2011).

Furthermore, an important factor is that the positivist researcher is distanced from the undertaken research. In other words, the research is conducted by an independent researcher, who does not affect and is not affected by the investigation of the study. Sarantakos (2013) highlighted ten central principles of the positivists, which are listed in the following table, 21.

Table 21: The ten central principles of positivism

Objectivism	Adheres to the notion of the objective reality and absolute truths.
Empiricism	Claims the knowledge comes through sense experience
Quantitativism	Stresses the value of accuracy, precision and measurement.
Objectivity	Discourages subjectivity in the process of social research.
Value-neutrality	Maintains that facts should be kept apart from values
Anti-rationalism	Reject the notion that knowledge comes from a reason

Universality of science	Asserts that methods of the physical sciences are applicable also in social sciences.
Deductive/inductive	Employs a design based on deduction and produces inductive generalisation
Determinism	The world is deterministic, following strict causal laws, and if these laws are discovered social life can be predicted and controlled.
Knowledge	Asserts that knowledge is gained through descriptions of sense experience.

Source: Sarantakos (2013).

This study is investigating a pre-existing problem, the impact of the usage of participative budgeting on the subordinates' different behaviours, i.e. performance and satisfaction, under the influence of the social capital theory. According to the previous indications of the positivists, this study is suited to be conducted under the positivist philosophy.

6.4 Research Approach:

According to Saunders's (2011) research onion, after peeling the research philosophies is the research approach. They highlighted that research is a way of either testing an existing theory or developing a theory from the information collected. The researcher has to identify which is the most suitable for his research area. Those two approaches are the inductive and deductive approaches. The deductive approach helps in explaining the causality of the relations between different variables. Accordingly, those variables have to be in an operational setting that would enable quantitative measurement. The last characteristic is the ability to generalise the findings by testing a sufficient sample. Robson (2002) identifies five different stages in deductive research. First, the researcher has to develop hypotheses from theory. After that, the researcher has to convert these hypotheses into operational questions that propose the

relationship between the tested variables. Then, the researcher would test those hypotheses by the adopted research strategy. Next, the researcher would examine the results of the testing. The final step, if needed, is for the researcher to apply his findings to the theory being tested.

On the other hand, the inductive approach is concerned with building a theory. Here, the researcher develops an understanding of the problem and its nature by collecting data on the observed phenomena. Then, the researcher's task is to filter the data collected by analysing it in order to formulate a theory. Research using an inductive approach is more concerned with an event that is taking place in real life. The researcher would use a smaller number of participants within the research, which would be more appropriate than a larger number(Saunders et al., 2011).

In view of the differences between the inductive and the deductive approaches to research, this research employs the deductive approach for the following reasons. First, the research objective is to test the impact of the usage of participative budgeting on the employees' behaviour. Theory suggests that employees given the chance of participation would have a positive attitude toward the firm and ultimately, themselves. Secondly, a deductive approach would assist the researcher in expressing the relationship between variables in a statistical form, which will assist in generalising the findings of the study.

6.5 Research Design:

Within quantitative research, the researcher follows a very well constructed research design that is covering, in details, every step during the investigation (Sarantakos, 2013). After introducing the different elements of the research philosophies and approaches, the research design will be explained, concentrating on

the other parts of the Saunders et al. (2011:97) research onion. As cited in Collis and Hussey (2009) Vogt (1999) indicated that "research design is the science of planning procedures for conducting studies so as to get most of valid findings". Here, the research design the next three layers of Saunders' research onion, i.e. research strategy, research choice and time horizon. This research design provides a blueprint for the researcher to follow to answer the research questions. For this reason, the next section will cover those elements in details.

6.5.1 Research strategy:

There are several research strategies that are well known in the area of business and management research. Those strategies are the experiment, survey, case study, action research grounded theory, archival research and ethnography(Saunders et al., 2011). Each one of those strategies has its own unique characteristics; some would be more suitable for the inductive approach, i.e. qualitative research, and the others for the deductive approach, i.e. quantitative research. Explaining the different strategies for business research is outside the scope of this study; however, this study employs the survey strategy for its investigation.

6.5.1.1 Survey:

The survey strategy is usually selected when the deductive approach is used within the research, and it is mostly used within the professional business world(Collis & Hussey, 2009; Saunders et al., 2011). Its usage would enables the researcher to collect a large quantity of data. Saunders et al. (2011:144) argued that "the survey strategy is perceived as authoritative by people in general and is both comparatively easy to explain and to understand. Every day a news bulletin or a newspaper reports the results of a new survey that indicates, for example, that a certain percentage of the population thinks or behaves in a particular way". Also, the usage of the survey allows

the researcher to collect the data quantitatively, which would assist in the analysis of that data descriptively. Furthermore, the survey gives the researcher more control over the different variables tested (Collis & Hussey, 2009; Saunders et al., 2011). Another benefit is that the collected data can be used to propose possible reasons for specific relationships observed among the variables tested.

6.5.2 Research choice:

The research choice is the selection of, at least, one method to conduct the research. Among the different alternatives available for the research to select from are the quantitative or the qualitative. Research may select one alternative or have a combination between them, that is the mixed method research choice(Saunders et al., 2011). In this study, the research choice is the quantitative approach for the data collection.

6.6 Data Collection Method:

The following part of this study will indicate the procedures followed during the data collection. After reviewing the different methods that the researcher could implement, this study implemented a questionnaire survey to collect the data from the participants. Before highlighting the procedures followed to finalise the survey, it is essential to introduce the variables tested within this study and the questionnaire design.

6.6.1 Variable measurement:

As noted in the previous chapter, this study investigates the impact of the usage of the participative budgeting on subordinates' behaviours, i.e. performance and satisfaction under the influence of the various dimensions of social capital. Figure 21 indicates the full framework of this study.

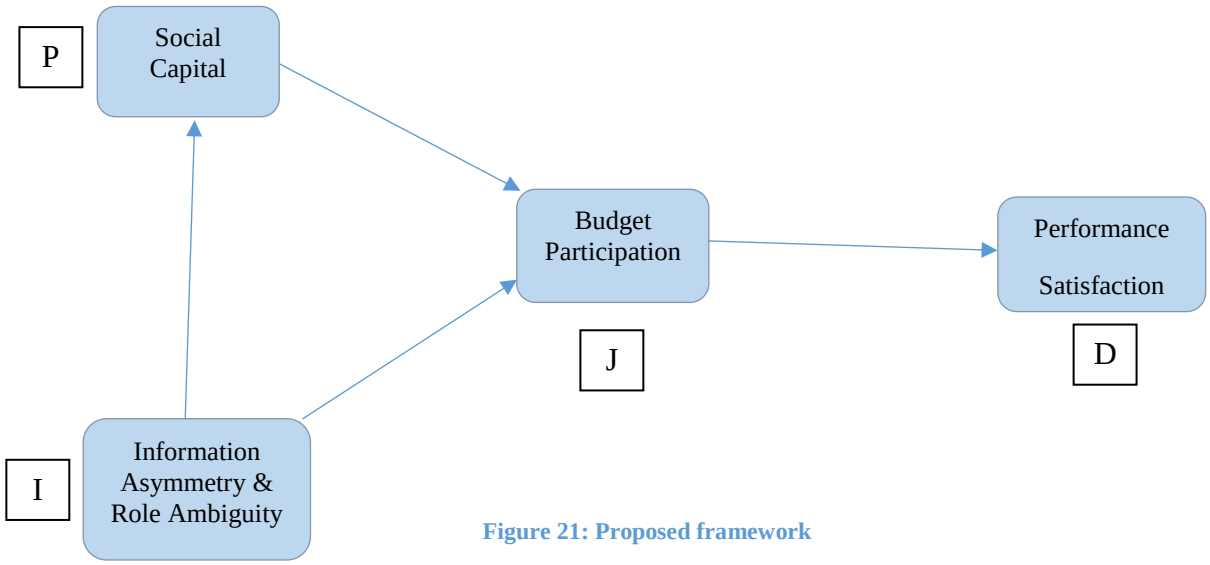


Figure 21: Proposed framework

6.6.1.1 Information factor:

As explained earlier, the Information factor reflects the available data that the subordinates would use to support their decision making process. Rodgers (2006) highlighted that this factor contains the information that has been collected by the decision maker in order to assist them in making decisions. Within this study, this factor reflects the information asymmetry element, which is introduced next.

- Information asymmetry:

The first element of this framework is the information asymmetry under the information factor of the Throughput model. Dunk (1993a) developed a measure of information asymmetry that includes six items. Those items reflect the subordinates' possession of more information and knowledge of their areas of responsibility, their knowledge about the outputs and inputs of the operations under their responsibility, their confidence when performing their duties, their ability to assess the impact of external factors on their duties and their understanding that their ability to achieve their duties is higher than their supervisor's (a higher level of management) (Dunk,

1993a). Those elements are be measured on a seven-point Likert scale which requires the respondent to respond from strongly agree, 7, to strongly disagree, 1 (Sarantakos, 2013). This measure has been implemented extensively within business studies and especially in accounting research (Shields & Shields, 1998). Moreover, Jermias and Yigit (2013) implemented this measure in their study about the impact of the implementation of, the participative budgeting in Turkey. For the purpose of the study Dunk's (1993a) measure is adopted to measure the level of information asymmetry among the decision makers. The instrument has a good reported internal consistency with a Cronbach's alpha of 0.79 (Dunk, 1993a).

6.6.1.2 Perception factor:

As highlighted in an earlier chapter, this element of the Throughput model reflects the subordinates' perception of their decision making process. This perception has been introduced as the framing process that the decision makers would use as the lens to view the current dilemma. This study argues that decision makers will be influenced by their relationships, i.e. social capital. These constitute the dimensions of the social capital: relational, structural and cognitive.

- The relational dimension:

As highlighted earlier, this dimension of social capital reflects two different perspectives in viewing subordinates' relationships: the internal and the external views (Cuevas-Rodríguez et al., 2014). These two views will be introduced next.

(i) Internal relational dimension:

This part of the relational dimension reflects relationships that exist among subordinates within the same department. This type of relationship is developed by the history of interactions of the subordinates within the same department(Cuevas-Rodríguez et al., 2014). For the purpose of this study, we adopted a measure

developed by Merlo et al. (2006). This scale has four elements measured on a 7 point Likert scale ranging from strongly agree, 7, to strongly disagree, 1. The scale has been used in a study the literature by Cuevas-Rodríguez et al. (2014). The Cronbach's alpha of this scale is 0.937.

(ii) External relational dimension:

The external relational dimension of the social capital reflects the relationships that the subordinates have with others working is other departments within the firm. For the purpose of this study, we have adopted a scale developed by Cuevas-Rodríguez et al. (2014), based on both Inkpen and Tsang (2005) and Maurer and Ebers (2006). This scale has four items with a 7- point Likert scale ranging from strongly agree, 7, to strongly disagree, 1. This scale has reported Cronbach's alpha of 0.833.

- The structural dimension:

This dimension of the social capital factor reflects the different connections that the subordinates have with others within the same firm. As indicated earlier, the structural dimension of the social capital resembles the social interaction among the subordinates. This study adopts the scale developed by Chiu et al. (2006). When Chiu et al. (2006) developed the scale, they took into consideration the previous scale by Tsai and Ghoshal (1998). Both scales focus on the closeness of the relationships that the subordinates have, the time spent interacting and the frequency of the communication among those subordinates. This scale has four items answered on a 7-point Likert scale, ranging from strongly agree, 7, to strongly disagree, 1. This scale has a Cronbach alpha of 0.895.

- The cognitive dimension:

This is the last dimension of the social capital. As noted earlier, this dimension refers to "those resources providing shared representations, interpretations, and

systems of meaning among parties" (Nahapiet & Ghoshal, 1998:244). The cognitive dimension captures different concepts, such as shared vision, the system of meanings and values. For the purpose of this study, this dimension is measured by the scale developed by Chiu et al. (2006), Nahapiet and Ghoshal (1998) and Tsai and Ghoshal (1998) . This scale has three items that cover the subordinate's perception of the shared vision, goal and values for the firm. This scale is assessed using a 7-point Likert scale ranging from strongly agree to strongly disagree, 7 to 1 respectively. The scale's Cronbach alpha is 0.9.

6.6.1.3 Judgement factor:

Earlier, it was stated that the judgement factor reflects the action of analysing the available information and the frame established within the perception of those decision makers. In this study, the judgement process is heavily influenced by the decision maker's preferred strategy to reach a final decision. As shown in figure 21, the judgement factor reflects the budget participation pf those subordinates. As noted earlier, participative budgeting was introduced to overcome the limitations of top down budgeting. It concerns, as stated by Argyris (1952) and Brownell (1982c), "the amount of involvement and influence a subordinate manager has for setting his or her unit's budgets"(Derfuss, 2009:206). For the purpose of this study, the participation of the subordinates is measured using the instrument developed by Milani (1975). This instrument contains six questions, with a seven point scale, that will measure the subordinates involvement in the budget setting, the reasons provided by the top level management when revising the budget, the number of discussions with top management about the budget, their influence on the final version of the budget and the significance of their contribution and addition to the budget (Milani, 1975). This scale has been extensively used by key scholars within the area of participative

budgeting, such as Brownell and Dunk (1991), Brownell and Hirst (1986), Kramer and Hartmann (2014) and Shields and Shields (1998). This scale was assessed using a 7-point Likert scale ranging from strongly agree to strongly disagree, 7 to 1 respectively and has a Cronbach's alpha of 0.85.

6.6.1.4 Decision factor:

The last factor of the Throughput model is the decision. Here, the researcher will test the impact of participative budgeting on the subordinates' performance and satisfaction. In the decision the subordinates choose the best course of action, that is, they try to ensure that the decision made is the most satisfactory decision available. In this study, this factor reflects two elements, performance and satisfaction.

- Performance:

In this study, performance is defined as how a subordinate would perform a certain task within his duties. This variable is assessed using the nine-item instrument developed by Mahoney et al. (1965) and adopted by Kren (1992a), Brownell and McInnes (1986) and Parker and Kyj (2006). The instrument rates the subordinate's performance on planning, coordinating, evaluating, supervising, investigating, staffing, representing and negotiating(Yuen, 2007). This scale was assessed using a 7-point Likert scale ranging from strongly agree to strongly disagree, 7 to 1 respectively and has a Cronbach's alpha of 0.89.

- Satisfaction:

The final element of this model is satisfaction. Satisfaction plays an important role in research on subordinate behaviour. (Chenhall & Brownell, 1988; Chong et al., 2005b). Because of this importance, this study includes this variable as the second element within the decision factor of the Throughput model. This satisfaction of the

subordinate is another indicator for the successful of implementation of participative budgeting within firms. Weiss et al. (1967) developed an instrument to measure the subordinate's satisfaction. This instrument has two forms, a long and a short one, 100 questions and 20 questions respectively. Both measure the subordinate's satisfaction in 20 different aspects, ability utilisation, achievement, activity, advancement, authority, company policies and practices, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision human relation, technical variety and work conditions. Among these elements, this study adopts the questions related to the company policies and practice. The selection of this scale is due to the fact that this research tests the impact of a company policy and practice, the usage of participative budgeting. For the purpose of this study, five questions are used as a scale to measure the subordinates' satisfaction. This scale was assessed using a 7-point Likert scale ranging from very satisfied to very unsatisfied, 7 to 1 respectively. It has a Cronbach's alpha of 0.89.

6.6.2 The questionnaire structure:

As cited in Saunders et al. (2011:360), De Vaus (2002) indicated that the questionnaire is "a general term to include all techniques of data collection in which each person is asked to respond to the same set of questions in a predetermined order" . Depending on the topic investigated, the questionnaire structure can vary. For examples, there are standardised, unstandardized and semi-standardized questionnaires (Sarantakos, 2013). The main difference among those alternatives is based on the respondent's ability to add additional details within their responses. In other words, if the respondent has open-ended questions, this would be either an unstandardized or semi-standardized instrument, whereas a standardised questionnaire is highly structured and has fixed response options. In this scenario, the answers are

limited to a selection of strongly agree, 7, to strongly disagree, 1. In this study, all of the variables defined were in the form of standardised questionnaire items within a self administered format (Sarantakos, 2013:250). As Sarantakos (2013) highlighted, developing a questionnaire is a very pressing mission that needs both methodological knowledge and experience. Various formats may be selected in terms of the way that the questions are organised, for example. the funnel, inverted, diamond, X-format, box and the mixed format (Sarantakos, 2013). In this study, the mixed format was adopted. This format is a mixture of all of the following formats that the researcher interpreted to be the best alternative for the study.

Some scholars have highlighted that when a questionnaire has many questions to answer, the participants tend to falsify their responses. Saunders et al. (2011) highlighted the importance of this issue, which affects the internal reliability. They, therefore, recommended having a 'check question' to indicate the respondent's reliability. Other scholars advocate another technique to test for the internal consistency, i.e. the test re-test (Mitchell, 1996). In this study, both of those techniques were employed in order to increase the reliability of the measurement and the questionnaire as a whole. These techniques was implemented within the survey via three questions. The first one was a straightforward question, asking the participants to select the choice 'AGREE' as their response. The second and third questions followed the test re-test method. Here, the participants were asked a question twice, in order to observe the consistency of their responses.

Another important section of the questionnaire is the cover letter. Sarantakos (2013) indicated that the covering letter has a significant influence on the response rate of the participants. The aim of the covering letter is to present the research topic, aims and the research team to the respondent (Sarantakos, 2013; Saunders et al., 2011).

The following table outlines the content of the cover letter, (see Table 22). For the full questionnaire and the cover letter, please see Appendix A.

Table 22: The content of the cover letter

1	Describes the main objectives and social significant of the study.
2	Identifies the research team and its sponsors.
3	Gives reasons why the respondent should complete the questionnaire.
4	Guarantees anonymity, privacy and confidentiality.
5	Outlines requirements for completion such as the maximum time, conditions, etc.
6	Gives information about the possible risks associated with the project.
7	Cover issues related to ethics.

Source: Sarantakos (2013).

6.6.2.1 Pre-testing phase:

The questionnaire variables and questions were selected in accordance with the literature, then modified and reviewed for the current study. Scholars in the area of research methods, such as Saunders et al. (2011) and Sarantakos (2013) indicate that researchers should ask a group of experts to comment on overall questionnaire representation and format. This step will assist the researcher in the validity of the questions to the context of the sample and the study (De Vaus, 2002). Sarantakos (2013) mentioned that the validity of the questionnaire is the property that indicates its relevance and accuracy for the context of the research. Indeed, "validity tells the researcher whether an instrument measures what it is supposed to measure and whether this measurement is accurate and precise"(Sarantakos, 2013:99). To assess validity, the full survey and the cover letter was passed to 10 fellow PhD students at the University of Hull, who were from different departments.

Those follow PhD students provided the researcher with valuable feedback regarding the structure of the questionnaire and the questions themselves. All of that feedback was taken into account to improve the quality of the survey. For example, the layout of the survey did not include an introduction before each group of questions.

As a result of a comment in the pilot stage, such introductions were included in the final version of the survey. After reaching this point, the full questionnaire was forwarded to the HUBS ethics committee for approval. The committee returned the questionnaire with a few comments and feedback. The questionnaire was adjusted accordingly.

6.6.2.2 Questionnaire language:

The questionnaire was developed in English. Because the study was conducted within a country where English is the second language, i.e. Saudi Arabia, it was necessary to translate the whole questionnaire into Arabic. Saunders et al. (2011) highlighted that this process, i.e. the translation, requires care and the researcher should consider different alternatives during the translation process. Oppenheim (1992) indicated that having a questionnaire translated from one language to another poses a risk of bias. Also, he likened it to "entering a series of minefields"(Oppenheim, 1992:95). Saunders et al. (2011) suggested four different methods to translate questionnaires, lexical, idiomatic, experiential and grammar and syntax meanings. This study followed idiomatic translation for the questionnaire translation to Arabic. Bearing in mind Usunier's (1998) review of different techniques for the translation process, the direct, back, parallel and mixed techniques of translation, this study used the parallel technique, since it leads to better wording of the questionnaire.

In the translation process, first, the researcher had the questionnaire translated by a qualified translator. At the same time, the researcher individually translated the questionnaire. After that, the two copies were compared and adjusted accordingly. Second, the researcher passed the translated questionnaire to six bilingual PhD students at the University of Hull, who suggested some changes to the items wordings. Consequently, the questionnaire was adjusted. Third, the researcher passed the

updated copy of the questionnaire to an Arabic linguist to confirm the meaning and flow of the questions. The returned copy had minor grammar and punctuation changes. Finally, the questionnaire was passed to six different private sector professionals, in high-ranked positions. The questionnaire was returned with minor suggestions and changes regarding the clarity and the wording. The questionnaire was adjusted accordingly and forwarded to the ethics committee for the final consideration.

6.6.2.3 Using online questionnaire:

Computers and smartphones have made our life much easier and much closer. This advancement enables researchers to reach a greater number of participants to answer questionnaires. The internet bridges the researcher with the respondents in a fast way (Sarantakos, 2013). Witmer et al. (1999) cited in Saunders et al. (2011) indicated that online questionnaires provide the researcher with a greater control since most of the participants read their email frequently. "This opens the door to a significantly large number of people and also to forms of questionnaire administration that almost eliminate the human factor on the side of the researcher" (Sarantakos, 2013:274). For the current study, the researcher used an online survey platform to distribute the questionnaire among the participants. A variety of vendors are available to choose from, such as Survey Monkey.com, Qualtrics.com, esurveycreator.co.uk and BOS (University of Bristol online-survey). After comparison among those alternatives, esurveycreator.co.uk was selected for several reasons. The e-survey creator platform allows students to benefit from its service free of charge, provided a student email is used when creating the account(Esurveycreator.co.uk, 2016). Another reason was that this platform has the ability to optimise the survey viewing to smartphones and tablets (Esurveycreator.co.uk, 2016). In the survey, it was required for respondents to answer all of the questions in order to move forward with the

survey. After introducing the aim of the questionnaire and the study, the participant has the choice to either continue with the questionnaire or withdraw from the survey.

6.7 Ethical Considerations:

The involvement of human participants in any research study, as respondents to questionnaires, raises ethical dilemmas. Such ethical dilemmas normally arise at different stages within the research process(Saunders et al., 2011). Many scholars have explained ethics as the norms that guide researchers in moral choices in their relationships with others (Collis & Hussey, 2009; Sarantakos, 2013; Saunders et al., 2011; Sekaran, 2010). This study was conducted under the University of Hull code of ethics in research. This code involves the privacy of the participants, their voluntary participation, the right to withdraw from participating in the study and the confidentiality of their information. In addition, after completion of the questionnaire design, it was forwarded to the ethical committee at HUBS for approval, see Appendix C for the approval letter. It was arranged that if any unethical situation or doubt should arise, the study supervisors would be contacted immediately and a solution proposed.

6.8 Target Respondents and Sample Planning:

The first step of the sample planning is to indicate the population of the sample. At this stage of the research as Sarantakos (2013) notes, it is highly important for the researcher to define the population of the study. This study investigated the impact of the implementation of participative budgeting on employees' behaviour. Therefore, the most suitable population for this study was manufacturing firms. In Saudi Arabia, manufacturing companies include both listed companies and family businesses. Family businesses represent a significant part of the Saudi Market (Saudi Industrial Property Authority, 2014). The researcher had to select one of those two different sectors to conduct this study. Preference was given to listed companies over the family

businesses because listed companies are more regulated and share similar characteristics, i.e. corporate governance and listing rules (Capital Market Authority, 2016; Saudi Industrial Property Authority, 2014; Tadawul, 2016). The target population, therefore, was listed companies at Saudi Arabia stock market. Sekaran (2003) has stated that the population reflects all items of interest in the study, and which the researcher would be investigating.

The Saudi Arabian Stock market has 178 listed companies, which operate in 15 different sectors (Tadawul, 2016): banks and financial services, petrochemical industries, cement, retail, energy and utilities, agriculture and food industries, telecommunication, insurance, multi-investment, industrial investment, building and constructing, real estate development, transportation, media and publishing and hotel and tourism (Tadawul, 2016). Most of the previous work in the area of participative budgeting was at manufacturing companies (Derfuss, 2009; 2015a; Shields & Shields, 1998).

For this reason, only those companies that have a manufacturing process were considered for this study. On this criterion, banks and financial services, retail, telecommunication, insurance, transportation, media and publishing, hotel and tourism were excluded. This left 69 listed companies that have a manufacturing process within their activities. These manufacturing processes ranged in scale some companies manufacturing on a massive scale, such as SABIC, a very well known multinational corporation in the petrochemical sector, the third largest diversified chemical company in the world. SABIC has a workforce of more than 40,000 and operations in 50 different countries around the world (SABIC, 2016).

In line with previous literature, this study targeted mid-level managers (Ahearne et al., 2014; Argyris, 1952; Brownell, 1982a; Jermias & Yigit, 2013). Consideration was also given to the accessibility of companies, as access constraints would, in turn, pose some constraints on accessing the participants and communicating with them prior to the study (Saunders et al., 2011).

6.8.1 Distributing the questionnaire:

After the researcher had clearly defined the targeted participants, it was necessary to follow a defined approach in approaching those participants. The researcher started the process of distributing the questionnaire by making phone calls to establish communication with those 69 companies. This communication was to initiate the relationship with the company and explain the purpose of the study to the public relations personnel. Usually, communication was either by sending an email to the public relations department at the company or by placing a phone call to the person in charge. This process took place between the period from December 1, 2015, until March 1, 2016.

After establishing a relationship with the public relations department, the researcher discussed the process of the survey and the aim of the study along with the targeted sample. Individuals working in public relations departments had detailed information and knowledge about the targeted sample. The researcher forwarded a copy of the survey in. electronic form, as a 'website link' to heads of the public relations departments, in order for them to forward it to the mid-level managers. The date and time of communication with those public relations departments were documented to ensure follow-up with the same person, or other co-worker if necessary.

Within the 69 listed companies, their public relations departments used their databases to forward by email the questionnaire to those working in mid-level management. The online survey link was active until March 1, 2016, i.e. no more responses were collected after the above date. Out of those participants who started the questionnaire, 1521 responses, only 74 participants (4.9%) withdrew from completing the questionnaire. About 601 actually reached the end of the questionnaire.

6.9 Conclusion:

This chapter has introduced and highlighted the research plan that was followed during conducting this research. The different research methodologies available were noted, and the reason behind the researcher's selections explained. In addition, the researcher has described the process of developing the questionnaire and the different aspects of the questionnaire used within this study. The steps implemented during the process of the translation of the survey were also indicated. After the questionnaire was developed and ready for distribution, the methods used into distributing the survey among those targeted participants were explained. The chapter concluded by reporting the number of those respondents who participated and completed the questionnaire.

Chapter 7. Data Analysis.

Table 23: Position of the current chapter within the research.

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

7.1 Introduction:

This chapter covers the steps that the researcher followed to prepare the dataset for testing. In addition, it highlights the differences between PLS-SEM and the CB-SEM. Following that, the steps followed in evaluating the PLS-SEM, both the measurement and structural models, are explained. The final element addressed in this chapter is the testing of the hypotheses introduced earlier. The chapter starts with the preparation of the dataset. Table 24 illustrates the topics covered in this chapter.

Table 24: Chapter Seven Structure

7.1	Introduction
7.2	The Preparation of Data
7.3	Normality
7.4	Factor Analysis
7.5	Statistical Techniques
7.6	Overview of PLS-SEM
7.7	PLS-SEM Measurement Model
7.8	Descriptive Statistics
7.9	Hypothesis Testing
7.10	Conclusion

7.2 The Preparation of Data:

After collecting the data from the respondents, now it had to be prepared for the study. As indicated earlier, the questionnaire elicited about 1521 views. In other words, this is the number of the individuals who received, opened the email and clicked on the survey link. The number of those who reached the last question of the questionnaire was 601. All 1521 responses were imported into MS Excel® and IBM SPSS® programs for preparing and cleaning the data.

Within the next sections, this study highlights the procedure followed in order to prepare and clean the data. First, the different approaches to account for the missing data from the different questions and variables are explained. After that, the steps involved in cleaning the data are reported. Then, data analysis steps such as procedures for handling outliers are considered

7.2.1 Missing data:

Hair Jr et al. (2013) highlighted that missing data from questionnaires and surveys are a common issue within social science research. Missing data refers to those parts of the information regarding the social phenomena that are not presented for analysis and interpretation. Those missing values are highly important since they would hinder the researcher's ability to accurately explain and understand the social phenomena being investigated (McKnight et al., 2007). Hair Jr et al. (2013) highlighted that the missing data happens due to multiple reasons. The respondents may have either intentionally or accidently failed to respond to one or more of the questionnaire questions. Furthermore, as cited by Saunders et al. (2011:425), De Vaus (2002) had indicated four reasons for missing data:

- "The data were not required from the respondent, perhaps because of a skip generated by a filter question in a survey.
- The respondent refused to answer the question (a non-response).
- The respondent did not know the answer or did not have an opinion. Sometimes this is treated as implying an answer; on other occasions, it is treated as missing data.
- The respondent may have missed a question by mistake, or the respondent's answer may be unclear."

Hair Jr et al. (2013:51) argued that "When the amount of missing data on a questionnaire exceeds 15%, the observation is typically removed from the data file". In other words, any questionnaire with more than 15% missing values will be eliminated from the sample. For the purpose of this research, all of the questions of the survey were mandatory, and respondents could not skip from one page of the online survey to another without completing all of the questions on the page. Moreover, within the cover letter, respondents to were asked to confirm their agreement to participate in the survey.

The researcher carefully reviewed the data file and applied the previously indicated approaches. After exporting the raw data file from 'esurveycreator.com©', the researcher had to account for those participants who started and did not complete the questionnaires. As was highlighted earlier, this survey was terminated by March 1, 2016. The total number of individuals who had received the email and clicked on the survey link was 1521. After being directed to the survey main page, the respondent would reach the cover letter of the questionnaire, which highlighted the purpose of the study, the research team and the privacy of the participant. Within this cover letter,

was a mandatory question that asking whether the participants was willing to be a part of the survey. In other words, the respondent would not be directed to the survey questions unless they agreed to this question. Out of those 1521 views of the survey, only 74 respondents (4.9%) refused to take part in the survey. Those who did so were directed to the 'thank you page' and existed the questionnaire website.

Of the 1447 respondents who had agreed to being a part of the survey, only 748 (49.1%) actually started answering the survey questions. In other words, 699 participants agreed to take part in the survey but did not answer any of the survey's questions. Those responses were eliminated for multiple reasons: first, they were missing more than 15% (Hair Jr et al., 2013) and they were treated as unreturned questionnaires. Only 601 participants (39.5%) reached the last question of the questionnaire. This loss of respondents is due to the fact that participants stopped and exited the survey without completing it. Since this questionnaire was self-administered and this would increase the number of respondents who did not complete it (Saunders et al., 2011).

7.2.2 Cleaning the data:

Since this questionnaire was self-administered, the researcher had to take various measures to ensure the accuracy of the responses and whether the targeted respondents completed the questionnaire. Within the questionnaire, the researcher included a question asking the respondents to indicate their work position. Taking into consideration that this survey was distributed by the firms' public relations department via email, there was an error margin that the email would reach the wrong respondent. Requesting the respondents to indicate their current work position helped to increase the validity of the questionnaire and its internal consistency. Out of the 601 returned full questionnaires, 76 (12.6%) responses were eliminated from the sample, as the

respondents were not currently working in mid-level management positions, and had received the questionnaire by accident from their public relations department.

Furthermore, Saunders et al. (2011) have highlighted the dilemma of the internal consistency and validity of questionnaires when using self-administered surveys. They indicated that the researcher has to beware of those respondents who complete the survey without concentrating on the actual question requirements. For this reason, as highlighted earlier, the questionnaire had test questions to check the internal validity and consistency of the responses. Within this questionnaire, there were three such checking and test-retest questions. For the first question, the checking question, the respondents were asked to select 'AGREE' as a response to the question, please see questionnaire in Appendix A. The number of the respondents who got this question right was 491 (81.7%). This percentage shows that about 82% of the participants who completed the questionnaire were aware of this 'checking' question.

The second question followed the test-retest technique. The respondents were asked a question twice within the questionnaire on two different pages. This technique, according to Saunders et al. (2011) increases the reliability of the responses. Of the 601 responses, only 415 (69.1%) responses passed this test. The third and final test question also followed the test-retest strategy. This final question was answered consistently by 365 (60.7%) respondents.

As a result of those different filter questions and validity and reliability techniques (Bryman, 2016; Mitchell, 1996; Saunders et al., 2011), the sample would be more accurate to represent the population of the study. The researcher matched those participants who correctly answered all three test questions. The final number of

the sample was 283 (47.1%) responses. The following table summarises the steps followed in handling data the missing and cleaning the data (check Table 25).

Table 25: Results of missing data and data cleaning

The steps	Respondents	Percentage	
Total number of responses imported from esurveycreator.com	1521	100.0%	------
Number of individuals who denied participation	74	4.9%	------
Number of Individuals who agreed to the questionnaire	1447	95.1%	------
Total number of returned questionnaires	601	39.5%	100.0%
Responses remaining after the position question	525	34.5%	87.4%
Correct responses for the first test question	491	32.3%	81.7%
Correct responses for the second test question	415	27.3%	69.1%
Correct responses for the third question	365	24.0%	60.7%
The final sample after matching the three test questions	283	18.6%	47.1%

7.2.3 Outliers:

The second step after finishing cleaning and dealing with missing data was to consider outliers of the sample. Hair Jr et al. (2013:53) indicated that an "outlier is an extreme response to a particular question or extreme responses to all of the questions". Also, Tabachnick (2014) highlighted that outliers are values that differ from the rest of the data set. This could indicate that during the data entry process, it was entered incorrectly. Outliers exist in univariate and multivariate situations, which can distort the results and their interpretation leading to Type 1 and Type 2 errors (Tabachnick, 2014). Tabachnick (2014) explained that there are four reasons for having outliers within the data set. The first one is that an incorrect data entry. The second one is that the researcher failed to identify the missing value codes within the IBM SPSS®. The third one is that the respondent was not from the population intended to be investigated, i.e. within this study, this would reflect on mid-level management. The final reason is that the respondent reflects the intended population but the distribution

of the variable within "the population has more extreme values than a normal distribution (Tabachnick, 2014:73). In such a case, the researcher has to retain such responses but also consider changing those outliers.

In this study, the researcher checked the data set for possible outliers, with the aid of the IBM SPSS® program. At this stage, Tabachnick (2014) recommended using either histograms or boxplots to check for outliers. "Box plots are simpler and literally box in observations that are around the median, cases that fall far away from the box are extreme"(Tabachnick, 2014:74). For this reason, the researcher implemented the boxplot approach for identifying outliers. Within the boxplot, the outliers would be identified by a circle next to the case number of the outlier. Usually, outliers are located in more than 1.5 of the box-length of the boxplot. Also, those extreme values would be identified by a star rather than a circle (Pallant, 2010). The boxplots for the items with outliers are showed in Appendix G.

As seen in Appendix G, those items were considered as having outliers according to their boxplots (Field, 2013; Pallant, 2010; Saunders et al., 2011; Tabachnick, 2014). Those scholars have suggested a variety of methods to minimise the effects of the outliers on the data set ranging from transformation of those cases to eliminating those outliers. However, Pallant (2010) indicated that before considering those different methods of dealing with outliers, the researcher should check the trimmed mean before and compare it with the original mean. Within IBM SPSS©, in the description of the dataset, there is an element named trimmed mean. For this, the IBM SPSS removes the top and bottom 5% of the cases, to calculate a newer mean, i.e. the 5% trimmed mean. When the difference between the two means is significant, i.e. very different, the researcher has to consider the previously mentioned methods of eliminating the effects of outliers. On the other hand, there is no harm in keeping those

cases when there is a small difference between those two means. Tables show the comparison of those two means for all of the items of the study can be found within Appendix H.

Tabachnick (2014) advised using standardised scores to detect outliers and indicated that cases with scores greater than 3.29 are potential outliers. Within the data set, there were a few cases where the standardised score was greater than 3.29. After reviewing the data set for those were cases with the potential outliers, those cases were retained, since they amounted to less than 5% (Hair Jr et al., 2013; Tabachnick, 2014). For the results of the trimmed means please see Appendix H.

7.3 Normality:

Many statistical tests require different assumptions (Hair Jr et al., 2014; Pallant, 2010). One of those assumptions is the normality of the distribution of the data set. Usually, normal data, when plotted, would have a bell shaped curve (Saunders et al., 2011). There are also other methods to visualise the normality of the data, such as the skewness and the kurtosis of the bell-shaped curve of the data set (Saunders et al., 2011). "Skewness assesses the extent to which a variable's distribution is asymmetrical" (Hair Jr et al., 2013:54)and "kurtosis is a measure of whether the distribution is too peaked (a very narrow distribution with most of the responses in the centre)"(Hair Jr et al., 2013:54). In the IBM SPSS results, those two tests can be in statistical form or in a graph. Within the statistical form, the two tests should have a value of zero (Tabachnick, 2014). When using a graph, a probability-probability plot, the 'p-p plot', will plot the "cumulative probability of a variable against the cumulative probability of a particular distribution"(Field, 2013:179).

In order to assess the normality assumption within this data set, it is essential to understand the different methods to test for the normality. Two tests that assess the normality of the data distribution are the Kolmogorov-Smirnov and Shapiro-Wilk tests (Pallant, 2010). As noted by Hair Jr et al. (2013) those two tests of normality compare the data set to a normally distributed data set that shares the same mean and standard deviation. Different scholars have highlighted that researchers should not only consider those two tests alone. Instead, they should consider both the skewness and kurtosis(Hair Jr et al., 2013). Appendix I, shows the results of those tests for the data set items.

According to Pallant (2010), normality tests indicate whether the assumption of the normality is violated in this data set. The tests of normality presented in appendix I indicate nonsignificant results, with a significant value here of (.000). However, Field (2013) highlighted that the Kolmogorov-Smirnov and Shapiro-Wilk tests for normality will be impacted by the size of the sample. "So, the problem is that in large samples, where we don't need to worry about normality, a test of normality is more likely to be significant, and therefore likely to make us worry about and correct for something that doesn't need to be corrected or worried about"(Field, 2013:184). However, in small samples, when testing for normality, it is essential to pay attention to not only a single test or method. After carefully reviewing the different tests for normality, it was clear that the data set violated the normality assumption and the researcher was highly confident of this violation. Appendix J shows graphs that present the P-P plots for the data set that indicate the non-normal distribution of the data.

7.4 Factor Analysis:

Factor analysis is a "statistical technique applied to a single set of variables when the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another"(Tabachnick, 2014:607). It does not test the significance of the difference between groups but is used for 'data reduction' as IBM SPSS identifies it (Pallant, 2010:181). Hair Jr et al. (2013) indicated that factor analysis shows whether all of the items of a construct are highly correlated and represent the same construct. The factor analysis is simply testing for the unidimensionality of constructs. This type of testing has two main approaches, exploratory and confirmatory factor analysis (Pallant, 2010). Exploratory factor analysis is commonly used in the early stages of research in order to indicate interrelations among the different variables. Meanwhile confirmatory factor analysis, which is considered more complex than exploratory factor analysis; is used at a later stage of research, to 'confirm' the research hypotheses or the different theories of the underlying variables set (Pallant, 2010). For this study, the researcher employed exploratory factor analysis in order to assess the loading of items on the different constructs.

This was conducted using IBM SPSS mainly to find the underlying structure of the different variables. Before starting the factoring procedure, it was important to inspect the interrelation among the 46 items, which would help in their factorability (Pallant, 2010; Tabachnick, 2014). To do so, the researcher used the Kaiser-Meyer-Olkin (KMO) measure. This measure ranges from 0 to 1, and the minimum acceptable value for factor analysis is 0.6 (Pallant, 2010). This study shows a result of 0.916. According to Pallant (2010), this result is significant and would reflect a good factor analysis. The following table, Table 26, shows the KMO results.

Table 26: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.916
Bartlett's Test of Sphericity	Approx. Chi-Square	10433.488
	df	1035
	Sig.	.000

After obtaining a significant KMO result, the researcher conducted the factor analysis. Using the factor reduction option from the IBM SPSS, the researcher implemented the Principal Components method with Promax rotation. The principal component method was selected due to the fact that this analysis aims to reduce the number of factors. Furthermore, the Promax rotation was used along with the principal components since the different items were expected to be correlated (Hair Jr et al., 2014; Tabachnick & Fidell, 2013).

In order to get the number of components, i.e. factors, revealed by the analysis, the researcher had to consider the Total Variance Explained table, Table 27. This table uses the Eigenvalues for the different factors. Here, only the factors with more than 1 eigenvalues are considered. The results indicate that there are 8 different factors that explain 73.28% of the variance.

Table 27: Total Variance Explained

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	15.718	34.171	34.171	15.718	34.171	34.171	8.713
2	3.968	8.625	42.796	3.968	8.625	42.796	8.172
3	3.331	7.242	50.038	3.331	7.242	50.038	8.506
4	2.798	6.083	56.121	2.798	6.083	56.121	8.854
5	2.042	4.440	60.561	2.042	4.440	60.561	9.677
6	1.926	4.186	64.747	1.926	4.186	64.747	8.766
7	1.495	3.249	67.997	1.495	3.249	67.997	7.266
8	1.377	2.993	70.990	1.377	2.993	70.990	4.359
9	1.056	2.295	73.285	1.056	2.295	73.285	8.649
10	.916	1.990	75.275				
11	.830	1.805	77.080				
12	.739	1.606	78.686				
13	.664	1.444	80.130				
14	.624	1.357	81.487				
15	.583	1.268	82.755				
16	.513	1.116	83.871				

17	.453	.985	84.857				
18	.433	.942	85.799				
19	.429	.932	86.731				
20	.415	.903	87.634				
21	.383	.833	88.467				
22	.365	.794	89.261				
23	.346	.752	90.012				
24	.342	.743	90.756				
25	.316	.687	91.443				
26	.297	.646	92.089				
27	.287	.623	92.712				
28	.274	.596	93.308				
29	.267	.581	93.889				
30	.248	.540	94.429				
31	.236	.513	94.942				
32	.228	.496	95.438				
33	.221	.479	95.917				
34	.197	.427	96.345				

35	.182	.396	96.741				
36	.180	.392	97.132				
37	.174	.379	97.511				
38	.169	.367	97.878				
39	.160	.348	98.226				
40	.155	.337	98.564				
41	.139	.302	98.866				
42	.125	.271	99.137				
43	.116	.253	99.390				
44	.101	.219	99.609				
45	.096	.208	99.817				
46	.084	.183	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Factor analysis for the 46 items, Table 28 showed that 35 items loaded at more than the 0.7 threshold. Those items with lower loadings were deleted. Those items are highlighted within the pattern Matrix table.

Table 28: Pattern Matrix

Pattern Matrix[a]									
	Component								
	1	2	3	4	5	6	7	8	9
J-PB01	.910								
J-PB02	.879								
J-PB03	.860								
J-PB04	.895								
J-PB05	.888								
J-PB06	.885								
I-RA01					.825				
I-RA02					.809				
I-RA03					.952				
I-RA04					.868				
I-RA05					.708				
I-RA06					.637				
D-SAT01				.780					
D-SAT02				.857					
D-SAT03				.922					

D-SAT04				.917					
D-SAT05				.870					
P-IRSC01									
P-IRSC02								.756	
P-IRSC03								.785	
P-IRSC04								.813	
P-CSC01						.860			
P-CSC02						.891			
P-CSC03						.869			
P-CSC04						.835			
P-EXSC01							.781		
P-EXSC02							.802		
P-EXSC03							.922		
P-EXSC04							.674		
P-SDSC01									.651
P-SDSC02									.697
P-SDSC03									.786
I-IA01			.816						

I-IA02			.845						
I-IA03			.791						
I-IA04			.724						
I-IA05			.832						
I-IA06			.828						
D-PER01									
D-PER02									
D-PER03		.675							
D-PER04		.810							
D-PER05		.831							
D-PER06		.839							
D-PER07		.804							
D-PER08		.717							
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.									
a. Rotation converged in 7 iterations.									

After indicating the constructs with their items, now it is time to analyse those constructs by using a statistical technique. The next section highlights the different statistical techniques that suit the aim of the study.

7.5 Statistical Techniques:

Within social science, the employment of statistical techniques for data analysis has extended researchers' ability to develop and confirm their questions and findings. Hair Jr et al. (2013) mentioned that statistical techniques have passed two generations. The first generation of statistical techniques dominated the landscape of research. This generation relied on univariate and bivariate analysis in order to test and explore the relationships among variables.

Meanwhile, the second generation of techniques has extended the ability of researchers to analyse data at a multivariate level. According to Hair Jr et al. (2013), second generation techniques represent about 50% of the statistical tools used in empirical research. Also, researchers have stressed the significance of having rigorous statistical techniques to test their proposed theoretical models (Shields & Shields, 1998). Within this study, the researcher employed one of the second generation techniques, structural equation modelling.

7.5.1 Structural Equation Modelling:

After the wide application of the first generation techniques, in the past 20 years, researcher have gradually shifted to the use of the second generation techniques. This transition happened in order to overcome the various weaknesses of first generation techniques. The second generation methods have been referred to as structural equation modelling. This type of statistical modelling seeks to explain the relationships between variables at a multivariate level. This type of analysis is more complex and difficult than the univariate and bivariate levels. It "enables researchers to incorporate unobservable variables measured indirectly by indicator variables. They also facilitate accounting for measurement error in observed variables" (Hair Jr et al., 2013:4). Multivariate analysis provides the researcher with a level of application that

enables simultaneous analysis of multiple variables. Those variables are usually representing different measures that are associated with the different phenomena under investigation. According to Hair Jr et al. (2013), such techniques have greater power of analysis than regular regression and correlation. The following table, Table 29, shows the different generations of analysis and the different techniques at the multivariate level.

Table 29: First and second generation techniques.

	Primarily Exploratory	Primarily Confirmatory
First Generation	Cluster Analysis Exploratory Factor Analysis Multidimensional Scaling	Analysis of Variance Logistic Regression Multiple regression
Second Generation	PLS-SEM*	CB-SEM** Confirmatory Factor Analysis

* PLS-SEM: Partial Least Squares – Structural Equation Modelling. ** CB-SEM: covariance based Structural Equation Modelling. Source: Hair Jr et al. (2013)

In structural equation modelling, there are two methods of analysis. The first method is covariance based structural equation modelling (CB-SEM), which is usually used to confirm or reject the theories tested. The CB-SEM "a set of systematic relationships between multiple variables that can be tested empirically" (Hair Jr et al., 2013:4). This is done by determining how the proposed model can estimate the matrix of covariance for a data set. In contrast, partial least squares structural equation modelling (PLS-SEM) is mainly applied within studies that aim to develop a model. "It does this by focusing on explaining the variance in the dependent variables when examining the model"(Hair Jr et al., 2013:4). As cited in Hair Jr et al. (2014:4) Lohmöller and Wold (1982) explain that "PLS-SEM is primarily intended for research contexts that are simultaneously data-rich and theory-skeletal. The model building is then an evolutionary process, a dialog between the investigator and the computer. In

the process, the model extracts fresh knowledge from the data, thereby putting flesh on the theoretical bones. At each step PLS rests content with consistency of the unknowns". Although CB-SEM is a more popular technique, PLS-SEM has become a centre of attraction to researchers from a variety of disciplines such are marketing, strategic management, management information systems and accounting (Hair Jr et al., 2014).

Usually, when SEM is used as a statistical method to analyse data within an empirical study, CB-SEM techniques come to the attention of academics and researchers as it is popular and well known. Indeed, Hair Jr et al. (2014) added that the popularity of SEM has increased in order to test different theories and concepts. As cited in Hair Jr et al. (2014:6) "Much of SEM's success can be attributed to the method's ability to evaluate the measurement of latent variables, while also testing relationships between latent variables (Babin et al., 2008)". Initially, CB-SEM was the best known method of SEM. However, as Peng and Lai (2012) noted, PLS-SEM, which is a variance based, is subject to a debate regarding its pros and cons and this debate extends indicating when and under which circumstances PLS-SEM should be adopted. The following section highlights the differences between CB-SEM and PLS-SEM.

7.5.2 Comparison between CB-SEM and PLS-SEM

Hair Jr et al. (2014) indicated that PLS-SEM is an approach that maximises the explained variance within the construct of the model, whereas the CB-SEM is a model that can estimate the covariance matrix for a data set. Precisely, CB-SEM attempts to generate a set of estimated parameters to minimise the difference between the sample covariance matrix and the estimated covariance matrix (Hair Jr et al., 2013). On the other hand, PLS-SEM attempts to minimise the residual variance.

Apart from their objectives and aims, the CB-SEM model requires different assumptions that have to be met in order to run the analysis. Those assumptions are the normality of the data set distribution, the number of indicators for constructs and the sample size (Hair Jr et al., 2013). If one of those assumptions is violated, CB-SEM will give misleading results. However, PLS-SEM can handle non-normal data, small sample sets and the inclusion of formative and reflective indicators (Hair Jr et al., 2013). Hoyle (1999) indicated that one of the popular programs for CB-SEM is LISREL, and made a comparison between PLS-SEM and CB-SEM (LISREL) in different areas. The following table, Table 30, indicates the areas that Hoyle covered in his comparison. Since the data set for this research tested negatively for normality, this led to selection of PLS-SEM over CB-SEM.

Table 30: PLS-SEM Vs CB-SEM (LISREL)

	PLS	CB-SEM (LISREL)
Objective	Prediction oriented	Parameter oriented
Approach	Variance based	Covariance based
Parameter estimates	Predictor specification (non parametric)	Typically multivariate normal distribution and independent observations (parametric)
Latent variable scores	Consistent as indicators and sample size increase (i.e., consistency at large)	Consistent
Epistemic relationship between a latent variable and its measure	Explicitly estimated	Indeterminate
Implications	Optimal for prediction accuracy	Optimal for parameter accuracy

Model complexity	Large complexity (e.g., 100 constructs and 1000 indicators)	Small to moderate complexity (e.g., less than 100 indicators)
Sample size	Power analysis based on the portion of the model with the largest number of predictors. Minimal recommendations range from 30 to 100 cases	Ideally based on power analysis of specific model – minimal recommendations range from 200 to 800 cases

Source: Hoyle (1999)

7.6 Overview of PLS-SEM

Hair Jr et al. (2014), Peng and Lai (2012) and Tenenhaus et al. (2005) note indicated that PLS was first introduced by Wold (1966). Hair Jr et al. (2013) describe PLS-SEM as a path model represented by a diagram, which is used to virtually display the research hypotheses and relationships among variables. This model consists of two components, the structural (inner) and the measurement (outer) models (Hair Jr et al., 2014). The structural model displays the relationships among constructs (variables). In other words, the structural model reflects the linkage among endogenous and exogenous latent variables. The location of the constructs and the direction of the arrows connecting those different constructs are based on the researcher's accumulated knowledge and experience. The constructs on the left-hand side of the model reflect the independent variables (as in any SEM), and the right-hand side reflects the dependent variables. When a construct serves only as an independent variable, it would be called an exogenous latent variable. Meanwhile, a construct that serves as both independent and dependent or as a dependent construct would be called an endogenous latent variable. In another words, "Any latent variable that has only single-headed arrows going out of it is an exogenous latent variable. In contrast,

endogenous latent variables can have either single-headed arrows going both into and out of them or only going into them" (Hair Jr et al., 2013:14)

Furthermore, the measurement model (outer model) indicates the relationship between constructs (variables) and their indicators (Hair Jr et al., 2013; 2014; Peng & Lai, 2012). Usually, there are two different alternatives to measure variables, either formative or reflective. The PLS-SEM model has the ability to handle both types of measurement. The reflective model of the measurement indicates that a change in the reflective construct leads to a change in the reflective indicators. Meanwhile, formative indicators are those where a change in the indicators would lead to a change in the construct(Hair Jr et al., 2013). Figure 22 reflects the PLS-SEM measurement and structural models.

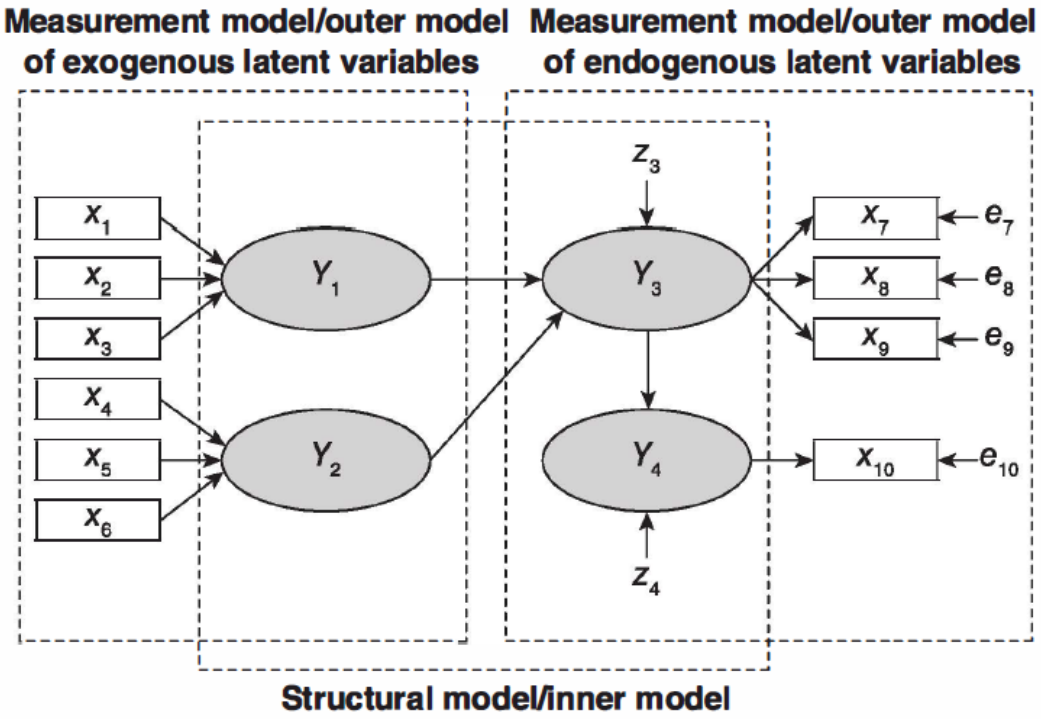


Figure 22: Simple Path Model

Adopted from Hair Jr et al. (2013)

7.6.1 PLS-SEM data characteristics:

Generally, CB-SEM requires the data set to be normally distributed, since non-normal data would distort the results and underestimate the whole model. "Data characteristics such as minimum sample size, non-normal data, and scale of measurement (i.e., the use of different scale types) are among the most often stated reasons for applying PLS-SEM"(Hair Jr et al., 2013:18). Hair Jr et al. (2013) summarised the different characteristics of the PLS-SEM, as shown in the following table 31.

Table 31: PLS-SEM data Characteristics

Sample size	- No identification issues with small sample sizes -Generally achieves high levels of statistical power with small sample sizes -Larger sample sizes increase the precision (i.e., consistency) of PLS-SEM estimations
Distribution	-No distributional assumptions; PLS-SEM is a nonparametric method
Missing values	-No distributional assumptions; PLS-SEM is a nonparametric method
Scale of measurement	-Works with metric data, quasi-metric (ordinal) scaled data, and binary-coded variables (with certain restrictions) -Some limitations when using categorical data to measure endogenous latent variables

Source: Hair Jr et al. (2013)

7.6.2 Justifications for using PLS:

Nitzl (2016) highlighted that the value of PLS-SEM capabilities in the management accounting research. "These yet unexploited capabilities of PLS-SEM are a useful tool in the often explorative state of research in management accounting" (Nitzl, 2016:19) . Its specific characteristics make it a very powerful tool to be applied in the management accounting field (Chin, 1998). Nitzl (2016) conducted a survey regarding the number of articles within management accounting that had used PLS-SEM, focusing on articles published in highly ranked management accounting journals. In so doing, Nitzl (2016) followed the same strategy that was applied by

Smith and Langfield-Smith (2004). "The analysis also includes the journal Management Accounting Research (MAR), which has grown in importance in recent years as an internationally recognised journal that specialises in management accounting" (Nitzl, 2016:21).

Within the PLS-SEM literature, several reasons have been discussed for its usage as a statistical tool (Hair Jr et al., 2013; 2016; Peng & Lai, 2012; Vinzi et al., 2010) . Vinzi et al. (2010) highlighted that PLS-SEM is relatively new in management accounting and requires detailed explanation and valid justification for its usage. According to Nitzl (2016) Ittner et al. (1997) were among the first to use PLS-SEM in this field. A total of 37 studies were reviewed by Nitzl (2016) reflecting number of studies that applied PLS-SEM. Out of those studies, non-normal data distribution and small sample size were the most frequently cited reasons for the implementation of PLS-SEM statistical tools, 25 studies (65.6%) and 29 studies (78.4%) respectively. "Another reason discussed was the simultaneous estimation of multiple and interrelated dependent relationships between variables and the use of latent construct measurement (nine studies, 24.3%). Additional reasons for using PLS-SEM pertained to exploratory objectives (eight studies, 21.6%) and formative measures (six studies, 16.2%) Other substantive reasons for choosing PLS-SEM, such as the ability to leverage model complexity (five studies, 13.5%) and prediction orientation (one study, 2.7%), were rarely mentioned." (Nitzl, 2016:22).

Furthermore, Nitzl (2016) added that the true reason for using PLS-SEM within management accounting context is the prediction element found in management accounting research questions, while CB-SEM, which is factor based, is not suitable for prediction. As Nitzl (2016:22) mentioned, Malmi and Granlund (2009) "perceive the main focus of management accounting theories to be at least implicitly always on

prediction due to the search for economic efficiency or shareholder value maximisation".

Bearing mind the above reasons for the usage of the PLS-SEM within management accounting research, this study concentrates on budgeting, which reflects a major part within management accounting. This study implemented PLS-SEM as it statistical tool for the following reasons. First, due to the nature of this research, the aim of this study is to predict the true impact of participative budgeting on subordinates' performance and satisfaction. This is done by the inclusion of the social capital factor and the impact of the level of role ambiguity and information asymmetry. Secondly, the nature of the data set, as non-normally distributed data, was a major factor in implementing PLS-SEM. Finally, as recommended by Nitzl (2016:31) PLS-SEM is "a very useful analysis tool for future theory development in management accounting, especially based on its suitability for exploratory research questions".

7.7 PLS-SEM Measurement Model:

The measurement model of the PLS-SEM aims to ensure that all of the constructs that are used within the study are reliable and valid to support the structural model (Hair Jr et al., 2013). One of the advantages of PLS-SEM over CB-SEM, as previously introduced, is that the measurement model has the ability to accommodate both reflective and formative indicators for the constructs. Usually, constructs are made of either formative or reflective items, and on a few occasions, the constructs may have both formative and reflective items (Fornell & Bookstein, 1982). In such events, the steps of assessment formative and reflective items would be implemented on each item, based on its nature. Within this study, all of the constructs are measured using reflective items. As a result, this study highlights the steps for assessing the

reflective model. When constructing a measurement model, first the researcher has to identify the constructs and their indicators (items) that are included in the measurement model (Hair Jr et al., 2016; Tenenhaus et al., 2005). The reason behind having several indicators for a construct is to increase its accuracy (Hair Jr et al., 2013). "The anticipated improved accuracy is based on the assumption that using several variables (indicators) to measure a single concept is more likely to represent all the different aspects of the concept. Moreover, using several variables to more accurately represent the concept results in a more valid measurement of it" (Hair Jr et al., 2013:96).

7.7.1 Constructing structural and measurement model:

As it explained in the conceptual framework chapter, there are three different models within this study, based on the different dimension of the social capital factor: relational, structural and cognitive. The following diagram reflects the three different models as indicated in the conceptual framework chapter, which introduced the constructs in the structural model. Furthermore, the following table, Table 32, shows the different constructs and their items and figure 23 shows the proposed model.

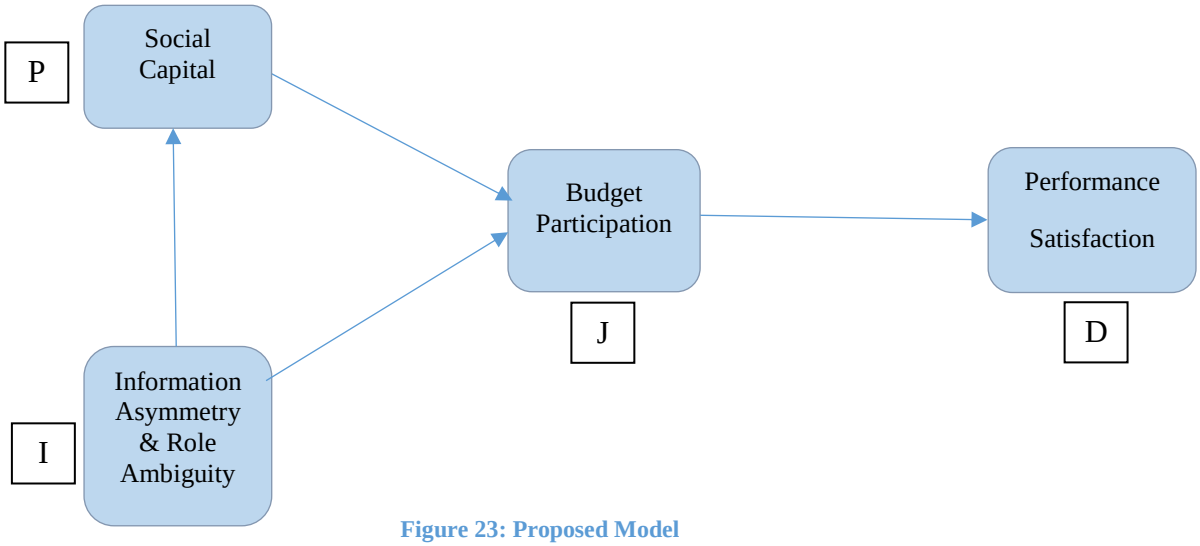


Figure 23: Proposed Model

Whereas P= Perception, I =Information, J = Judgement, D =Decision.

Table 32: List of constructs and their items

Construct Name		***Item***	***Construct Name***	***Item***
Information Asymmetry		I-IA01	**Cognitive Dimension of Social Capital**	P-CDSC01
		I-IA02		P-CDSC02
		I-IA03		P-CDSC03
		I-IA04		P-CDSC04
		I-IA05	**Participative Budgeting**	J-PB01
		I-IA06		J-PB02
Role Ambiguity		I-RA01		J-PB03
		I-RA02		J-PB04
		I-RA03		J-PB05
		I-RA04		J-PB06
		I-RA05	**Performance**	D-PER01
		I-RA06		D-PER02
Relational dimension of Social Capital	**Internal Relation**	P-IRSC01		D-PER03
		P-IRSC02		D-PER04
		P-IRSC03		D-PER05
		P-IRSC04		D-PER06
	External Relation	P-EXSC01		D-PER07
		P-EXSC02		D-PER08
		P-EXSC03	**Satisfaction**	D-SAT01
		P-EXSC04		D-SAT02
Structural Dimension of Social Capital		P-SDSC01		D-SAT03
		P-SDSC02		D-SAT04
		P-SDSC03		D-SAT05

7.7.2 Assessment of the measurement model:

Several aspects have been proposed in order to assess the measurement model. Initially, the measurement model examined for the reliability and validity of the constructs measured (Hair Jr et al., 2013). Furthermore, Hair Jr et al. (2013) highlighted that in order to evaluate a reflective model, the researcher has to assess internal consistency (composite reliability), indicator reliability, convergent validity (average variance extracted) and finally the discriminant validity.

7.7.2.1 Composite reliability:

Within social sciences, many factors would cause errors within the measurement, such as poorly worded questions and wrong scale approach, which can lead to either random or systematic errors or both (Hair Jr et al., 2013; Vinzi et al., 2010). The aim here is to reduce the measurement error to be as low as possible. In other words, researchers should try to measure phenomena as precisely as possible. To visualise this aspect, the following equation illustrates their calculations.

$$x_m = x_t + \varepsilon_r + \varepsilon_s.$$

Whereas: x_m = the measured value, x_i = the true value, ε = the error factors.

Errors can be either random or systematic. Random error is due to many reasons that are not predictable, whereas systematic error is due to the fact that the measurement tool has caused a repetitive error (Saunders et al., 2011). In order to evaluate and assess a reflective measurement model, Hair Jr et al. (2013) highlighted that the first element to be evaluated is the internal consistency reliability. PLS-SEM prioritises the composite reliability over Cronbach's alpha, the traditional method. This is due to the fact that Cronbach's alpha is "sensitive to the number of items in the scale and generally tends to underestimate the internal consistency reliability" (Hair

Jr et al., 2013:101). This method of testing reliability takes into account the outer loading, which is calculated in accordance with the following formula:

$$\rho_c = \frac{\left(\sum_i l_i\right)^2}{\left(\sum_i l_i\right)^2 + \sum_i \mathrm{var}(e_i)}$$

Composite reliability has a value between 0 and 1(Hair Jr et al., 2013). Nunnally and Bernstein (1994) indicated that it is considered acceptable to have composite reliability values between 0.70 and 0.90. The following table, Table 33, shows the composite reliability for all of the constructs.

Table 33: Composite Reliability

Construct	Composite Reliability
D-PER	0.915
D-SAT	0.954
I-IA	0.928
I-RA	0.929
J-PB	0.958
P-EXSC	0.908
P-IRSC	0.830
P-CDSC	0.965
P-SDSC	0.944

After reviewing the different constructs and their composite reliability results, it can be concluded that their levels are within the acceptable range. In other words, those constructs have passed the reliability test.

7.7.2.2 Convergent validity:

After assessing the reliability of the constructs, the second procedure is to assess the validity of the constructs. As it has been pointed out by different scholars, this type of validity assesses how well the measures support the construct measured

(Hair Jr et al., 2013). In other words, convergent validity is "the extent to which a measure correlates positively with alternative measures of the same construct" (Hair Jr et al., 2013:102). In this assessment, Hair Jr et al. (2016) advise that researchers should consider both the outer loadings of the different indicators along with the average variance extracted (AVE).

The outer loadings for a construct reflect the level of association between the item and the construct. Hair Jr et al. (2016) also called this type of association indicator reliability. The rule of thumb for such loadings is to have a loading factor of 0.708 or more. "This means that an indicator's outer loading should be above 0.708 since that number squared (0.708^2) equals 0.50" (Hair Jr et al., 2013:103). Usually, after collecting the data, researchers get weaker loadings, i.e. less than the 0.708 level. In such cases, researchers have the option to eliminate or retain the item. Initially, with outer loadings between 0.40 and 0.70, the researcher should consider removing those items. However, Hair Jr et al. (2013) suggested that researchers should not delete items with loading below 0.70 without checking whether the deletion would improve the level of composite reliability of the construct. The following table, Table 34, reflects the outer loadings for the different items to their constructs.

Table 34: Outer Loadings Table

	D-PER	D-SAT	I-IA	I-RA	J-PB	P-CDSC	P-EXSC	P-IRSC	P-SDCS
DPER01	**0.748**								
DPER02	**0.751**								
DPER03	**0.790**								
DPER04	**0.809**								
DPER05	**0.784**								
DPER06	**0.796**								
DPER07	**0.758**								
DPER08	**0.593**								
DSAT01		**0.877**							
DSAT02		**0.902**							
DSAT03		**0.894**							

DSAT04		**0.921**							
DSAT05		**0.892**							
IIA01			**0.798**						
IIA02			**0.835**						
IIA03			**0.830**						
IIA04			**0.817**						
IIA05			**0.833**						
IIA06			**0.838**						
IRA01				**0.809**					
IRA02				**0.778**					
IRA03				**0.856**					
IRA04				**0.864**					
IRA05				**0.823**					
IRA06				**0.836**					
JPB01					**0.886**				
JPB02					**0.859**				
JPB03					**0.888**				
JPB04					**0.906**				
JPB05					**0.899**				
JPB06					**0.902**				
PCSC01						**0.897**			
PCSC02						**0.923**			
PCSC03						**0.943**			
PCSC04						**0.909**			
PEXSC01							**0.799**		
PEXSC02							**0.845**		
PEXSC03							**0.887**		
PEXSC04							**0.842**		
PIRSC01								**0.767**	
PIRSC02								**0.822**	
PIRSC03								**0.745**	
PIRSC04								**0.675**	
PSDSC01									**0.921**
PSDSC02									**0.939**
PSDSC03									**0.905**

From the results of the loadings, it is noticeable that there are two items that had lower than the advised loading. In such a case, Hair Jr et al. (2016) suggested that there is a process for eliminating such items from their constructs. This process is summarised in the following diagram, figure 24.

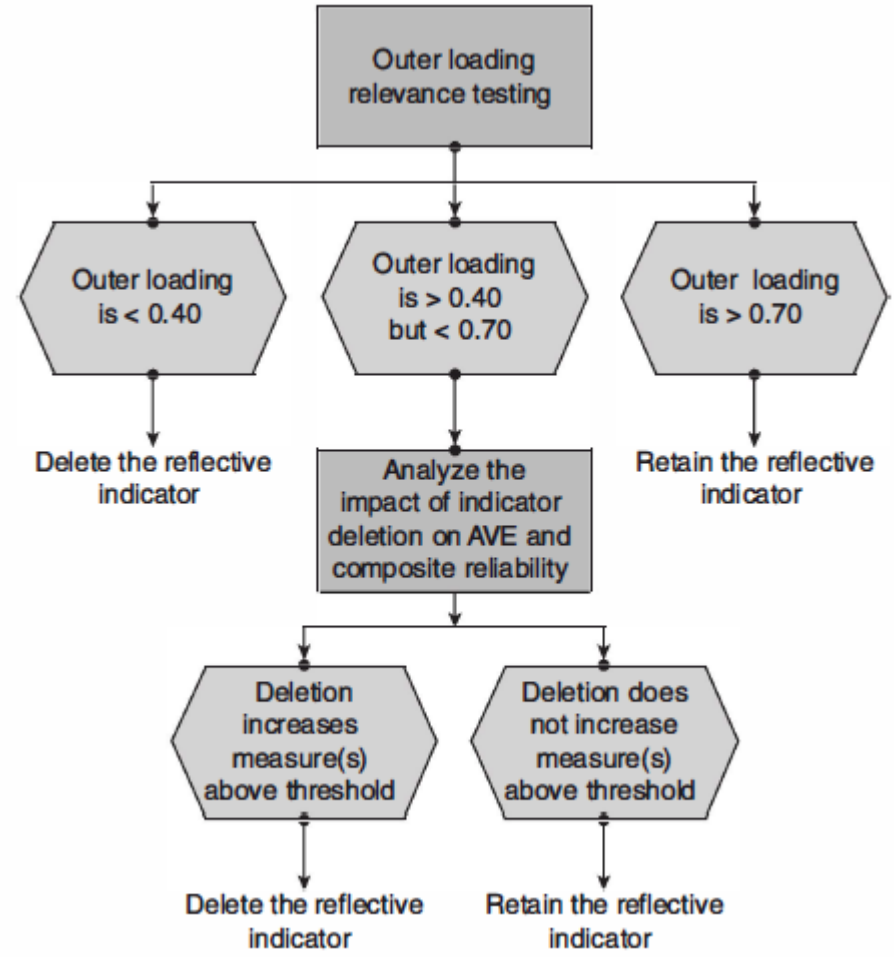


Figure 24: Outer Loading testing

Source: Hair Jr et al. (2013:104)

According to, Hair Jr et al. (2016) the AVE measure is a common method to assess construct validity. A value of 0.50 or higher is considered acceptable, as this level of AVE indicates that a construct explains more than 50% of the variance.

7.7.2.3 Discriminant validity:

Hair Jr et al. (2016) define the discriminant validity as "the extent to which a construct is truly distinct from other constructs by empirical standards" (Hair Jr et al., 2016:104). This implies that each construct represents a phenomena that is not represented by another construct. Within PLS studies, the cross loading, the Fornell-Larcker criterion, and the Heterotrait-monotrait ration correlation are used to assess

the discriminate validity (Hair Jr et al., 2016; Vinzi et al., 2010). As regards cross loading assessment, Vinzi et al. (2010) and Hair Jr et al. (2013) explain that the outer loading for a construct should not have a greater loading on another construct , i.e. the cross loading. In the event of a case of cross loading, this would raise a discriminant validity problem.

Following the cross loading is the Fornell-Larcker criterion, which was developed by Fornell and Bookstein (1982). In order to achieve discriminant validity, "the square root of each construct's AVE should be greater than its highest correlation with any other construct" (Hair Jr et al., 2013:106). The following table, Table 35, shows the results of this study.

Table 35: Fornell-Larcker criterion.

	D-PER	D-SAT	I-IA	I-RA	J-PB	P-CDSC	P-EXSC	P-IRSC	P-SDCS
D-PER	**0.756**								
D-SAT	0.309	**0.897**							
I-IA	0.497	0.264	**0.825**						
I-RA	0.408	0.529	0.509	**0.828**					
J-PB	0.424	0.470	0.289	0.400	**0.890**				
P-CDSC	0.423	0.501	0.393	0.477	0.357	**0.918**			
P-EXSC	0.374	0.475	0.363	0.356	0.380	0.517	**0.844**		
P-IRSC	0.324	0.238	0.430	0.492	0.244	0.401	0.293	**0.754**	
P-SDCS	0.436	0.540	0.417	0.459	0.373	0.664	0.606	0.387	**0.922**

Clearly, the measurement model has passed the different assessments criteria suggested by Hair Jr et al. (2013). As a result, it is possible to conclude that the PLS measurement model assessment criteria are satisfied and the data set and the model are ready for the second level of assessment, which is the structural model assessment.

7.7.3 Assessing the structural model of PLS-SEM:

The second element of the assessment under the PLS-SEM is the assessment of the structural model. Unlike CB-SEM, which has various fit indices, PLS-SEM " is

assessed on the basis of heuristic criteria that are determined by the model's predictive capabilities" (Hair Jr et al., 2013:169). Vinzi et al. (2010) highlighted that it is hard to have a 'goodness-of-fit measure for the PLS-SEM structural model, due to its ability to account for the covariance of the data set. Hair Jr et al. (2013) added that PLS-SEM is assessed by its ability to predict endogenous constructs.

Further, Hair Jr et al. (2013) highlighted that there are five steps for assessing the structural model of PLS-SEM: the assessment of collinearity, the path coefficients of the structural model, the coefficient of determination (R^2), the effect size (f^2) and blindfolding and predictive relevance (Q^2). The following figure shows the steps in evaluating the structural model.

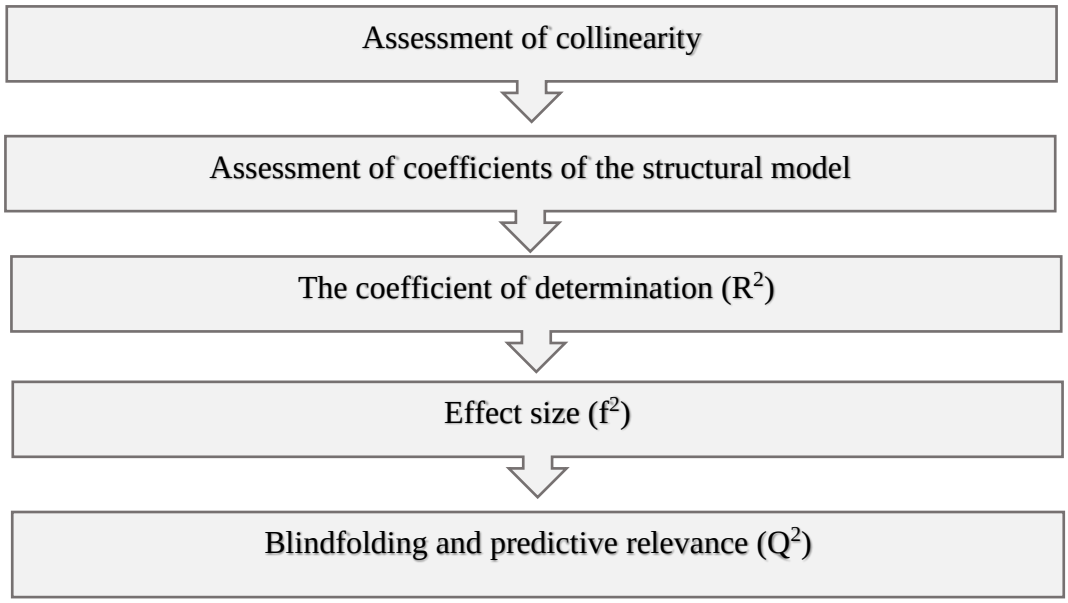


Figure 25: Steps of Assessing Structural Model

Source: Hair Jr et al. (2013)

7.7.3.1 Assessment of collinearity:

The first step in the assessment steps of the PLS-SEM structural model is the level of collinearity among the different constructs and their measurement. Vinzi et al.

(2010) highlighted that when two constructs are highly correlated, the interpretation of this model would be problematic. Indeed, Hair Jr et al. (2013) indicated that constructs with high levels of collinearity will impact its statistical results and significance. "More specifically, in practice, high levels of collinearity often affect the results of analyses in two respects. First, collinearity boosts the standard errors and thus reduces the ability to demonstrate that the estimated weights are significantly different from zero. This issue is especially problematic in PLS-SEM analyses based on smaller sample sizes where standard errors are generally larger due to sampling error. Second, high collinearity can result in the weights being incorrectly estimated, as well as in their signs being reversed" (Hair Jr et al., 2013:123).

Hair Jr et al. (2013) and Vinzi et al. (2010) agree on the way of assessing the collinearity within the structural model. They recommended both the level of tolerance and variance inflation factor (VIF). Within the PLS-SEM, the threshold of a high level of collinearity is 0.20 or lower, for a tolerance or 5 and higher of VIF(Hair et al., 2011). As for the VIF results of our data set, there is no evidence of collinearity within the structural model. The following table, Table 36, displays the VIF for the data set.

Table 36: VIF Results:

	D-PER	D-SAT	I-IA	I-RA	J-PB	P-CDSC	P-EXSC	P-IRSC	P-SDCS
D-PER									
D-SAT									
I-IA					1.519	1.349		1.000	1.349
I-RA					1.699	1.349	1.000		1.349
J-PB	1.233	1.204							
P-CDSC	1.884	1.893			1.997				
P-EXSC	1.699				1.667				
P-IRSC		1.242			1.469				
P-SDCS	2.174	1.911			2.256				

7.7.3.2 Assessment of coefficients of the structural model:

Hair Jr et al. (2016) explained that the second step of assessing the structural model is the assessment of the coefficient of the structural model paths. Those different paths represent different hypotheses, introduced earlier. In order to evaluate those paths, the researcher compares them to standardised values, which are between -1 and +1 (Hair Jr et al., 2013). When the path coefficient has a value that is close to +1, this would represent a strong positive relationship between those two constructs. Meanwhile, having a coefficient that is close to -1 indicates that there is a strong negative relationship between the two constructs. In order to test those paths' significance level, i.e. hypothesis testing, the researcher had to run bootstrapping, which provides the researcher with the t values. The hypothesis testing is introduced later in this chapter and in the next chapter. Furthermore, as it was highlighted by Urbach and Ahlemann (2010), there is no cutoff point for the strength of the relationship among the different constructs. The following table, Table 37, reflects the different path coefficients and their values.

Table 37: Path Coefficients:

	D-PER	D-SAT	I-IA	I-RA	J-PB	P-CDSC	P-EXSC	P-IRSC	P-SDCS
D-PER									
D-SAT									
I-IA					0.030	0.204		0.439	0.248
I-RA					0.239	0.373	0.355		0.332
J-PB	0.273	0.290							
P-CDSC	0.178	0.207			0.074				
P-EXSC	0.081				0.195				
P-IRSC		-0.037			0.009				
P-SDCS	0.171	0.309			0.080				

7.7.3.3 The coefficient of determination (R^2)

The third step within the evaluation of the structural model of the PLS-SEM is the assessment of the coefficient of determination (R^2). Hair Jr et al. (2013) defined the coefficient of determination as " a measure of the model's predictive accuracy and is calculated as the square correlation between a specific endogenous construct's and predicted values"(Hair Jr et al., 2013:174). R^2 values range from 0 to 1; the higher the value, the greater the level of predictive accuracy. However, Hair Jr et al. (2013) indicated that it is challenging to have a rule of thumb for the threshold that is accepted. They added that levels such as 0.20 are considered acceptable in some disciplines. On the other hand in other disciplines, such as marketing, R^2 values are higher, i.e. 0.75, 0.50, 0.25, are considered as substantial, moderate or weak respectively (Hair et al., 2011; Hair Jr et al., 2013).

Relying on the R^2 only as in assessing the coefficient of determination is not a good approach, a it would raise an issue of bias among the constructs. More specifically, when the model used is complex, there may be many pathways pointing toward a construct, which will increase the R^2 results(Cohen, 1988; Hair Jr et al., 2013). As a result, the adjusted R^2 can be used in complex model of researches. "Note

that we cannot interpret the adjusted R^2. just like the regular R^2• Rather, the adjusted R^2 is used for comparing PLS-SEM results involving models with different numbers of exogenous latent variables and/or datasets with different sample sizes"(Hair Jr et al., 2013:176) In this research, the researcher presents both the regular and adjusted R^2, as shown in the following table, Table 38.

Table 38: The coefficient of determination (R^2) results:

	R^2	R^2 Adjusted
D-PER	0.300	0.290
D-SAT	0.398	0.390
J-PB	0.237	0.220
P-CDSC	0.258	0.253
P-EXSC	0.126	0.123
P-IRSC	0.193	0.190
P-SDCS	0.256	0.251

7.7.3.4 Effect size (f^2)

The fourth step in evaluating the structural model is the effect size. As an addition to the usage of R^2, the f^2 indicates the impact of eliminating one of the exogenous constructs on the endogenous construct (Hair Jr et al., 2013). This reflects the importance of the construct that is being eliminated. The following table, Table 39 shows the f^2 results. According to the results, there would be a great impact of the level of Information Asymmetry (I-IA) on the internal relational social capital (P-IRSC).

Table 39: Effect size results:

	D-PER	D-SAT	I-IA	I-RA	J-PB	P-CDSC	P-EXSC	P-IRSC	P-SDCS
D-PER									
D-SAT									
I-IA					**0.001**	0.042		**0.239**	0.061
I-RA					0.044	0.139	0.145		0.110
J-PB	0.086	0.116							
P-CDSC	0.024	0.038			**0.004**				
P-EXSC	**0.006**				0.030				
P-IRSC		**0.002**			**0.000**				
P-SDCS	**0.019**	0.083			**0.004**				

7.7.3.5 Blindfolding and predictive relevance (Q^2)

The final step in evaluating the structural model is the evaluation of the predictive relevance (Q^2). The measure was introduced by both Geisser (1974) and Stone (1974) as a measure to indicate the level of relevance of the model; specifically in PLS-SEM. Within PLS-SEM it reflects the ability of the model to predict endogenous constructs items. (Hair Jr et al., 2013). In other words, "it accurately predicts the data points of indicators in reflective measurement models of endogenous constructs and endogenous single-item constructs". (Hair Jr et al., 2013:178) In order to get the Q^2 results, the researcher has to apply the blindfolding procedure that is available within SmartPLS.

This procedure omits certain data points from the data set and then trying to predict their values. Hair Jr et al. (2013:178) indicated that "blindfolding is a sample reuse technique that omits every *d*th data point in the endogenous construct's indicators and estimates the parameters with the remaining data points". This type of procedure is only applicable for the endogenous constructs that are measured either by a single item or reflectively. The predicted estimates and the actual estimates are compared in order to formulate the Q^2. Within PLS-SEM, there are two methods to calculate Q^2, cross-

validated redundancy and cross-validated communality. This study uses cross-validated redundancy to evaluate the structural model. This is due to the recommendation of Hair Jr et al. (2013) since the method builds on both the measurement and the structural models. Q^2 results greater than Zero indicate that the exogenous constructs are predictively relevant for endogenous constructs. The following table, table 40, illustrate the Q^2 results. As can be seen, the results of the Q^2 are greater than zero, which indicate a satisfactory result.

Table 40: Q^2 results:

Constructs	Q^2
D-PER	0.174
D-SAT	0.313
I-IA	------
I-RA	------
J-PB	0.181
P-CDSC	0.212
P-EXSC	0.083
P-IRSC	0.111
P-SDCS	0.209

7.7.4 The measurement and structural models assessment summary:

After highlighting the elements of assessments for both of the measurement model and the structural model, this section summarises the results of those assessment within a table, Table 41 which provides readers with a quick summary of the study.

Table 41: Assessment Summary

construct/Indicator	Loadings Original	Loadings Sample Mean	Standard Deviation	T- Statistic (bootstrapping)	Composite Reliability (P_c)	Average Variance Extracted (AVE)
Performance (PER)					0.915	0.607
D-PER01	0.757	0.757	0.034	22.575		
D-PER02	0.755	0.754	0.032	23.510		
D-PER03	0.792	0.792	0.028	28.269		
D-PER04	0.810	0.809	0.030	27.418		
D-PER05	0.779	0.779	0.036	21.355		
D-PER06	0.801	0.801	0.024	32.753		
D-PER07	0.757	0.756	0.039	19.282		
Satisfaction (SAT)					0.954	0.805
D-SAT01	0.877	0.877	0.020	44.256		
D-SAT02	0.903	0.903	0.017	53.812		
D-SAT03	0.894	0.893	0.018	48.716		
D-SAT04	0.921	0.921	0.011	86.093		
D-SAT05	0.892	0.891	0.019	45.770		
Information Asymmetry (IA)					0.928	0.681
I-IA01	0.799	0.799	0.030	26.956		
I-IA02	0.835	0.835	0.027	30.881		
I-IA03	0.829	0.828	0.026	31.554		
I-IA04	0.817	0.816	0.031	25.968		
I-IA05	0.833	0.832	0.026	32.267		
I-IA06	0.838	0.836	0.027	31.303		
Role Ambiguity (RA)					0.929	0.686
I-RA01	0.809	0.808	0.028	29.037		
I-RA02	0.778	0.776	0.036	21.309		
I-RA03	0.856	0.854	0.026	33.518		
I-RA04	0.864	0.863	0.023	36.805		
I-RA05	0.823	0.822	0.027	30.827		
I-RA06	0.836	0.837	0.021	39.950		
Participative Budgeting (PB)					0.958	0.793
J-PB01	0.886	0.886	0.014	63.542		
J-PB02	0.859	0.859	0.020	42.976		
J-PB03	0.888	0.888	0.016	56.553		
J-PB04	0.906	0.905	0.013	68.387		
J-PB05	0.899	0.899	0.017	53.361		
J-PB06	0.902	0.901	0.012	72.374		
Cognitive Dimension Social Capital (CSC)					0.956	0.843
P-CSC01	0.897	0.897	0.013	67.349		
P-CSC02	0.923	0.923	0.013	72.508		

P-CSC03	0.943	0.943	0.008	115.676		
P-CSC04	0.909	0.909	0.017	52.582		
External Relational Dimension Social Capital (EXSC)					0.908	0.712
P-EXSC01	0.799	0.797	0.040	19.927		
P-EXSC02	0.845	0.844	0.025	33.193		
P-EXSC03	0.887	0.886	0.017	51.245		
P-EXSC04	0.842	0.843	0.023	36.026		
Internal Relational Dimension Social Capital (IRSC)					0.830	0.621
P-IRSC01	0.824	0.825	0.030	27.421		
P-IRSC02	0.821	0.820	0.034	23.968		
P-IRSC03	0.713	0.711	0.048	14.926		
Structural Dimension Social Capital (SDSC)					0.944	0.850
P-SDSC01	0.921	0.921	0.013	73.360		
P-SDSC02	0.939	0.939	0.010	89.552		
P-SDSC03	0.905	0.905	0.017	51.826		

7.8 Descriptive Statistics:

This section describes the characteristics of the dataset used in this study. This type of descriptive analysis is used to interpret the characteristics of the study. Those descriptive analyses are introduced in the next sections.

7.8.1 Work position:

The descriptive analysis of this item indicates positions of the respondents. This question had five different alternatives for the respondent to select from, entry level, department head, manager, senior manager and director. Only three out of the five were used in this analysis. This study considers only those subordinates in the mid-level management, namely department heads, managers and senior managers. Out of 283 respondents, 207 were working as department heads, 48 as managers and 30 as senior managers, 73.1%, 17.0% and 9.9% respectively. The following table, Table 42, shows those results.

Table 42: Work Position Statistics

WORK POSITION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Department Head	207	73.1	73.1	73.1
	Manager	48	17.0	17.0	90.1
	Senior Manager	28	9.9	9.9	100.0
	Total	283	100.0	100.0	

7.8.2 Age groups:

In this section, we analyse the age groups of the respondents. The respondent age groups were divided into 4 groups: 25 to 34, 35 to 44, 45 to 54, and over 55 years old. Here, the respondents were mainly in the first age group, 25 to 34 years, about 50%. Meanwhile, the other groups, the 35 to 44, 45 to 54 and 55 and over, amounted to 24%, 19.8% and 5.3% respectively. The following table, Table 43 shows those age groups.

Table 43: Age Groups

AGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-34	144	50.9	50.9	50.9
	35-44	68	24.0	24.0	74.9
	45-54	56	19.8	19.8	94.7
	55 & over	15	5.3	5.3	100.0
	Total	283	100.0	100.0	

7.8.3 Gender:

This study was conducted within industrial companies listed on the Saudi Stock Market, Tadawul. Those companies have a majority of male employees, which is reflected in our results. Our results shows that 278 respondents were male while only 5 female participants took part in the survey, 98.2% and 1.8% respectively. The following table indicates those results, table 44.

Table 44: Gender

GENDER

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	278	98.2	98.2	98.2
	Female	5	1.8	1.8	100.0
	Total	283	100.0	100.0	

7.8.4 Education level:

Education level is an important factor for listed companies. The responses of our survey had confirm this view. Our data set indicated that the majority of the respondent were Bachelor degree holders, 152 respondents, 53.7%. Among the rest of the respondents 34, 12%, had only high school-level education. 64 respondents, 22.6%, had a diploma (associate degree), 11.3% held a Master degree and only 1, 0.4% was a PhD holder. This reflects the policy of most companies, which is to hire more Bachelor holders rather than those with high school certificates and associate degrees. On the other hand, they tend not to hire those with much higher levels of education. The following table, Table 45 illustrates these results.

Table 45: Education Level:

EDUCATION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School	34	12.0	12.0	12.0
	Diploma	64	22.6	22.6	34.6
	Bachelor	152	53.7	53.7	88.3
	Master	32	11.3	11.3	99.6
	PhD	1	.4	.4	100.0
	Total	283	100.0	100.0	

7.9 Hypothesis Testing:

After having both the structural and measurement models have been evaluated, it is time to test the hypotheses that link the different constructs within the model. This section reintroduces the different models within this study and tests their proposed hypotheses. The following figure, figure 26, reflects the full model that was proposed earlier. As previously introduced, the Throughput model has four different factors: information, perception, judgement and decision. Furthermore, the perception factor, social capital, is divided into its different dimensions, relational, structural and cognitive. The following sub-sections reflect the hypotheses introduced earlier.

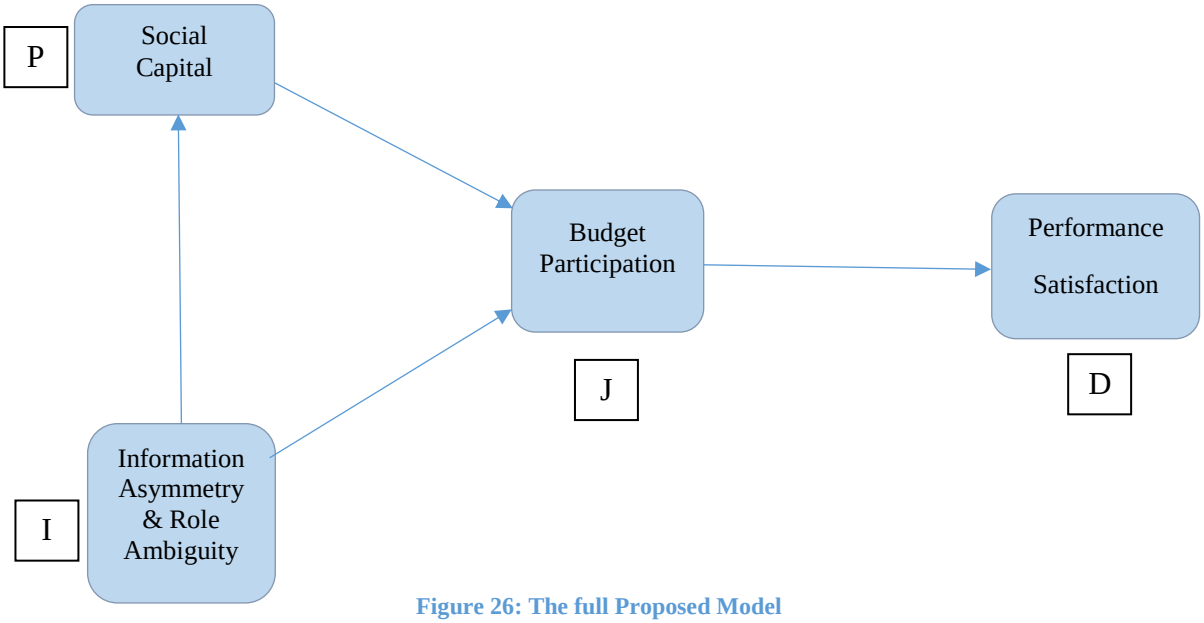


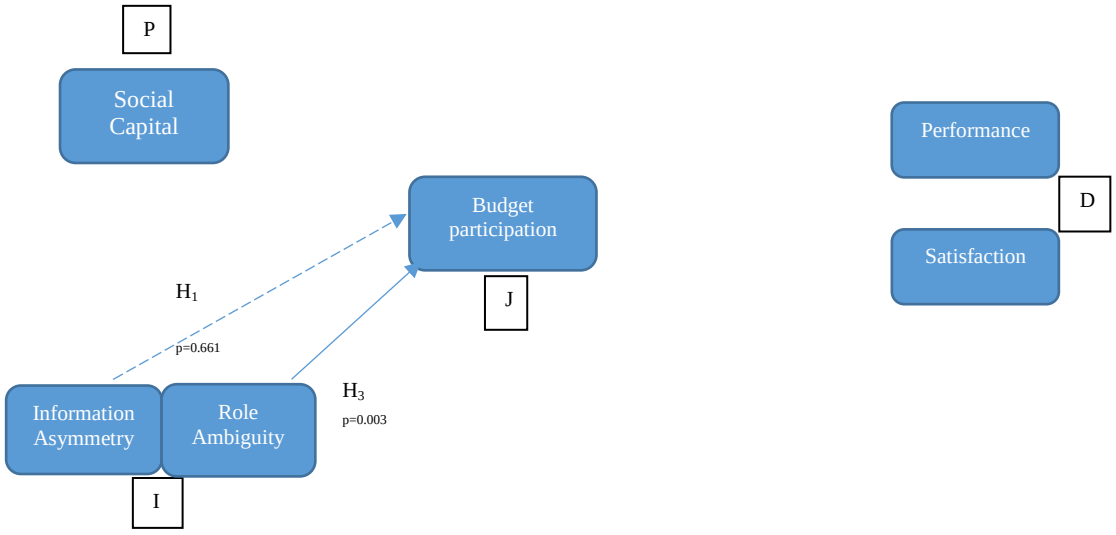
Figure 26: The full Proposed Model

7.9.1 Information factor:

As introduced earlier, the information factor of the throughout model is the available data used by individuals to reach a decision. This factor was introduced to include both the information asymmetry and the role ambiguity that the subordinates would have within their

tasks. As a result, this study proposed four different hypotheses that indicate the relationship between the information factor and the other factor, Perception and Judgment, within the Throughput model. The first hypothesis proposed that there is a significant relationships between the information asymmetry and the judgment factor, Participative budgeting. Based on the findings of this analysis, the first hypothesis can not be supported based on a p-value of (0.661) and path coefficient of (0.031). The second hypothesis within this factor proposed a significant relationship between information asymmetry and the various social capital factors. This hypothesis is divided based on the different three dimensions of the social capital, which were tested accordingly. The third hypothesis of this study reflected the second element of the information factor, role ambiguity. This hypothesis proposed a significant relationship between role ambiguity and the judgement factor, participative budgeting. This analysis supported this hypothesis at the 99% level of confidence, P>0.01. The fourth hypothesis of this study proposed a significant relationship between role ambiguity and the different dimensions of social capital. The following figure, figure 27, reflects those hypotheses.

Figure 27: Information factor hypotheses



Where:

H1: I (Information Asymmetry) to J (Budget Participation). *H3:* I (Role Ambiguity) to J (Budget Participation).

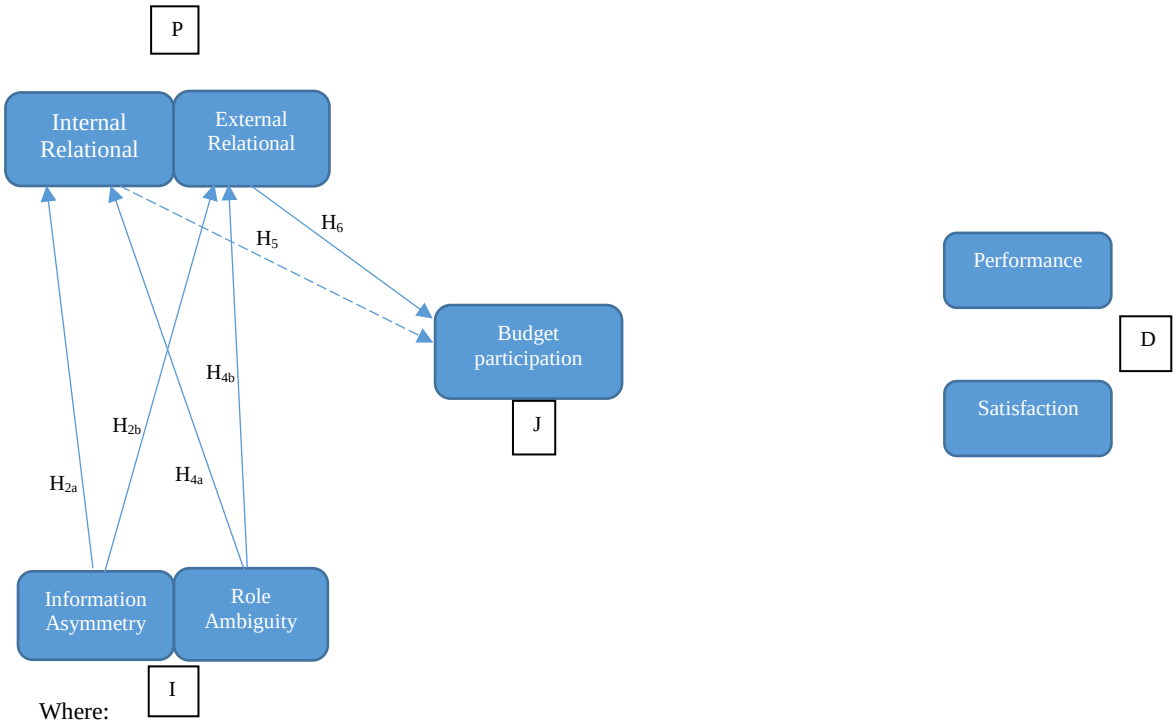
7.9.2 Perception factor:

As introduced earlier, the second element of the Throughput model is the perception factor. This factor was introduced to reflect social capital and its different dimensions. As a result, this following subsection reflects the different social capital dimensions.

7.9.2.1 The relational dimension model:

As it introduced earlier, this section reflects the first dimension of the social capital factor. This dimension has two different elements that integrate together to form the relational dimension. Those two elements are internal and external relational social capital. Further, this study proposed several hypotheses that reflect the relationships among factors. The following figure, figure 28, reflects the relational dimension model and its hypotheses.

Figure 28: Relational Dimension Model Hypotheses:



H_{2a}: I (Information Asymmetry) to P (Social Capital Internal Relational Dimension). (p=0.001)

H_{2b}: I (Information Asymmetry) to P (Social Capital External Relational Dimension). (p=0.001)

H_{4a}: I (Role Ambiguity) to P (Social Capital Internal Relational Dimension). (p=0.000)

$H_{4b:}$ I (Role Ambiguity) to P (Social Capital External Relational Dimension). (p=0.004)

$H_{5:}$ P (Social Capital Internal Relational Dimension) to J (Budget Participation). (p=0.900)

$H_{6:}$ P (Social Capital External Relational Dimension) to J (Budget Participation). (p=0.006)

The second hypothesis within this study was divided into 4 sub-hypothesis. Indeed, each of those hypotheses indicates a relationship between information asymmetry and one of the social capital dimensions. The first hypothesis to tested under this dimension is the H_{2a} & H_{2b} which tests the significance of the relationship between information asymmetry and the relational dimension of social capital, both the internal and external factors. The findings support those hypotheses at P<0.01. Furthermore, the second hypothesis under this subsection tests the significance of the relationship between role ambiguity and the two factors of the relational dimension of social capital. This study supports both H_{4a} & H_{4b}, at the level of P>0.01, indicating significant influence on internal and external relational social capital.

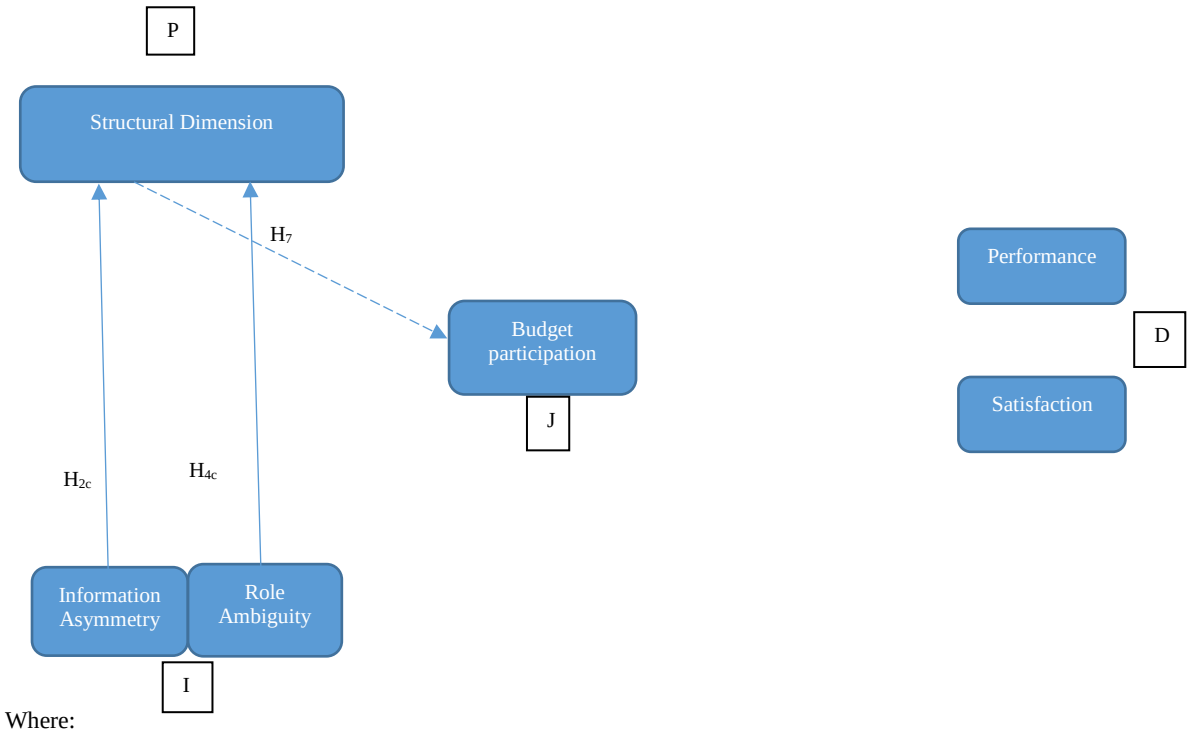
The fifth hypothesis of this study proposed that there is a significant relationship between the internal dimension of social capital and participative budgeting. However, this study failed to support this hypothesis, p=0.90. Meanwhile, the sixth hypothesis proposed the significant influence of the external factor on participative budgeting. The study results supported this hypothesis, p=0.006.

7.9.2.2 The structural dimension of social capital:

The second dimension of social capital is the structural dimension. As proposed earlier, this section tests the different hypotheses related to the structural dimension. The first hypothesis to be tested under this subsection is the significant relation between information asymmetry and the structural dimension of social capital, H_{2c}. This hypothesis is supported by the results of this study at a level of 99%, p=0.002., $H_{4c,}$ which tests the significance of the relationship between role ambiguity and the structural dimension, is also supported at p=0.000.

Furthermore, H_7 proposed that there is a significant relationship between the structural dimension of the social capital and participative budgeting. From the results of this study, this hypothesis is rejected, with a p-value of 0.339. The following figure illustrates the different hypotheses and their results.

Figure 29: Structural Dimension Hypotheses:



Where:

H_{2c}: I (Information Asymmetry) to P (Social Capital Structural Dimension). (p=0.002)

H_{4a}: I (Role Ambiguity) to P (Social Capital Structural Dimension). (p=0.000)

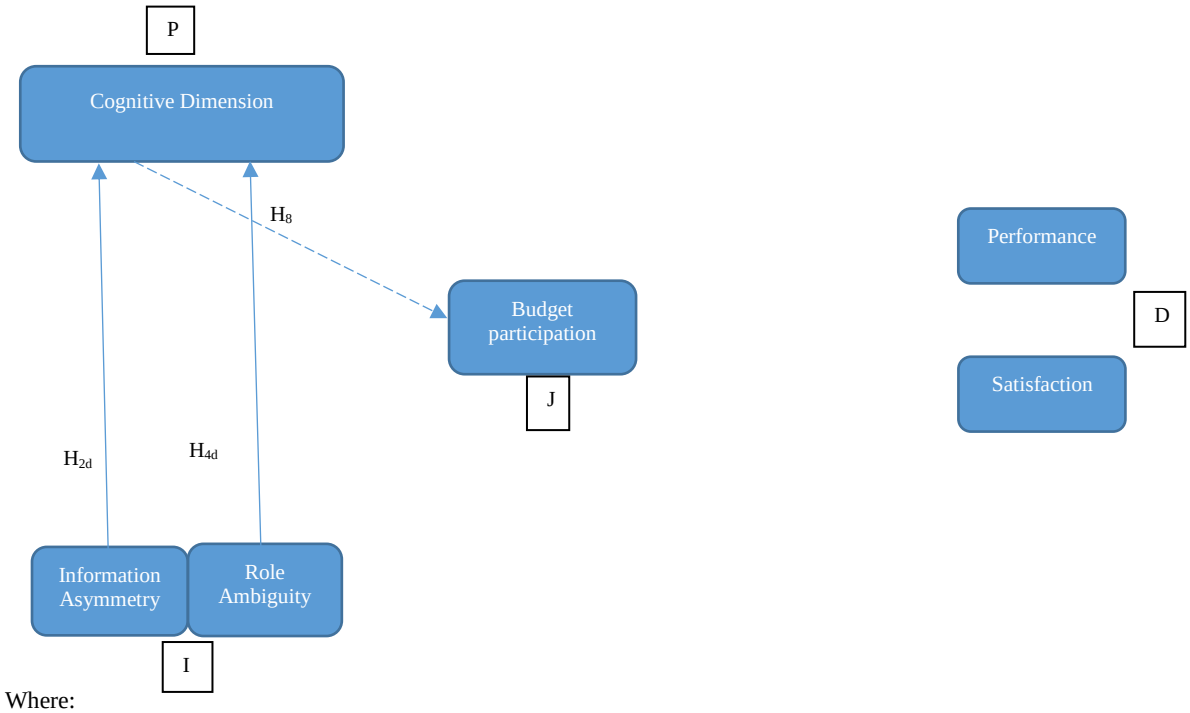
H_7: P (Social Capital Structural Dimension) to J (Budget Participation). (p=0.339)

7.9.2.3 The cognitive dimensions of social capital:

The last element within the social capital factor is the cognitive dimension. Under this dimension, this study proposed three hypotheses. H_{2d} reflects the significant relationship between information asymmetry and the cognitive dimension of social capital. The results of this study confirm this relationship at a p=0.008. Furthermore, H_{4d} indicated a significant relationship between role ambiguity and the cognitive dimension. Again, the study results

supported this hypothesis at p=0.000. On the other hand, the study results have failed to support H_8, with a p=0.342. The following figure illustrates these results.

Figure 30: Cognitive Dimension Hypotheses



Where:

H_{2d}: I (Information Asymmetry) to P (Social Capital Cognitive Dimension). (p=0.008)

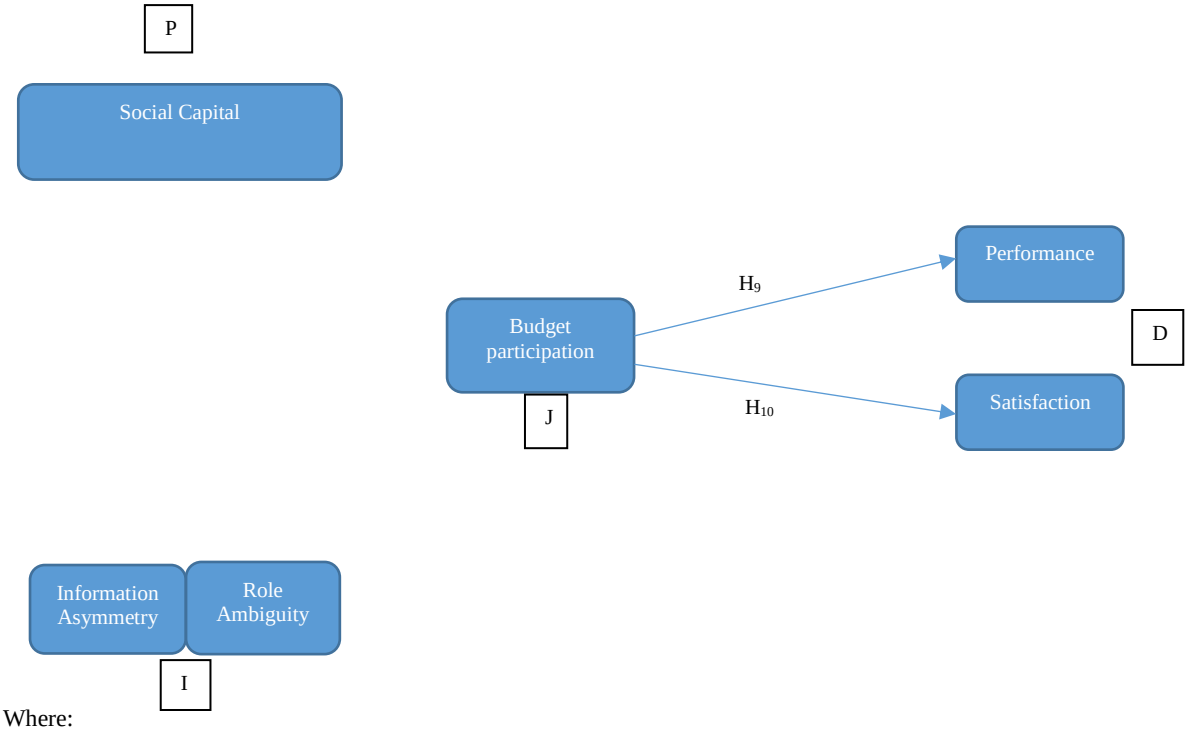
H_{4d}: I (Role Ambiguity) to P (Social Capital Cognitive Dimension). (p=0.000)

H_8: P (Social Capital Cognitive Dimension) to J (Budget Participation). (p=0.342)

7.9.3 Judgment factor:

This factor is the third factor within the Throughput model, which was introduced earlier as participative budgeting. Under this factor, this study proposed two hypotheses. The first one, H_9, indicates that there is a significant relationship between participative budgeting and subordinates' performance. The results confirm the significance of this relationship, p=0.000. Furthermore, H_{10} proposed that there is a significant relationship between participative budgeting and subordinates satisfaction. The results of this study confirmed this significant relationship, p=0.000. The following figure illustrates the tested hypotheses.

Figure 31: Judgement Factor Hypotheses



Where:

H9: J (Participative Budgeting) to D (Performance). (p=0.000)

H10: J (Participative Budgeting) to D (Satisfaction). (p=0.000)

7.9.4 Hypothesis testing summary:

The following table, Table 46, shows a detailed summary of the results of the PLS analysis and the hypothesis testing.

Table 46: Hypothesis Testing Summary

Hypothesis	*Path coefficient*	*P-Value*	*T-Value*	*Q2*	*R2*
Information Factor					
Information Asymmetry				*0.541*	
H1: Information Asymmetry to Budget Participation I==>J	*0.031 n.s.*	*0.661*	*0.438*		
H2a: Information Asymmetry to Internal Relational Dimension I➔P1	*0.243*	*0.001**	*3.305*		
H2b: Information Asymmetry to External Relational Dimension I➔P2	*0.252*	*0.001**	*3.295*		
H2c: Information Asymmetry to Structural Dimension I➔P3	*0.252*	*0.002**	*3.165*		
H2d: Information Asymmetry to Internal Relational Dimension I➔P4	*0.207*	*0.008**	*2.645*		
Role Ambiguity				*0.549*	
H3: Role Ambiguity to Budget Participation I➔J	*0.238*	*0.003**	*2.937*		
H4a: Role Ambiguity to Internal Relational Dimension ➔P1	*0.379*	*0.000**	*5.443*		

H_{4b} Role Ambiguity to External Relational Dimension I ➔P2	*0.223*	*0.004**	*2.849*		
H_{4c}: Role Ambiguity to Structural Dimension I ➔P3	*0.327*	*0.000**	*4.592*		
H_{4d}: Role Ambiguity to Cognitive Dimension I ➔P4	*0.367*	*0.000**	*4.854*		
Perception Factor					
Internal Relational Social Capital				*0.263*	*0.193*
$H_{5:}$ Internal Relational Dimension to Budget Participation P1 ➔J	*0.009 n.s*	*0.900*	*0.126*		
External Relational Social Capital				*0.502*	*0.126*
$H_{6:}$ External Relational Dimension to Budget Participation P2 ➔J	*0.194*	*0.006**	*2.729*		
Structural Dimension Social Capital				*0.630*	*0.256*
H7: Structural Di*mension to Budget Participation P3 ➔J*	*0.081 n.s.*	*0.339*	*0.957*		
Cognitive Dimension Social Capital				*0.694*	*0.258*
$H_{8:}$Cognitive Dimension to Budget Participation P4 ➔J	*0.076 n.s.*	*0.342*	*0.951*		
Judgement Factor					
Budget Participation				*0.689*	*0.237*
H9: Participative Budgeting to Performance J ➔D	*0.431*	*0.000**	*8.566*		
H10: Participative Budgeting to Satisfaction J ➔D	*0.471*	*0.000**	*9.092*		
Decision Factor					
Performance				*0.470*	*0.300*
Satisfaction				*0.679*	*0.398*

Where:

n.s.: Not significant

*: Significant p< 0.01.

7.10 Conclusion:

This chapter has introduced the various methods used in preparing the dataset for testing and evaluation. In addition, this chapter has explained the evaluation processes needed within the PLS-SEM. Lastly, this chapter reported the testing of the hypotheses introduced earlier in this study. The next chapter contains a discussion of the results of PLS-SEM and the conclusion of the study.

Chapter 8. Discussion and Conclusion.

Table 47: Position of the current chapter within the research.

Chapter 1	Introduction
Chapter 2	Participative Budgeting Background
Chapter 3	Social Capital Background
Chapter 4	The Throughput Model Background
Chapter 5	Conceptual Framework
Chapter 6	Research Methodology and Design
Chapter 7	Data Analysis
Chapter 8	Discussion and Conclusion

8.1 Introduction:

This chapter provides further discussion of the hypotheses of this study. Also, it offers concluding remarks on this study and the obstacles and limitations that have restricted the researcher's ability. The chapter is structured as follows. First, there is a discussion of the Throughput model and participative budgeting as a decision making model. After that, the different factors of the Throughput model are highlighted and discussed. At the end of this chapter, is a section that offers comments on the implementation of the Throughput model within a participative budgeting setting, acknowledges the research limitations and indicates directions for future research. Table 48 illustrates the topics covered in this chapter.

Table 48: Chapter Eight Structure.

8.1	Introduction
8.2	Throughput Modelling In Participative Budgeting
8.3	Discussion of the Throughput Model in Participative Budgeting
8.4	Review of Aims, Research Questions and Findings of Study
8.5	Conclusion
8.6	Limitations and Directions for Future Research

8.2 Throughput Model in Participative Budgeting:

This research project was conducted to investigate the different elements that influence performance and satisfaction of subordinates when implementing participative budgeting strategy within listed Saudi Arabian companies. As it was highlighted by Shields and Shields (1998), Jermias and Yigit (2013) and Derfuss (2009), there have been conflicting findings on the impact of the implementation of participative budgeting on subordinates' behaviours, due to the variety of the theoretical backgrounds and empirical models employed (Shields & Shields, 1998). This research has assessed previous results and has implemented a unique decision making model, the Throughput model, to test the significance of the implementation of the participative budgeting.

This decision making model has four factors which are connected by six pathways, that reflect the decision process of the subordinates when making a decision. Out of those six pathways, only three pathways have been used in this study, P➔J➔D, I➔J➔D and I➔P➔J➔D. Derfuss (2015a; 2015b) and Shields and Shields (1998) have suggested investigating further the different elements that might impact the relationship between participative budgeting and subordinates' performance and satisfaction. Upon this suggestion, this research has taken into consideration the impact of social capital and its different dimensions on the decision making process. Social capital increases the accessibility of information that was unavailable for the decision maker before the participation. For this reason, social capital plays an important role in assessing the decision making process of subordinates during the participative budgeting process.

This new addition to participative budgeting, social capital and process thinking has generated research questions, which were translated into 10 hypotheses that reflect the different

relations among the Throughput factors. To test those hypotheses, a survey was developed and distributed among mid-level managers within listed manufacturing companies operating in Saudi Arabia. After the data were collected, PLS-SEM was used to test the significance of the relationships among the various factor of the Throughput model. The next section will discuss the factors of the Throughput model and the various elements that were proposed by this investigation.

8.3 Discussion of Throughput Model in Participative Budgeting:

Following from the data analysis in the last chapter, it is time to discuss the results and the significance of the pathways. As explained earlier, the Throughput model is a decision making model consisting of four factors that reflect the various steps decision makers take when making a decision. However, not all of the four factors have to be used each time a decision is made. Depending on the situation of the decision maker, there are six different pathways that are available to select from. Those pathways reflect the availability of time and pressure on the decision maker. In other words, the decision maker will use the P➔D pathway when time and/or pressure is highly significant. Within this study, only three pathways were considered to reflect decision makers' pathways within participative budgeting settings. Those pathways are I➔P➔J➔D, I➔J➔D and P➔J➔D. Those pathways have been tested by ten hypotheses, which are discussed in the next subsection based on the Throughput model factors.

8.3.1 Information:

As noted earlier, the information factor of the Throughput model reflects all of the information that is available for decision makers. For the purpose of this study, the information factor has been defined to include information asymmetry and role ambiguity. As those two elements play a major role in decision makers' decisions. As a result, four hypotheses have been proposed to reflect this factor. Two of those hypotheses indicated the I➔J pathway and

the other two were for I➔P. The first two hypotheses, which link information with the judgment indicated that there is an insignificant relationship between information asymmetry and participative budgeting, H_1, and a significant relation between role ambiguity and participative budgeting, H_3.

Regarding information asymmetry's relation with participative budgeting, Jermias and Yigit (2013) highlighted that subordinates are reluctant to share information with others, especially their supervisors. However, their findings that this relation is not significant. Further, Shields and Young (1993) argued that when firms are enormous, subordinates tend to have a high level of information asymmetry. Their study revealed that there is a significant relationship between information asymmetry and participative budgeting at $p<0.01$. Agreeing with Jermias and Yigit (2013) our results indicate that there is a positive relationship between information asymmetry and participative budgeting, yet this relationship is not significant. In other words, information asymmetry does not have a significant impact on the decision making process within participative budget settings. Hence, H_1 is rejected as a result of the non-significant result.

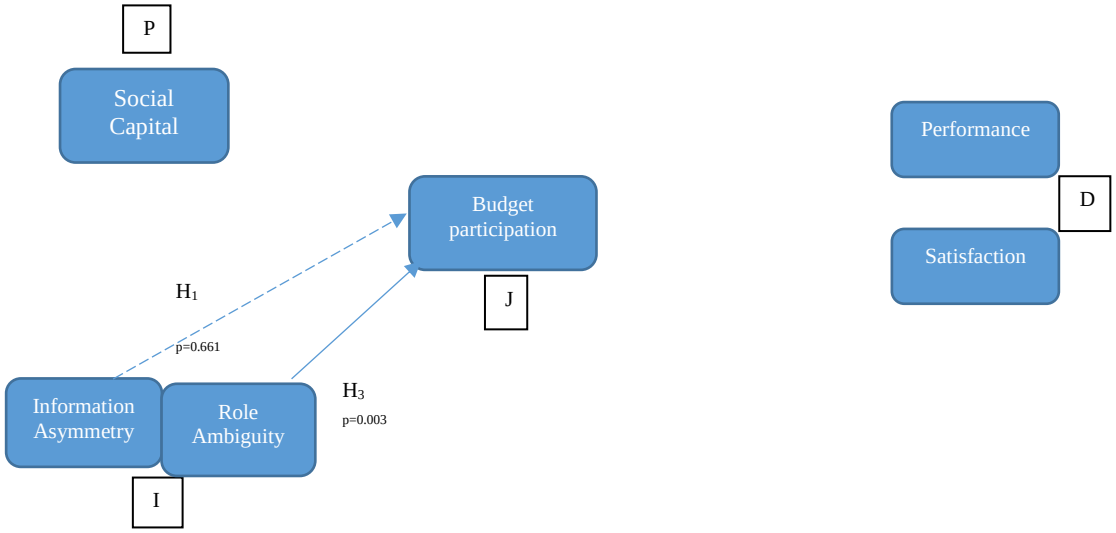
Meanwhile, H_3 reflects the relationship between role ambiguity and participative budgeting. Within any firm, the aim of participation is to enable communication among the different levels of management (Chong & Chong, 2002; Shields & Shields, 1998). Chong et al. (2006) highlighted that previous literature investigating the relationship between role ambiguity and participative budgeting showed an inverse relationship; the greater the level of participation, the lower role ambiguity is. Their study found a significant negative relationship between role ambiguity and participation in budget settings.

Similarly, Jermias and Yigit (2013) proposed a negative relationship. However, their results indicated a positive non-significant relationship between role ambiguity and participative

budgeting. In other words, their results contradicted their proposition (negative relationship). This study's results revealed a significant positive relationship between role ambiguity and participative budgeting, which confirms the I➔J pathway. According to these results, H_3 is supported, and the hypothesis is accepted. The following figure, figure 32, reflects these hypotheses.

The other aspect of this factor is the relationship between information and the perception factor, i.e. the relationship between information asymmetry and role ambiguity with dimensions of the social capital. This is reflected the H_2 and H_4, which will be introduced in relation to the perception factor next.

Figure 32: Information factor results:



Where:

H_1: I (Information Asymmetry) to J (Budget Participation). H_3: I (Role Ambiguity) to J (Budget Participation).

8.3.2 Perception:

As stated earlier, the perception factor of the Throughput model can be described as the frame that the decision maker has regarding a certain issue or problem, i.e. the decision maker's view. The reason for selecting this element as the perception factor is that the reason for having participative budgeting is to communicate information between different levels of management. In this study, this factor was represented by the different dimensions of social

capital. Also, this indicates how the different relationships of the decision makers would influence their decisions. Discussion of this factor is divided in accordance with those dimensions.

8.3.2.1 Relational dimension of social capital:

As introduced earlier, this dimension is formed of two different elements, the internal and external relational dimensions. It was highlighted earlier that this dimension concerns the decision makers' personal relations. This dimension has been divided into the relations that the decision maker has within his/her department and the relations with other stakeholders. According to the proposed model, those two elements are affected by the elements of the information factor, i.e. information asymmetry and role ambiguity. This will highlight the I➔P pathway, and their relationship with participative budgeting, the P➔J pathway. Starting with information asymmetry and the internal relational dimension, H_{2a}, the results of this study indicate that there is a significant impact of information asymmetry and the internal relational dimension of social capital. As highlighted previously, internal relational social capital reflects friendship, trust, and respect, which have a major influence on the individual's behaviours (Cuevas-Rodríguez et al., 2014; Nahapiet & Ghoshal, 1998). Indeed, any subordinate would try to have the 'upper hand' during any negotiation. This pathway serves as proof that subordinates seek other colleagues' advice when it comes to sharing different information with a higher level of management. Moreover, the role ambiguity element of the information factor, H_{4a}, produced a significant result, which indicates that subordinates seek the assistance of their co-workers when their duties and tasks are not clear.

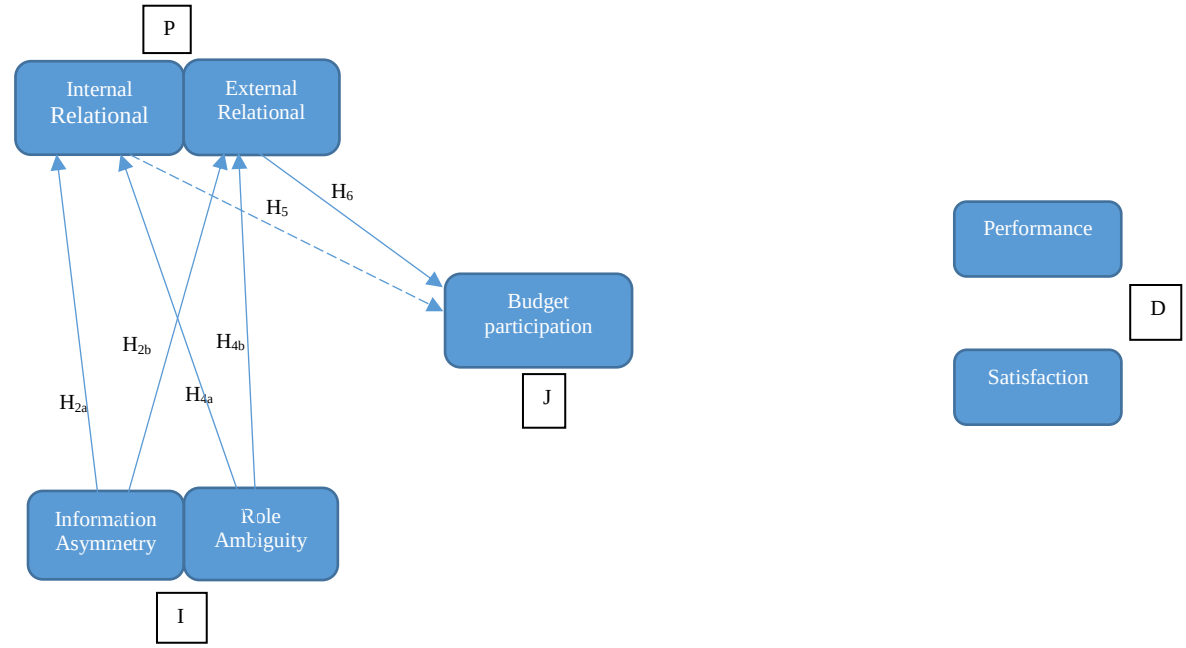
Similarly, external relational social capital has revealed a significant relationship with information asymmetry, H_{2b}, and role ambiguity, H_{4b}. Those significant relationships highlight the importance of the relationships of subordinates with other individuals and stakeholders. This highlights the significance of the different relationships that subordinates have with other

stakeholders. Within participative budgeting settings, this significant relationship shows that subordinates establish relationships with others, i.e. stakeholders, to support and assist them in seeking the most accurate information.

However, when linking this element with the judgment factor of the Throughput model, H_5, the results of this study revealed that there is a non-significant positive relationship between internal relational social capital and participative budgeting. This indicates that in the perception of subordinates, internal relational social capital does not influence their behaviour in participative budgeting settings. This result contradicts the proposed hypothesis, leading to the rejection of the hypothesis.

Whereas the above results apply to the internal factor of the relational social capital; the relationship between external relational social capital and participative budgeting is found to be significant and positive. This result is in line with the proposed hypothesis, H_6, which suggests the significant influence of external relational social capital on the participative budgeting settings. In other words, those stakeholders, i.e. relationships out of the scope of the firm, would influence subordinates more than their co-workers. The following figure, figure 33, represents those hypotheses and pathways.

Figure 33: Relational Dimension Results



Where:

H2a: I (Information Asymmetry) to P (Social Capital Internal Relational Dimension). (p=0.001)

H2b: I (Information Asymmetry) to P (Social Capital External Relational Dimension). (p=0.001)

H4a: I (Role Ambiguity) to P (Social Capital Internal Relational Dimension). (p=0.000)

H4b: I (Role Ambiguity) to P (Social Capital External Relational Dimension). (p=0.004)

H5: P (Social Capital Internal Relational Dimension) to J (Budget Participation). (p=0.900)

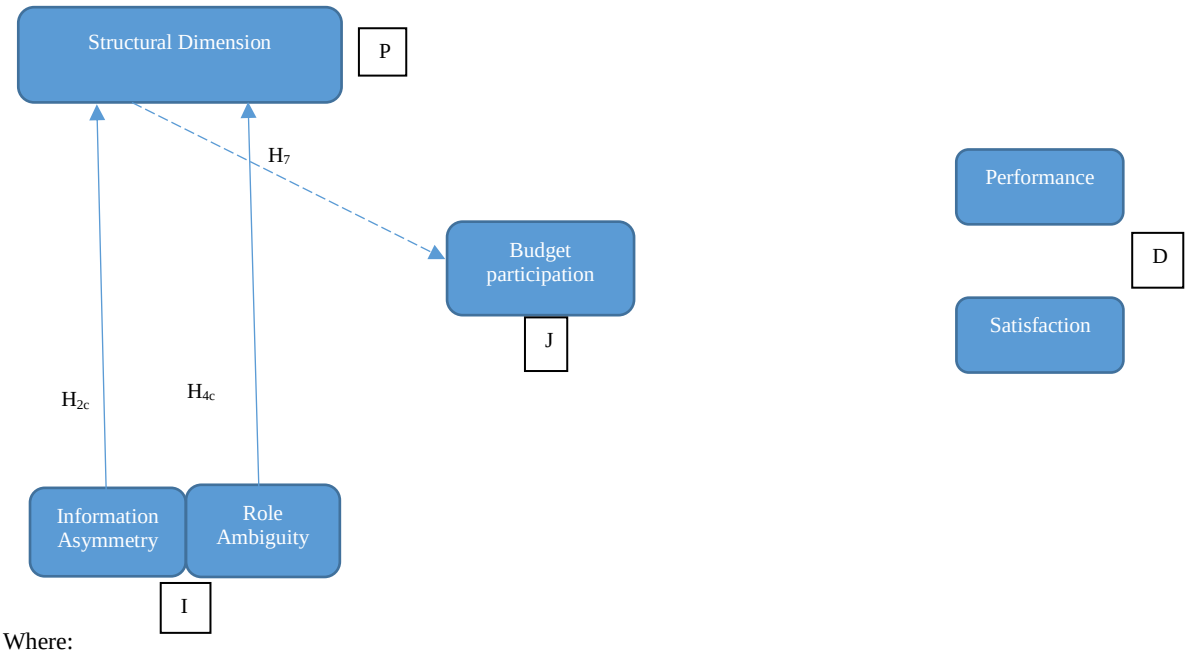
H6: P (Social Capital External Relational Dimension) to J (Budget Participation). (p=0.006)

8.3.2.2 Structural dimension of social capital:

The second of the social capital dimensions is the structural factor, as indicated earlier. As was highlighted earlier, this dimension of social capital reflects the variety of social interactions that individuals have with their colleagues and co-workers. Tasi and Ghoshal (1998) indicated that social relations with co-workers have a significant positive influence on subordinate behaviours. Indeed, this highlights the significance of having the influence of both information asymmetry and role ambiguity. Further, Villena et al. (2011) emphasised that colleagues' social interactions with others, whereas from the same managerial level, higher or lower, have a significant positive influence on their behaviours, especially performance.

This study is consistent with those scholars' results. regarding information asymmetry, H_{2c}, there is a significant positive relationship between the information asymmetry and the structural dimension of social capital. This result reflects the importance of various social interactions among co-workers at the different levels of management. In the same line, H_{4c} revealed that there is a significant positive relationship between role ambiguity and the structural dimension of social capital. In other words, when there is a lack of clear structure of tasks and insignificance of roles, subordinates would rely on establishing rotation with other departments, which will enable them to access a large amount of information from different departments, that will assist them when making decisions. However, testing, H_7, revealed a non-significant positive relationship between the structural dimension of social capital and participative budgeting setting. The following figure reflects the significance and non-significance of those relationships.

Figure 34: Structural Dimension Results:



Where:

H_{2c}: I (Information Asymmetry) to P (Social Capital Structural Dimension). (p=0.002)

H_{4a}: I (Role Ambiguity) to P (Social Capital Structural Dimension). (p=0.000)

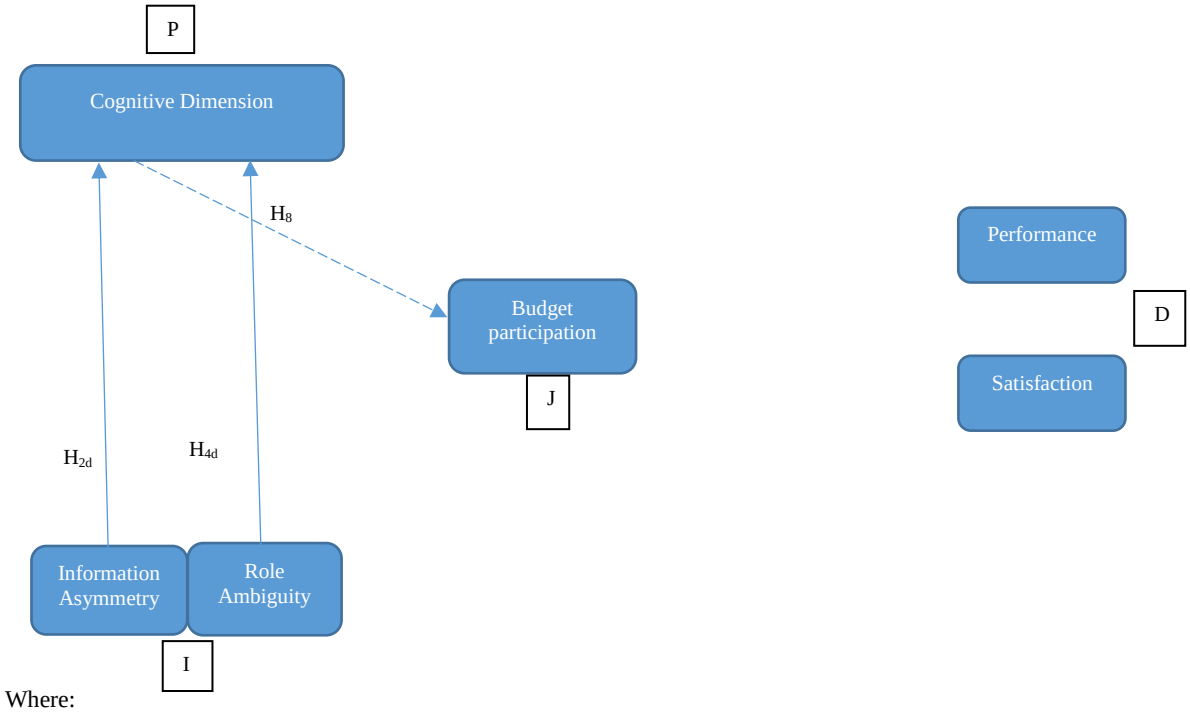
H_7: P (Social Capital Structural Dimension) to J (Budget Participation). (p=0.339)

8.3.2.3 Cognitive dimension of social capital:

The final dimension of the social capital factor is the cognitive dimension. As highlighted earlier, Tsai and Ghoshal (1998) emphasised the strong influence of this dimension and having a common vision among the different members of a network, i.e. firm. Further, Nahapiet and Ghoshal (1998) and Merlo et al. (2006) stressed that having a common goal and a shared vision will enable the subordinates to understand the different events within the firm. This study proposed that this dimension will have a positive relationship with the information factors, i.e. information asymmetry and role ambiguity. Such a relationship would be reflected in subordinates approach to colleagues who share the same views, to communicate various concerns and request more clarification regarding their tasks.

The research results support this aspect of the relationship, as proposed in H_{2d}, This is a significant positive relationship, at $p<0.01$, between the information asymmetry and the cognitive dimension of social capital. Similarly, testing H_{4d} showed that role ambiguity has a significant positive relationship with the cognitive dimension of social capital, where $p<0.01$. On the other hand, when H_8 concerning the relationship between the cognitive dimension and participative budgeting was tested, the results revealed a non-significant positive relationship. This result contradicts what was proposed, as the cognitive dimension was expected to have a significant relationship. The following figure reflects those different pathways of the cognitive dimension of social capital.

Figure 35: Cognitive Dimension Results.



Where:

H2d: I (Information Asymmetry) to P (Social Capital Cognitive Dimension). (p=0.008)

H4d: I (Role Ambiguity) to P (Social Capital Cognitive Dimension). (p=0.000)

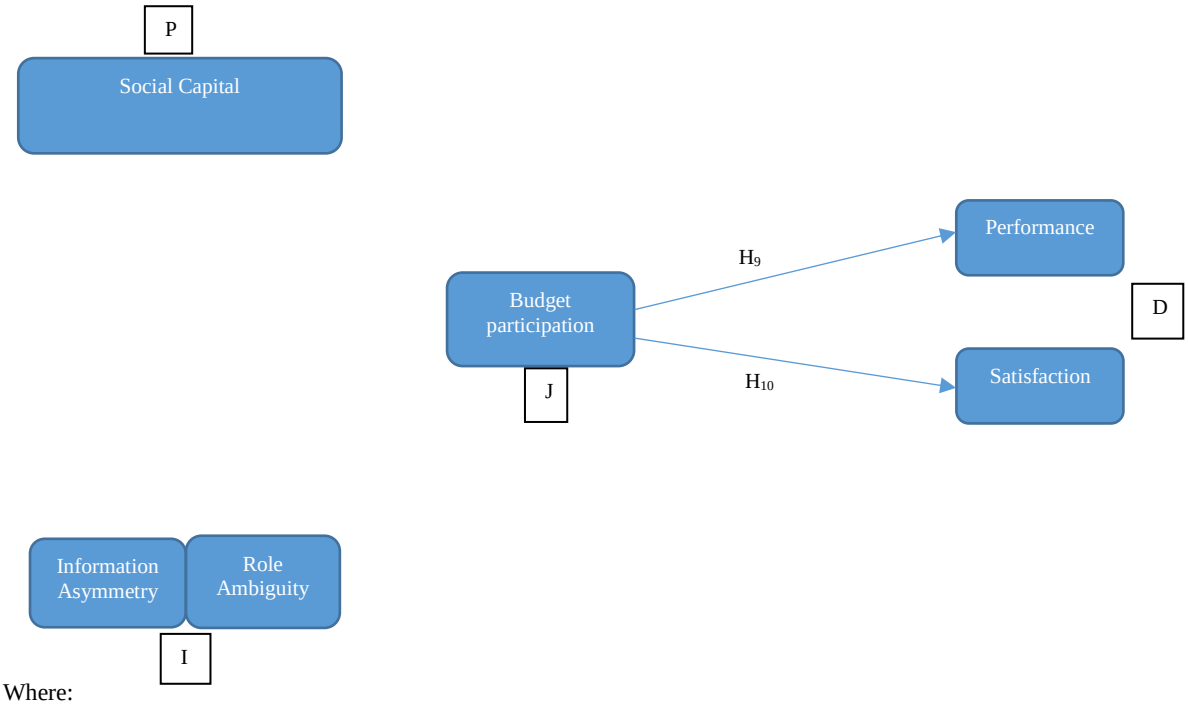
H8: P (Social Capital Cognitive Dimension) to J (Budget Participation). (p=0.342)

8.3.3 Judgment:

This factor of the Throughput model has a significant weight since it reflects the process of analysing the different alternatives that the subordinates have. Within this study, this factor was considered to reflect the process of participation in budget setting. Based on the previous discussion of the results of the impact of perception and information on the judgement factor, i.e. participative budgeting, there are a few elements that did influence the participative budgeting process, *H3* and *H6*. Furthermore, the relationship of participative budgeting and the decision factor of the Throughput model is significant and positive. Agreeing with Chong and Johnson (2007), Yuen (2007), Brownell (1981) and Mia (1988), this study's results confirm the significance of the relationship between participative budgeting and performance, *H9*.

On the other hand, our results contradict the conclusions of Chalos and Haka (1989) and Jermias and Yigit (2013) which indicated the insignificant impact on performance. Also, this study results regarding the relationship of participative budgeting and satisfaction, are in line with Jermias and Yigit (2013) and Dow et al. (2012), showing a significant positive impact on satisfaction. The following figure reflects these hypotheses.

Figure 36: Judgement Factor Results:



Where:

H9: J (Participative Budgeting) to D (Performance). (p=0.000)

H10: J (Participative Budgeting) to D (Satisfaction). (p=0.000)

8.3.4 Decision:

After knowing all of the results of the relations among the different factors of the Throughput model, it appears that mid-level managers in listed Saudi companies will have a satisfactory application of the implementation of the participative budgeting within their companies and will have better performance.

8.3.5 Significant Pathways:

The results of this study show that not all of the tested pathways have a significant impact. However, the pathway I➔P was significant at all levels, i.e. different dimensions of social capital. This emphasises that subordinates, when utilising the different dimensions of social capital, rely heavily on their relationships and connections to seek for information, either within the firm or from outsiders. Also, the I➔J pathway has been partially supported. In other words, there is a significant impact of role ambiguity on judgment, whereas there is a non-significant relation with information asymmetry.

Meanwhile, when testing the P➔J pathway, only one dimension of social capital has a significant impact on the subordinates' judgment. This is the external relational dimension of social capital. This result can be explained as indicating that outsiders have a greater impact on participative budgeting. The last single pathway is J➔D, which indicates a significant relationship between participative budgeting and both performance and satisfaction.

Among the tested pathways, the I➔J➔D has been partially supported as an option for the subordinates to follow when they are participating in setting their budgets. However, the P➔J➔D is only slightly supported since only one of the four different factors of the subordinates' perception is supported. Meanwhile the I➔P➔J➔D pathway is not fully supported as a major pathway used by subordinates for decision making. Based on those results, the different dimensions of the social capital factors have a minor impact on the decision making of the mid-level managers within Saudi listed companies. The only significant element is when the source of information needed for the participation is an external element, external relational social capital, then the I➔P➔J➔D pathway will be followed, and the social capital will have an impact on the decision making process of those subordinates.

8.4 Review of Aims, Research Questions and Findings of Study:

As introduced within the first chapter, this study had three aims. The first aim was to use a decision making model in order to reflect the decision making process among subordinates. Indeed, this aim has been successfully satisfied by implementing and using the throughput model within this study. The second aim was to reflect the impact of various social capital factors within the participative budgeting setting. The implementation of social capital showed that there is a small impact on the decision making process of the subordinates. This is reflected in the non-significant results. The final aim of this study was to implement and test this study within the Saudi Arabian context. This aim has been successfully met by the sample of 283 mid-level managers working within Saudi Arabian listed manufacturing companies.

Furthermore, as was highlighted earlier within this study, three main questions were addressed in the research. The first research question concerned the relationship of the information factor with the perception and judgement of the decision maker. The results of this study showed that the information factor has a significant impact on both the perception and judgement of the subordinate's decision making process. More specifically, only information asymmetry has a non-significant impact on the decision maker's judgement. The second question reflected the relationship between the decision maker's perception and their judgement. This was indicated by the import of various social capital factors on the participative budgeting (Judgement). The results indicated that social capital has a non-significant relationship with participative budgeting. There is only one significant relationship between the social capital dimensions and participative budgeting. This significant relationship is between the external relational social capital and participative budgeting. This indicates that subordinates would seek outsiders' opinions to assist them when making a decision. The third research question concerned the relationship between the judgement and the decision factor of

the throughput model. The study results show that there is a significant relationship between them. In other words, there is a significant impact on the subordinates' behaviours, i.e. performance and satisfaction from the usage of participative budgeting.

8.5 Conclusion:

This research was conducted to investigate the significance of the relationships between participative budgeting, performance and satisfaction. This was done by implementing a new model, the Throughput model, to test the significance of the relationships. Along with the information asymmetry and role ambiguity, this study considered the impact of the various dimensions of the social capital on these relationships.

This study was performed within manufacturing listed Saudi companies with a total of 283 mid-level managers. After receiving responses from the participants, PLS-SEM was performed to indicate the significance of the ten proposed hypotheses. Six hypotheses were supported, while the rest of the hypotheses were partially supported. Those hypotheses were presented accordingly along with the related statistical results. At the end of this research, the researcher has highlighted the relationship of the study findings to previous literature directions for future research are proposed in the next section.

8.6 Limitations and Directions for Future Research

As with any research, there are limitations related to of the researcher's access to certain data, i.e. companies during the data collection, availability of time and the response level. Those limitations should be highlighted for the future consideration of subsequence researchers.

First, this study concerned manufacturing companies that are listed on the Saudi Arabia Stock Exchange. Therefore, caution should be expected when generalising the results to other industries. Future researchers could consider extending this research to include additional

sectors of the stock market companies to generalise the results. Future researchers could also investigate other Arabian Gulf countries in order to indicate whether there are differences among these countries. Such an extension of the context will highlight an interesting area of research since those countries share many similarities in their culture and social activities.

Secondly, the number of female participants in this research was very small, which made it hard to compare the differences between them and male participants. This limited number of female participants is due to the fact that women in Saudi Arabia mostly work in either the education sector or the financial sector. For example, two of the leading banks in Saudi Arabia appointed female CEOs, during February 2017. This achievement of Saudi women indicates that they are very well educated and have the skills to lead an organisation along with Saudi men As a result; future research should consider the difference between male and female participants within Saudi listed companies.

Thirdly, due to the risk of cyber attacks that prevailed during the data collection period, a few companies refused to provide the researcher with electronic access. This limited the availability of participants within those companies. Even though the researcher had prepared a paper-based survey to overcome this obstacle, those companies denied the researcher physical access to departments others than the public relations department. This increased the researcher's concern regarding whether the targeted sample completed the survey.

Fourthly, the Throughput model has six different pathways, each one of which needs a significant amount of time to be completed. Due to the timeframe, this study considered only half of those pathways, i.e. three pathways. Those pathways are I➔J➔D, P➔J➔D and I➔P➔J➔D. Future researchers should consider expanding this study by investigating the rest of those pathways, i.e. I➔P➔D, P➔D and P➔I➔J➔D.

Bibliography:

Abofaied, A. E. A. (2005) *Budgeting process and the effect of budget participation on managerial performance, job satisfaction and budget slack*. Ph.D. Ph.D. . Manchester Metropolitan University, February 2005.

Adler, P. S. & Kwon, S.-W. (2000) *Social capital: the good, the bad and the ugly*. Woburn, MA, USA: Routledge.

Adler, P. S. & Kwon, S.-W. (2002) Social capital prospects for a new concept. *Academy of Management Review*, 27(1), 17-40.

Agbejule, A. & Saarikoski, L. (2006) The effect of cost managemen knowledge on the relationship between budgetary participation and managerial performance. *The British Accounting Review*, 38(4), 427-440.

Ahearne, M., Lam, S. K. & Kraus, F. (2014) Performance impact of middle managers' adaptive strategy implementation: The role of social capital. *Strategic Management Journal*, 35(1), 68-87.

Ahuja, G. (2000) Collaboration networks, structural holes, and innovation: a longitudinal study. *Administrative Science Quarterly*, 45(3), 425-455.

Alam, M. (1997) Budgetary process in uncertain contexts: a study of state-owned enterprises in bangladesh. *Management Accounting Research*, 8(2), 147-167.

Aldrich, D. P. & Meyer, M. A. (2014) Social capital and community resilience. *American Behavioral Scientist*, 59(2), 1-16.

Anderson, A. R. & Jack, S. L. (2002) The articulation of social capital in entrepreneurial networks: A glue or a lubricant? *Entrepreneurship and regional development*, 14(3), 193-210.

Anderson, J. R. (1985) *Cognitive psychology and its implications*, 3 edition. New York: WH Freeman/Times Books/Henry Holt & Co.

Anderson, J. R. (1995) *Cognitive psychology and its implications*, 4th ed. edition. New York: W.H. Freeman.

Anderson, S. W., Dekker, H. C. & Sedatole, K. L. (2010) An empirical examination of goals and performance-to-goal following the introduction of an incentive bonus plan with participative goal setting. *Management Science*, 56(1), 90-109.

Argyris, C. (1952) *The impact of budgets on people*. Ann Arbor: Controllership Foundation.

Ashraf, N., Bohnet, I. & Piankov, N. (2006) Decomposing trust and trustworthiness. *Experimental economics*, 9(3), 193-208.

Atkinson, A. A., Kaplan, R. S., Matsumura, E. M. & Young, S. M. (2011) *Management Accounting: Information for Decision-making and Strategy Execution*, 6 edition. USA: Pearson Education.

Awasthi, V. N., Chow, C. W. & Wu, A. (1998) Performance measure and resource expenditure choices in a teamwork environment: the effects of national culture. *Management Accounting Research*, 9(2), 119-138.

Axelrod, R. (1986) An evolutionary approach to norms. *American Political Science Review*, 80(04), 1095-1111.

Babin, B. J., Hair, J. F. & Boles, J. S. (2008) Publishing research in marketing journals using structural equation modeling. *Journal of Marketing Theory and Practice*, 16(4), 279-286.

Baker, W. E. (1990) Market networks and corporate behavior. *American Journal of Sociology*, 96(3), 589-625.

Bamber, M. & Parry, S. (2014) *Accounting and finance for managers*. London KoganPage.

Barney, J. B. & Hansen, M. H. (1994) Trustworthiness as a source of competitive advantage. *Strategic Management Journal*, 15(S1), 175-190.

Bavoár, J. & Orosová, O. g. (2015) Decision-making styles and their associations with decision-making competencies and mental health. *Judgment and Decision Making*, 10(1), 115-122.

Becker, S. & Green, D., Jr. (1962) Budgeting and employee behavior. *The Journal of Business (pre-1986)*, 35(4), 392.

Beer, M. S., Lawrence, B. & Mills, P. Q. (1984) *Managing human assets*. New York: The Free Press.

Belliveau, M. A., O'Reilly, C. A. & Wade, J. B. (1996) Social capital at the top: effects of social similarity and status on CEO compensation. *Academy Of Management Journal*, 39(6), 1568-1593.

Ben-Ner, A. & Halldorsson, F. (2010) Trusting and trustworthiness: what are they, how to measure them, and what affects them. *Journal of Economic Psychology*, 31(1), 64-79.

Berggren, N. & Jordahl, H. (2006) Free to trust: economic freedom and social capital. *Kyklos*, 59(2), 141-169.

Birnberg, J. G. & Snodgrass, C. (1988) Culture and control: A field study. *Accounting, Organizations and Society*, 13(5), 447-464.

Boudieu, P. (1985) The forms of capital, in Richardson, J. (ed), *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press, 241-58.

Bourdieu, P. & Wacquant, L. J. (1992) *An invitation to reflexive sociology*. Chicago: University of Chicago press.

Bourne Jr, L. E. & Russo, N. F. (1998) *Psychology: behavior in context*. New York: WW Norton & Co.

Bowrin, A. R. & King, J., II (2010) Time pressure, task complexity, and audit effectiveness. *Managerial Auditing Journal*, 25(2), 160-181.

Boxman, E. A., De Graaf, P. M. & Flap, H. D. (1991) The impact of social and human capital on the income attainment of dutch managers. *Social Networks*, 13(1), 51-73.

Brass, D. J., Butterfield, K. D. & Skaggs, B. C. (1998) Relationships and unethical behavior: a social network perspective. *Academy of Management Review*, 23(1), 14-31.

Brehm, J. & Rahn, W. (1997) Individual-level evidence for the causes and consequences of social capital. *American Journal of Political Science*, 41(3), 999-1023.

Bresnen, M., Edelman, L., Newell, S., Scarbrough, H. & Swan, J. (2005) Exploring social capital in the construction firm. *Building Research & Information*, 33(3), 235-244.

Briers, M. & Hirst, M. (1990) The role of budgetary information in performance evaluation. *Accounting, Organizations and Society*, 15(4), 373-398.

Brown, J. L., Evans, J. H., III & Moser, D. V. (2009) Agency theory and participative budgeting experiments. *Journal of Management Accounting Research*, 21(1), 317-345.

Brownell, P. (1981) Participation in budgeting, locus of control and organizational effectiveness. *The Accounting Review*, 56(4), 844.

Brownell, P. (1982a) A field study examination of budgetary participation and locus of control. *The Accounting Review*, 57(4), 766.

Brownell, P. (1982b) *Participation in the budgeting process: when it works and when it doesn't*. Translated from English by, *1*. Gainesville: Elsevier BV University of Florida, Fisher School of Accounting.

Brownell, P. (1982c) The role of accounting data in performance evaluation, budgetary participation, and organizational-effectiveness. *Journal of Accounting Research*, 20(1), 12-27.

Brownell, P. (1983a) Leadership-style, budgetary participation and managerial behavior. *Accounting Organizations and Society*, 8(4), 307-321.

Brownell, P. (1983b) The motivational impact of management-by-exception in a budgetary context. *Journal of Accounting Research*, 21(2), 456-472.

Brownell, P. & Dunk, A. S. (1991) Task uncertainty and its interaction with budgetary participation and budget emphasis: Some methodological issues and empirical investigation. *Accounting, Organizations and Society*, 16(8), 693.

Brownell, P. & Hirst, M. (1986) Reliance on accounting information, budgetary participation, and task uncertainty: Tests of a three-way interaction. *Journal of Accounting Research*, 24(2), 241.

Brownell, P. & McInnes, M. (1986) Budgetary participation, motivation, and managerial performance. *The Accounting Review*, 61(4), 587.

Brownell, P. & Merchant, K. A. (1990) The budgetary and performance influences of product standardization and manufacturing process automation. *Journal of Accounting Research*, 28(2), 388.

Bruns, W. J. & Waterhouse, J. H. (1975) Budgetary control and organization structure. *Journal of Accounting Research*, 13(2), 177-203.

Bryman, A. (2016) *Social research methods*, Fifth edition. edition. Oxford: Oxford University Press.

Buchan, N. R., Croson, R. T. & Solnick, S. (2008) Trust and gender: an examination of behavior and beliefs in the investment game. *Journal of Economic Behavior & Organization*, 68(3), 466-476.

Burrell, G. (1979) *Sociological paradigms and organisational analysis : elements of the sociology of corporate life*. London: Heinemann.

Burt, R. S. (1987) Social contagion and innovation: cohesion versus structural equivalence. *American journal of Sociology*, 92(6), 1287-1335.

Burt, R. S. (1992) *The social structure of competition*. Cambridge, MA: Harvard University Press.

Burt, R. S. (1997a) The contingent value of social capital. *Administrative Science Quarterly*, 42(2), 339-365.

Burt, R. S. (1997b) A note on social capital and network content. *Social networks*, 19(4), 355-373.

Burt, R. S. (2000) The network structure of social capital. *Research in Organizational Behavior*, 22(1), 345-423.

Burt, R. S. (2005) *Brokerage and closure: an introduction to social capital*. Oxford, NY, USA: Oxford University Press.

Burt, R. S. (2009) *Structural holes: the social structure of competition*. London, UK: Harvard university press.

Butler, B. & Purchase, S. (2008) Use of social capital among russian managers of a new generation. *Industrial Marketing Management*, 37(5), 531-538.

Byrne, S. & Damon, F. (2008) To participate or not to participate? voice and explanation effects on performance in a multi-period budget setting. *The British Accounting Review*, 40(3), 207-227.

Capello, R. & Faggian, A. (2005) Collective learning and relational capital in local innovation processes. *Regional studies*, 39(1), 75-87.

Capital Market Authority, S. A. (2016) *Annual report*, 2016. Available online: www.cma.org.sa [Accessed 25/06/2016].

Carroll, S. J. & Tosi, H. L. (1973) *Management by objectives : Applications and research*. New York, N.Y.: Macmillan.

Cassar, A., Crowley, L. & Wydick, B. (2007) The effect of social capital on group loan repayment: Evidence from field experiments. *The Economic Journal*, 117(517), F85-F106.

Chalos, P. & Haka, S. (1989) Participative budgeting and managerial performance. *Decision Sciences*, 20(2), 334-347.

Chen, C.-J. & Huang, J.-W. (2007) How organizational climate and structure affect knowledge management—the social interaction perspective. *International Journal of Information Management*, 27(2), 104-118.

Chen, Q. (2003) Cooperation in the budgeting process. *Journal of Accounting Research*, 41(5), 775-796.

Chenhall, R. H. (1986) Authoritarianism and participative budgeting - a dyadic analysis. *The Accounting Review*, 61(2), 263.

Chenhall, R. H. & Brownell, P. (1988) The effect of participative budgeting on job satisfaction and performance: role ambiguity as an intervening variable. *Accounting, Organizations and Society*, 13(3), 225-233.

Cherrington, D. J. & Cherrington, J. O. (1973) Appropriate reinforcement contingencies in the budgeting process. *Journal of Accounting Research*, 11, 225-233.

Chin, W. W. (1998) The partial least squares approach to structural equation modeling. *Modern Methods For Business Research*, 295(2), 295-336.

Chiu, C.-M., Hsu, M.-H. & Wang, E. T. (2006) Understanding knowledge sharing in virtual communities: an integration of social capital and social cognitive theories. *Decision Support Systems*, 42(3), 1872-1888.

Chong, V. K. (2002) A note on testing a model of cognitive budgetary participation processes using a structural equation modeling approach. *Advances in Accounting*, 19(1), 27-51.

Chong, V. K. & Bateman, D. (2000) The effect of role stress on budgetary participation and job satisfaction-performance linkages: A test of two different models. *Advances in Accounting Behavioral Research*, 3(1), 91-118.

Chong, V. K. & Chong, K. M. (2002) Budget goal commitment and informational effects of budget participation on performance: A structural equation modeling approach. *Behavioral Research in Accounting*, 14(1), 65-86.

Chong, V. K., Eggleton, I. R. C. & Leong, M. K. C. (2005a) The effects of value attainment and cognitive roles of budgetary participation on job performance, *Advances in Accounting Behavioral Research*. New York: Elsevier 213-233.

Chong, V. K., Eggleton, I. R. C. & Leong, M. K. C. (2005b) The impact of market competition and budgetary participation on performance and job satisfaction: A research note. *The British Accounting Review*, 37(1), 115-133.

Chong, V. K., Eggleton, I. R. C. & Leong, M. K. C. (2006) The multiple roles of participative budgeting on job performance. *Advances in Accounting*, 22(0), 67-95.

Chong, V. K. & Johnson, D. M. (2007) Testing a model of the antecedents and consequences of budgetary participation on job performance. *Accounting and Business Research*, 37(1), 3-19.

Chou, Y. K. (2006) Three simple models of social capital and economic growth. *Journal of Socio - Economics*, 35(5), 889.

Chow, C. W., Cooper, J. C. & Waller, W. S. (1988) Participative budgeting - effects of a truth-inducing pay scheme and information asymmetry on slack and performance. *Accounting Review*, 63(1), 111-122.

Chow, C. W., Shields, M. D. & Chan, Y. K. (1991) The effects of management controls and national culture on manufacturing performance: An experimental investigation. *Accounting, Organizations And Society*, 16(3), 209-226.

Chow, C. W., Shields, M. D. & Wu, A. (1999) The importance of national culture in the design of and preference for management controls for multi-national operations. *Accounting, Organizations and Society*, 24(5–6), 441-461.

Chow, W. S. & Chan, L. S. (2008) Social network, social trust and shared goals in organizational knowledge sharing. *Information & Management*, 45(7), 458-465.

Chua, W. F. & Petty, R. (1999) Mimicry, director interlocks, and the interorganizational diffusion of a quality strategy: A note. *Journal of Management Accounting Research*, 11, 93-93.

Cleveland, F. A. (1907) Principles of budget making. *Journal of Accountancy (pre-1986)*, 4(6), 456.

Coch, L. & French Jr, J. R. (1948) Overcoming resistance to change. *Human Relations*, 1(4).

Cohen, J. (1988) *Statistical power analysis for the behavioral sciences lawrence earlbaum associates*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Coleman, J. S. (1988) Social capital in the creation of human capital. *American Journal of Sociology*, 94(1), S95-S120.

Coleman, J. S. (1990) *Foundations of social theory*. London, UK: Harvard University Press.

Collis, J. & Hussey, R. (2009) *Business research : A practical guide for undergraduate & postgraduate students*, 3rd ed. edition. New York, USA: Palgrave Macmillan.

Constant, D., Sproull, L. & Kiesler, S. (1996) The kindness of strangers: the usefulness of electronic weak ties for technical advice. *Organization science*, 7(2), 119-135.

Cooke, P. (2007) Social capital, embeddedness, and market interactions: an analysis of firm performance in UK regions. *Review of social economy*, LXV(1), 79-106.

Coombs, H. M. (2005) *Management accounting principles and applications*. London: SAGE.

Coser, L. A. (1957) Social conflict and the theory of social change. *The British Journal of Sociology*, 8(3), 197-207.

Cousins, P. D., Handfield, R. B., Lawson, B. & Petersen, K. J. (2006) Creating supply chain relational capital: The impact of formal and informal socialization processes. *Journal of Operations Management*, 24(6), 851-863.

Crosby, L. A., Evans, K. R. & Cowles, D. (1990) Relationship quality in services selling: An interpersonal influence perspective. *The Journal of Marketing*, 68-81.

Cuevas-Rodríguez, G., Cabello-Medina, C. & Carmona-Lavado, A. (2014) Internal and external social capital for radical product innovation: Do they always work well together? *British Journal of Management*, 25(2), 266-284.

Cullen, J. B., Johnson, J. L. & Sakano, T. (2000) Success through commitment and trust: The soft side of strategic alliance management. *Journal of World Business*, 35(3), 223-240.

Cushen, J. (2013) Financialization in the workplace: Hegemonic narratives, performative interventions and the angry knowledge worker. *Accounting Organizations and Society*, 38(4), 314-331.

Daroca, F. P. (1984) Informational influences on group decision-making in a participative budgeting context. *Accounting Organizations and Society*, 9(1), 13-32.

De Clercq, D., Dimov, D. & Thongpapanl, N. T. (2010) The moderating impact of internal social exchange processes on the entrepreneurial orientation–performance relationship. *Journal of Business Venturing*, 25(1), 87-103.

De Clercq, D. & Sapienza, H. J. (2006) Effects of relational capital and commitment on venture capitalists' perception of portfolio company performance. *Journal of Business Venturing*, 21(3), 326-347.

De Ruyter, K., Moorman, L. & Lemmink, J. (2001) Antecedents of commitment and trust in customer–supplier relationships in high technology markets. *Industrial Marketing Management*, 30(3), 271-286.

De Vaus, D. (2002) *Analyzing social science data: 50 key problems in data analysis*. London: Sage.

Deeter-Schmelz, D. R. (1997) Applying teams to logistics processes: Information acquistion and the impact of team role clarity and norms. *Journal of Business Logistics*, 18(1), 159.

Derfuss, K. (2009) The relationship of budgetary participation and reliance on accounting performance measures with individual-level consequent variables: A meta-analysis. *European Accounting Review*, 18(2), 203-239.

Derfuss, K. (2015a) Reconsidering the participative budgeting–performance relation: a meta-analysis regarding the impact of level of analysis, sample selection, measurement, and industry influences. *The British Accounting Review*, 48(1), 17-37.

Derfuss, K. (2015b) Relating context variables to participative budgeting and evaluative use of performance measures: A meta-analysis. *Abacus*, 51(2), 238-278.

Douglas, P. C., HassabElnaby, H., Norman, C. S. & Wier, B. (2007) An investigation of ethical position and budgeting systems: Egyptian managers in us and egyptian firms. *Journal of International Accounting, Auditing and Taxation*, 16(1), 90-109.

Dow, K. E., Watson, M. W., Greenberg, P. S. & Greenberg, R. H. (2012) Understanding participation: Situational participation, intrinsic involvement, and influence. *Advances in Management Accounting*, 21(1), 25-47.

Drury, C. (2001) *Management accounting for business decisions*, 2nd ed. edition. London: Thomson Learning.

Drury, C. (2015) *Management and cost accounting*, Ninth edition. edition. London: Thomson Learning.

Dunk, A. S. (1989) Budget emphasis, budgetary participation and managerial performance: A note. *Accounting, Organizations and Society*, 14(4), 321.

Dunk, A. S. (1990) Budgetary participation, agreement on evaluation criteria and managerial performance - a research note. *Accounting Organizations and Society*, 15(3), 171-178.

Dunk, A. S. (1992) Reliance on budgetary control, manufacturing process automation and production subunit performance: A research note. *Accounting, Organizations and Society*, 17(3–4), 195-203.

Dunk, A. S. (1993a) The effect of budget emphasis and information asymmetry on the relation between budgetary participation and slack. *The Accounting Review*, 68(2), 400.

Dunk, A. S. (1993b) The effects of job-related tension on managerial performance in participative budgetary settings. *Accounting, Organizations and Society*, 18(7–8), 575-585.

Dunk, A. S. (1993c) The effects of managerial level on the relationship between budgetary participation and job satisfaction. *The British Accounting Review*, 24(3), 207-218.

Dunk, A. S. (1995a) The differential effect of information asymmetry on the relation between budgetary participation and departmental performance. *Advances in Management Accounting*, 4(1), 147-161.

Dunk, A. S. (1995b) The joint effect of participative budgeting and managerial interest in innovation on departmental performance. *Scandinavian Journal of Management*, 11(1), 75-85.

Dunk, A. S. (2001) Behavioral research in management accounting: The past, present, and future, *Advances in Accounting Behavioral Research*. Bradford: Emerald, 25-45.

Dunk, A. S. & Lysons, A. F. (1997) An analysis of departmental effectiveness, participative budgetary control processes and environmental dimensionality within the competing values vramework: A public sector study. *Financial Accountability & Management*, 13(1), 1-15.

Dyer, J. H. & Singh, H. (1998) The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy Of Management Review*, 23(4), 660-679.

Edelman, L. F., Bresnen, M., Newell, S., Scarbrough, H. & Swan, J. (2004) The benefits and pitfalls of social capital: Empirical evidence from two organizations in the united kingdom. *British Journal of Management*, 15(S1), S59-S69.

Eisenhardt, K. M. (1989) Agency theory: An assessment and review. *The Academy of Management Review*, 14(1), 57-74.

Ellison, N. B., Steinfield, C. & Lampe, C. (2007) The benefits of facebook "friends:" social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.

Esurveycreator.co.uk (2016) *Esurveycreator main page*, 2016. Available online: www.esurveycreator.co.uk.

Etemadi, H., Dilami, Z. D., Bazaz, M. S. & Parameswaran, R. (2009) Culture, management accounting and managerial performance: Focus iran. *Advances in Accounting*, 25(2), 216-225.

Field, A. (2013) *Discovering statistics using SPSS*, 4 edition. London: Sage.

Firer, S. & Williams, M. S. (2003) Intellectual capital and traditional measures of corporate performance. *Journal of Intellectual Capital*, 4(3), 348-360.

Fisher, J. G., Frederickson, J. R. & Peffer, S. A. (2000) Budgeting: An experimental investigation of the effects of negotiation. *Accounting Review*, 75(1), 93-114.

Fisher, J. G., Maines, L. A., Peffer, S. A. & Sprinkle, G. B. (2002) Using budgets for performance evaluation: Effects of resource allocation and horizontal information asymmetry on budget proposals, budget slack, and performance. *The Accounting Review*, 77(4), 847-865.

Fornell, C. & Bookstein, F. L. (1982) Two structural equation models: LISREL and PLS applied to consumer exit-eoice theory. *Journal of Marketing research*, 19(4), 440-452.

Foss, K. & Rodgers, W. (2011) Enhancing information usefulness by line managers' involvement in cross-unit activities. *Organization Studies*, 32(5), 683-703.

French, J. R. P., Jr., Israel, J. & Ås, D. (1960) An experiment on participation in a norwegian factory: Interpersonal dimensions of decision-making. *Human Relations*, 13(1), 3-20.

Friedlander, F. (1987) The Ecology of Work Groups. *Handbook of organizational behavior*, 301-314.

Frucot, V. & Shearon, W. T. (1991) Budgetary participation, locus of control, and mexican managerial performance and job satisfaction. *The Accounting Review*, 66(1), 80.

Frucot, V. & White, S. (2006) Managerial levels and the effects of budgetary participation on managers. *Managerial Auditing Journal*, 21(2), 191-206.

Fukuyama, F. (1995) *Trust: The Social Virtues and the Creation of Prosperity*JSTOR.

Fukuyama, F. (1997) Social capital and the modern capitalist economy: Creating a high trust workplace. *Stern Business Magazine*, 4(1), 1-16.

Gazely, A. M. (2006) *Management accounting*. London: SAGE.

Geisser, S. (1974) A predictive approach to the random effect model. *Biometrika*, 61(1), 101-107.

Gibson, J. J. (1979) *The ecological aproach to visual perception: Classic edition*. Hove: Psychology Press.

Gouldner, A. W. (1960) The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25(2), 161-178.

Govindarajan, V. (1986) Impact of participation in the budgetary process on managerial attitudes and performance: Universalistic and contingency perspectives. *Decision Sciences*, 17(4), 496.

Granovetter, M. (1983) The strength of weak ties: A network theory revisited. *Sociological Theory*, 1(1), 201-233.

Granovetter, M. (1992) Economic institutions as social constructions: A framework for analysis. *Acta Sociologica*, 35(1), 3-11.

Granovetter, M. S. (1973) The strength of weak ties. *American Journal Of Sociology*, 78(6), 1360-1380.

Greenberg, P. S., Greenberg, R. H. & Nouri, H. (1994) Participative budgeting: A meta-analytic examination of methodological moderators. *Journal of Accounting Literature*, 13(1), 117.

Griffith, D. A. & Harvey, M. G. (2004) The influence of individual and firm level social capital of marketing managers in a firm's global network. *Journal of World Business*, 39(3), 244-254.

Guiral, A., Rodgers, W., Ruiz, E. & Gonzalo-Angulo, J. A. (2015) Can expertise mitigate auditors' unintentional biases? *Journal Of International Accounting Auditing And Taxation*, 24(1), 105-117.

Guiral, A., Ruiz, E. & Rodgers, W. (2011) To what extent are auditors' attitudes toward the evidence influenced by the self-fulfilling prophecy? *Auditing*, 30(1), 173-190.

Gul, F. A., Tsui, J. S. L., Fong, S. C. C. & Kwok, H. Y. L. (1995) Decentralisation as a moderating factor in the budgetary participation. *Accounting and Business Research*, 25(98), 107.

Gulati, R. & Kletter, D. (2005) Shrinking core, expanding periphery: the relational architecture of high-performing organizations. *California Management Review*, 47(3), 77-104.

Gulati, R. & Singh, H. (1998) The architecture of cooperation: managing coordination costs and appropriation concerns in strategic alliances. *Administrative science quarterly*, 43(4), 781-814.

Hair, J. F., Ringle, C. M. & Sarstedt, M. (2011) PLS-SEM: indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. & Sarstedt, M. (2013) *A primer on partial least squares structural equation modeling (PLS-SEM)*. London, UK: SAGE.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. & Sarstedt, M. (2016) *A primer on partial least squares structural equation modeling (PLS-SEM)*. London, UK: Sage Publications.

Hair Jr, J. F., Sarstedt, M., Hopkins, L. & Kuppelwieser, V. G. (2014) Partial least squares structural equation modeling (pls-sem): An emerging tool in business research. *European Business Review*, 26(2), 106-121.

Hanifan, L. J. (1916) The rural school community center. *Annals of the American Academy of Political and Social Science*, 67(1), 130-138.

Hardin, R. (2002) *Trust and trustworthiness*. New York, USA: Russell Sage Foundation.

Harrison, G. L. (1992) The cross-cultural generalizability of the relation between participation, budget emphasis and job related attitudes. *Accounting, Organizations and Society*, 17(1), 1-15.

He, W., Qiao, Q. & Wei, K.-K. (2009) Social relationship and its role in knowledge management systems usage. *Information & Management*, 46(3), 175-180.

Heffner, T. S. & Rentsch, J. R. (2001) Organizational commitment and social interaction: A multiple constituencies approach. *Journal of Vocational Behavior*, 59(3), 471-490.

Heinle, M. S., Ross, N. & Saouma, R. (2013) A Theory of Participative Budgeting, [Lecture]. American Accounting Association, unpublished.

Heinle, M. S., Ross, N. & Saouma, R. E. (2014) A theory of participative budgeting. *Accounting Review*, 89(3), 1025-1050.

Hoegl, M., Parboteeah, K. P. & Munson, C. L. (2003) Team-level antecedents of individuals' knowledge networks. *Decision Sciences*, 34(4), 741-770.

Hoffman, J. J., Hoelscher, M. L. & Sherif, K. (2005) Social capital, knowledge management, and sustained superior performance. *Journal of Knowledge Management*, 9(3), 93-100.

Hofstede, G., Hofstede, G. J. & Minkov, M. (1991) *Cultures and organizations: Software of the mind*, *2*. Maidenhead, U.K.: McGraw-Hill.

Hofstede, G. H. (1967) *The game of budget control*. New York: Routledge.

Hofstede, G. H. (1968) *The game of budget control*Routledge.

Hofstede, G. H. (2010) Cultures and organizations software of the mind : intercultural cooperation and its importance for survival.

Hogarth, R. M. (1981) Beyond discrete biases: functional and dysfunctional aspects of judgmental heuristics. *Psychological Bulletin*, 90(2), 197.

Holmstrom, B. & Ricart, J. C. I. (1986) Managerial incentives and capital management. *The Quarterly Journal of Economics*, 101(4), 835-860.

Hope, J. & Fraser, R. (1997) Beyond budgeting... breaking through the barrier to the 'third wave'. *MANAGEMENT ACCOUNTING-LONDON-*, 75(3), 20-23.

Hopwood, A. G. (1976) *Accounting and human behaviour*. Englewood Cliffs, N.J.: Prentice-Hall.

Horngren, C. T., Bhimani, A., Datar, S. M. & Foster, G. (2005) *Management and cost accounting*. Translated from English by. London, UK: Pearson Education UK.

Hornsby, J. S., Kuratko, D. F. & Zahra, S. A. (2002) Middle managers' perception of the internal environment for corporate entrepreneurship: Assessing a measurement scale. *Journal of business Venturing*, 17(3), 253-273.

House, R. J. (1971) A path goal theory of leader effectiveness. *Administrative science quarterly*, 321-339.

Hoyle, R. H. (1999) *Statistical strategies for small sample research*. London, UK: SAGE.

Hurlbert, J. S., Haines, V. A. & Beggs, J. J. (2000) Core networks and tie activation: What kinds of routine retworks allocate resources in nonroutine situations? *American Sociological Review*, 65(4), 598-618.

Inglehart, R. (1997) *Modernization and post-modernization... cultural, economic*. New Jersey: Princeton.

Inkeles, A. (2000) Measuring social capital and its consequences. *Policy Sciences*, 33(3,4), 245-268.

Inkpen, A. C. & Tsang, E. W. (2005) Social capital, networks, and knowledge transfer. *Academy of management review*, 30(1), 146-165.

Ittner, C. D., Larcker, D. F. & Rajan, M. V. (1997) The choice of performance measures in annual bonus contracts. *Accounting Review*, 72(2), 231-255.

Jackson, S. E. & Schuler, R. S. (1985) A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes*, 36(1), 16-78.

Jacobs, J. (1961) *The death and life of great american cities*. New York: Vintage.

Jermias, J. & Yigit, F. (2013) Budgetary participation in turkey: the effects of information asymmetry, goal commitment, and role ambiguity on job satisfaction and performance. *Journal of International Accounting Research*, 12(1), 29.

Johnson, P. & Clark, M. (2006) *Business and management research methodologies*. London: Sage.

Jones, G. R. & George, J. M. (1998) The experience and evolution of trust: implications for cooperation and teamwork. *Academy of Management Review*, 23(3), 531-546.

Jones, T. & Shirley, F. T. (2012) Service loyalty: Accounting for social capital. *The Journal of Services Marketing*, 26(1), 60-75.

Jones, T. M. (1991) Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review*, 16(2), 366-395.

José Carlos, M. R. P. (2013) The role of relational social capital in examining exporter-intermediary relationships. *European Business Review*, 25(6), 553-570.

Kaasa, A. (2009) Effects of different dimensions of social capital on innovative activity: Evidence from europe at the regional level. *Technovation*, 29(3), 218-233.

Kale, P., Singh, H. & Perlmutter, H. (2000) Learning and protection of proprietary assets in strategic alliances: Building relational capital. *Strategic Management Journal*, 21(3), 217-237.

Kenis, I. (1979) Effects of budgetary goal characteristics on managerial attitudes and performance. *The Accounting Review*, 54(4), 707-721.

Kennedy, J. A. & Dugdale, D. (1999) Getting the most from budgeting. *Management Accounting*, 77(2), 22-24.

Kilpatrick, S. (2002) Learning and building social capital in a community of family farm businesses. *International Journal of Lifelong Education*, 21(5), 446-461.

Knoke, D. (1999) Organizational networks and corporate social capital, in Leenders, R. & Gabby, S. (eds), *Corporate social capital and liability*. New York: Springer, 17-42.

Kogut, B. & Zander, U. (1996) What firms do? Coordination, identity, and learning. *Organization Science*, 7(5), 502-518.

Kramer, S. & Hartmann, F. (2014) How top-down and bottom-up budgeting affect budget slack and performance through social and economic exchange. *Abacus*, 50(3), 314-340.

Krause, D. R., Handfield, R. B. & Tyler, B. B. (2007) The relationships between supplier development, commitment, social capital accumulation and performance improvement. *Journal of Operations Management*, 25(2), 528-545.

Kreijns, K., Kirschner, P. A. & Jochems, W. (2003) Identifying the pitfalls for social interaction in computer-supported collaborative learning environments: A review of the research. *Computers In Human Behavior*, 19(3), 335-353.

Kren, L. (1992a) Budgetary participation and managerial performance: the impact of information and environmental volatility. *The Accounting Review*, 67(3), 511-526.

Kren, L. (1992b) The moderating effects of locus of control on performance incentives and participation. *Human Relations*, 45(9), 991-1012.

Ku, K.-C., Gurumurthy, C. K. & Kao, H.-P. (2007) Inter-firms collaboration of joint venture in IC foundry business. *Technovation*, 27(5), 296-305.

Lancaster, G. (2007) *Research methods in management*. London, UK: Elsevier.

Lappe, F. M. & Du Bois, P. M. (1997) Building social capital without looking backward. *National Civic Review*, 86(2), 119-128.

Lau, C. M. & Lim, E. W. (2002) The intervening effects of participation on the relationship between procedural justice and managerial performance. *The British Accounting Review*, 34(1), 55-78.

Lau, C. M., Low, L. C. & Eggleton, I. R. C. (1995) The impact of reliance on accounting performance measures on job-related tension and managerial performance: Additional evidence. *Accounting, Organizations and Society*, 20(5), 359-381.

Lawson, B., Tyler, B. B. & Cousins, P. D. (2008) Antecedents and consequences of social capital on buyer performance improvement. *Journal of Operations Management*, 26(3), 446-460.

Leana, C. R. & Pil, F. K. (2006) Social capital and organizational performance: Evidence from urban public schools. *Organization Science*, 17(3), 353-366.

Leana, C. R. & Van Buren, H. J. (1999) Organizational social capital and employment practices. *Academy Of Management Review*, 24(3), 538-555.

Lee, H. & Lee, J. (2010) Computer-mediated communication network: Exploring the linkage between online community and social capital. *New Media & Society*, 12(5).

Les Tien-Shang, L. & Badri Munir, S. (2007) The effects of entrepreneurial orientation and knowledge management capability on organizational effectiveness in taiwan: The moderating role of social capital. *International Journal of Management*, 24(3), 549-572,620.

Levin, D. Z., Walter, J., Appleyard, M. M. & Cross, R. (2015) Relational enhancement how the relational dimension of social capital unlocks the value of network-bridging ties. *Group & Organization Management*, 41(4), 1059601115574429.

Liao, J. & Welsch, H. (2003) Social capital and entrepreneurial growth aspiration: A comparison of technology-and non-technology-based nascent entrepreneurs. *The Journal Of High Technology Management Research*, 14(1), 149-170.

Libby, T. (1999) The influence of voice and explanation on performance in a participative budgeting setting. *Accounting, Organizations and Society*, 24(2), 125-137.

Libby, T. & Lindsay, R. M. (2010) Beyond budgeting or budgeting reconsidered? A survey of north-american budgeting practice. *Management Accounting Research*, 21(1), 56-75.

Lin, N. (2002) *Social capital: A theory of social structure and action, 19*. Cambridge, USA: Cambridge University Press.

Lindquist, T. M. (1995) Fairness as an Antecedent to Participative Budgeting: Examining the Effects of Distributive Justice, Procedural Justice and Referent Cognitions on Satisfaction and Performance. *Journal of Management Accounting Research*, 7(1), 122.

Lindsay, P. H. & Norman, D. A. (1977) *Human information processing: An introduction to psychology*. London, UK: Academic Press.

Liu, A. Q. & Besser, T. (2003) Social capital and participation in community improvement activities by elderly residents in small towns and rural communities. *Rural sociology*, 68(3), 343-365.

Locke, E. A., Alavi, M. & Wagner III, J. A. (1997) Participation in decision making: An information exchange perspective. *Research in personnel and human resources management*, 15(1).

Lohmöller, J.-B. & Wold, H. (1982) *Three-mode path models with latent variables and partial least squares (pls) parameter estimation*. Netherlands: University of Groningen Press.

Louis, M. R. (1980) Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly*, 25(2), 226-251.

Loury, G. (1992) The economics of discrimination: Getting to the core of the problem. *Harvard Journal for African American Public Policy*, 1(1), 91-110.

Lu, Y. & Yang, D. (2011) Information exchange in virtual communities under extreme disaster conditions. *Decision Support Systems*, 50(2), 529-538.

Macinati, M. S. & Rizzo, M. G. (2014) Budget goal commitment, clinical managers' use of budget information and performance. *Health Policy*, 117(2), 228-238.

Macintosh, N. & Williams, J. J. (1992) Managerial roles and budgeting behavior. *Behavioral Research in Accounting*, 4(1), 23.

Macintosh, N. B. (1994) Management accounting and control systems : An organizational and behavioral approach. Chichester, UK: Wiley.

Magee, R. P. (1980) Equilibria in budget participation. *Journal of Accounting Research*, 18(2), 551-573.

Mahoney, T. A., Jerdee, T. A. & Carroll, S. J. (1965) The jobs of management. *Industr. Relat.*, 4(2), 97-110.

Maiga, A. S. (2005) Antecedents and consequences of budget participation, *Advances in Management Accounting*. Bradford, UK: Emerald, 211-231.

Malakooti, B. (2012) Decision making process: Typology, intelligence, and optimization. *Journal of intelligent manufacturing*, 23(3), 733-746.

Malmi, T. & Granlund, M. (2009) In search of management accounting theory. *European Accounting Review*, 18(3), 597-620.

Martín de Castro, G. & López Sáez, P. (2008) Intellectual capital in high-tech firms: The case of spain. *Journal of Intellectual Capital*, 9(1), 25-36.

Massaro, D. W. (1975) *Experimental psychology: An information processing approach*. San Diego, USA: Harcourt Brace Jovanovich.

Maurer, I. & Ebers, M. (2006) Dynamics of social capital and their performance implications: Lessons from biotechnology start-ups. *Administrative Science Quarterly*, 51(2), 262-292.

Mayer, R. C., Davis, J. H. & Schoorman, F. D. (1995) An integrative model of organizational trust. *Academy Of Management Review*, 20(3), 709-734.

McKnight, P. E., McKnight, K. M., Sidani, S. & Figueredo, A. J. (2007) *Missing data: A gentle introduction*. New York, USA: Guilford Press.

McLean, L. D. (2005) Organizational culture's influence on creativity and innovation: A review of the literature and implications for human resource development. *Advances In Developing Human Resources*, 7(2), 226-246.

Mehrabian, A. & Russell, J. A. (1974) *An approach to environmental psychology*. Ann Arbor, USA: the MIT Press.

Merlo, O., Bell, S. J., Mengüç, B. & Whitwell, G. J. (2006) Social capital, customer service orientation and creativity in retail stores. *Journal of Business Research*, 59(12), 1214-1221.

Mia, L. (1987) Participation In Budgetary Decision Making, Task Difficulty, Locus Of Control, And Employee Behavior: An Empirical Study*. *Decision Sciences*, 18(4), 547-561.

Mia, L. (1988) Managerial attitude, motivation and the effectiveness of budget participation. *Accounting, Organizations and Society*, 13(5), 465-475.

Mia, L. (1989) The impact of participation in budgeting and job difficulty on managerial performance and work motivation: A research note. *Accounting, Organizations and Society*, 14(4), 347-357.

Milani, K. (1975) The relationship of participation in budget-setting to industrial supervisor performance and attitudes: A field study. *The Accounting Review*, 50(2), 274.

Mitchell, T. R. & Beach, L. R. (1990) Do i love thee - let me count - toward an understanding of intuitive and automatic decision-making. *Organizational Behavior and Human Decision Processes*, 47(1), 1-20.

Mitchell, V. (1996) Assessing the reliability and validity of questionnaires: An empirical example. *Journal of Applied Management Studies*, 5(1), 199-208.

Montazemi, A. R., Siam, J. J. & Esfahanipour, A. (2008) Effect of network relations on the adoption of electronic trading systems. *Journal of Management Information Systems*, 25(1), 233-266.

Moran, P. (2005) Structural vs. Relational embeddedness: Social capital and managerial performance. *Strategic Management Journal*, 26(12), 1129-1151.

Morgan, R. M. & Shelby, D. H. (1994) The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20-38.

Nahapiet, J. (2008) The role of social capital in inter-organizational relationships, in Cropper, S., Huxham, C., Ebers, M. & Ring, S. (eds), *The oxford handbook of inter-organizational relations*. Oxford, USA: Oxford University Press.

Nahapiet, J. & Ghoshal, S. (1998) Social capital, intellectual capital, and the organizational advantage. *The Academy of Management Review*, 23(2), 242-266.

Narayan, D. & Pritchett, L. (1999) Cents and sociability: Household income and social capital in rural tanzania. *Economic development and cultural change*, 47(4), 871-897.

Neisser, U. (1976) *Cognition and reality: Principles and implications of cognitive psychology*. New York, USA: WH Freeman/Times Books/Henry Holt & Co.

Neuman, W. L. & Robson, K. (2012) *Basics of Social Research: Qualitative and Quantitative Approaches*. Montreal, Canada: Pearson Education Canada.

Newell, S., Tansley, C. & Huang, J. (2004) Social capital and knowledge integration in an performance project team: The importance of bridging and bonding. *British Journal of Management*, 15(S1), S43-S57.

Nitzl, C. (2016) The use of partial least squares structural equation modelling (pls-sem) in management accounting research: Directions for future theory development. *Journal of Accounting Literature*, 37(1), 19-35.

Nohria, N. & Eccles, R. G. (1992) *Networks and Organizations: Structure, Form, and Action*. Bosten, USA: Harvard Business School Press.

Nouri, H., Blau, G. & Shahid, A. (1995) The effect of socially desirable responding (sdr) on the relation between budgetary participation and self-reported job performance. *Advances in Management Accounting*, 4(1), 163-177.

Nouri, H. & Parker, R. J. (1996) The effect of organizational commitment on the relation between budgetary participation and budgetary slack. *Behavioral Research in Accounting*, 8(1), 74-90.

Nouri, H. & Parker, R. J. (1998) The relationship between budget participation and job performance: The roles of budget adequacy and organizational commitment. *Accounting, Organizations and Society*, 23(5), 467-483.

Nunnally, J. C. & Bernstein, I. (1994) The assessment of reliability. *Psychometric Theory*, 3(1), 248-292.

Onsi, M. (1973) Factor analysis of behavioral variables affecting budgetary slack. *The Accounting Review*, 48(3), 535.

Oppenheim, A. N. (1992) Questionnaire design, interviewing and attitude measurement. New ed. ed. London: Continuum.

Ordóñez de Pablos, P. (2004) Measuring and reporting structural capital: Lessons from european learning firms. *Journal of Intellectual Capital*, 5(4), 629-647.

Padula, G. (2008) Enhancing the innovation performance of firms by balancing cohesiveness and bridging ties. *Long Range Planning*, 41(4), 395-419.

Pallant, J. (2010) *Spss survival manual : A step by step guide to data analysis using ibm spss*, 4th edition. edition. Maidenhead: McGraw-Hill Education.

Parker, A. M. & Fischhoff, B. (2005) Decision-making competence: External validation through an individual-differences approach. *Journal of Behavioral Decision Making*, 18(1), 1-28.

Parker, R. J. & Kyj, L. (2006) Vertical information sharing in the budgeting process. *Accounting, Organizations and Society*, 31(1), 27-45.

Partington, D. (2000) Building grounded theories of management action. *British Journal Of Management*, 11(2), 91-102.

Peng, D. X. & Lai, F. (2012) Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of Operations Management*, 30(6), 467-480.

Pennar, K. & Mueller, T. (1997) The ties that lead to prosperity. *Business Week*, 15(1), 153-154.

Portes, A. (2000) Social capital: Its origins and applications in moders sociology, in Lesser, E. L. (ed), *Knowledge and social capital: Foundations and applications*. New York, USA: Routledge.

Portes, A. & Sensenbrenner, J. (1993) Embeddedness and immigration: Notes on the social determinants of economic action. *American journal of sociology*, 98(6), 1320-1350.

Postrel, S. (2002) Islands of shared knowledge: Specialization and mutual understanding in problem-solving teams. *Organization Science*, 13(3), 303-320.

Proctor, R., Burton, N. & Pierce, A. (2002) *Managerial accounting for business decisions*. London, UK: Pearson Education.

Putnam, R. D. (1993) The prosperous community. *The American Prospect*, 4(13), 35-42.

Putnam, R. D. (1995) Bowling alone: America's declining social capital. *Journal of democracy*, 6(1), 65-78.

Putnam, R. D. (2001) *Bowling alone: The collapse and revival of american community*. New York, USA: Simon and Schuster.

Reid, P. (2002) A critical evaluation of the effect of participation in budget target setting on motivation. *Managerial Auditing Journal*, 17(3), 122-129.

Remenyi, D. & Williams, B. (1998) *Doing research in business and management: An introduction to process and method*. London, UK: Sage.

Robson, C. (2002) *Real world research : A resource for social scientists and practitioner-researchers*, Second Edition edition. Oxford: Blackwell Publishers.

Rodgers, W. (1991) How do loan officers make their decisions about credit risks? A study of parallel distributed processing. *Journal of Economic Psychology*, 12(2), 243.

Rodgers, W. (1992) The effects of accounting information on individuals' perceptual processes. *Journal of Accounting, Auditing & Finance*, 7(1), 67.

Rodgers, W. (1997) *Throughput modeling: Financial information used by decision makers*. Bingley, UK: Emerald Group Publishing Limited.

Rodgers, W. (1999) The influences of conflicting information on novices and loan officers' actions. *Journal of Economic Psychology*, 20(2), 123-145.

Rodgers, W. (2006) *Process thinking*. Lincoln, Nebraska, USA: iUniverse.

Rodgers, W. (2010) Three primary trust pathways underlying ethical considerations. *Journal of Business Ethics*, 91(1), 83-93.

Rodgers, W., Choy, H. L. & Guiral, A. (2013) Do investors value a firm's commitment to social activities? *Journal Of Business Ethics*, 114(4), 607-623.

Rodgers, W. & Gago, S. (2001) Cultural and ethical effects on managerial decisions: Examined in a throughput model. *Journal of Business Ethics*, 31(4), 355-367.

Rodgers, W. & Gago, S. (2003) A model capturing ethics and executive compensation. *Journal of Business Ethics*, 48(2), 189-202.

Rodgers, W. & Gago, S. (2004) Stakeholder influence on corporate strategies over time. *Journal of Business Ethics*, 52(4), 349-363.

Rodgers, W. & Gago, S. (2006a) Biblical scriptures underlying six ethical models influencing organizational practices'. *Journal of Business Ethics*, 64(2), 125-136.

Rodgers, W. & Gago, S. (2006b) Improving social corporate responsibility: The case of bullying behavior. St. Louis: Federal Reserve Bank of St Louis.

Rodgers, W. & Gago, S. (2006c) Trust conceptualized as a corporate knowledge asset. St. Louis: Federal Reserve Bank of St Louis.

Rodgers, W. & Guiral, A. (2011) Potential model misspecification bias: Formative indicators enhancing theory for accounting researchers. *International Journal Of Accounting*, 46(1), 25-50.

Rodgers, W., Guiral, A. & Gonzalo, J. A. (2009) Different pathways that suggest whether auditors' going concern opinions are ethically based. *Journal of Business Ethics*, 86(3), 347-361.

Rodgers, W., Söderbom, A. & Guiral, A. (2015) Corporate social responsibility enhanced control systems reducing the likelihood of fraud. *Journal of Business Ethics*, 131(4), 871-882.

Rodgers, W. & Thomas, J. (1998) Pre-planning analysis for effective loan decisions. *The Journal of Bank Cost & Management Accounting*, 11(2), 47-51.

Royal Embassy of Saudi Arabia in Washington, D. (2014) *Country infomation*, 2014. Available online: http://www.saudiembassy.net/about/country-information/ [Accessed 1/05/2014].

SABIC (2016) *Annual Report 2015*. SABIC: SABIC.

Sandefur, R. L. & Laumann, E. O. (1998) A paradigm for social capital. *Rationality and society*, 10(4), 481-501.

Sarantakos, S. (2013) *Social research*, 4th edition. edition. New York, USA: Palgrave Macmillan.

Saudi Industrial Property Authority, S. A. (2014) *About Modon*, 2014. Available online: http://www.modon.gov.sa/en/aboutmodon/Pages/about_modon.aspx [Accessed 05/05/2014].

Saunders, M. N. K., Lewis, P. & Thornhill, A. (2011) *Research methods for business students*, 5Th edition. London, UK: Pearson Education Limited.

Schiff, M. (1992) Social capital, labor mobility, and welfare the impact of uniting states. *Rationality and Society*, 4(2), 157-175.

Scott, S. G. & Bruce, R. A. (1995) Decision-making style: The development and assessment of a new measure. *Educational And Psychological Measurement*, 55(5), 818-831.

Seal, W., C, R., Garrison, R. H. & Noreen, E. W. (2015) *Management accounting*, 5th ed. edition. Maidenhead :: McGraw-Hill Education.

Seal, W., Garrison, R. H. & Noreen, E. W. (2006) *Management accounting*. New York, USA: McGraw-Hill.

Searfoss, D. G. (1976) Some behavioral aspects of budgeting for control: An empirical study. *Accounting, Organizations and Society*, 1(4), 375-385.

Secrett, M. (1993) Mastering spreadsheet budgets and forecasts : A practical guide. London: Pitman.

Seibert, S. E., Kraimer, M. L. & Liden, R. C. (2001) A social capital theory of career success. *Academy Of Management Journal*, 44(2), 219-237.

Sekaran, U. (2003) *Research methods for business : A skill-building approach*, 4th ed. edition. New York: Wiley.

Sekaran, U. (2010) Research methods for business : A skill-building approach. *In:* Bougie, R. (ed.) 5th ed. ed. Chichester: John Wiley.

Seok-Woo, K. & Adler, P. S. (2014) Social capital: Maturation of a field of research, 39(4), 412-422.

Sherif, K., Hoffman, J. & Thomas, B. (2006) Can technology build organizational social capital? The case of a global it consulting firm. *Information & management*, 43(7), 795-804.

Shields & Shields (1998) Antecedents of participative budgeting. *Accounting, Organizations and Society*, 23(1), 49-76.

Shields, M. D. & Young, S. M. (1993) Antecedents and consequences of participative budgeting: Evidence on the effects of asymmetrical information. *Journal of Management Accounting Research*, 5, 265.

Shiffrin, R. M. & Schneider, W. (1977) Controlled and automatic human information processing: Ii. Perceptual learning, automatic attending and a general theory. *Psychological Review*, 84(2), 127.

Sivadas, E. & Dwyer, F. R. (2000) An examination of organizational factors influencing new product success in internal and alliance-based processes. *Journal Of Marketing*, 64(1), 31-49.

Smircich, L. (1983) Concepts of culture and organizational analysis. *28*, 3, 339-358.

Smith, D. & Langfield-Smith, K. (2004) Structural equation modeling in management accounting research: Critical analysis and opportunities. *Journal of Accounting Literature*, 23(2), 49.

Smith, D. A. & Lohrke, F. T. (2008) Entrepreneurial network development: Trusting in the process. *Journal Of Business Research*, 61(4), 315-322.

Stone, M. (1974) Cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society. Series B (Methodological)*, 36(2), 111-147.

Subramaniam, N. & Ashkanasy, N. M. (2001) The effect of organisational culture perceptions on the relationship between budgetary participation and managerial job-related outcomes. *Australian Journal of Management*, 26(1), 35-54.

Subramaniam, N. & Lokman, M. (2001) The relation between decentralised structure, budgetary participation and organisational commitment the moderating role of managers' value orientation towards innovation. *Accounting, Auditing & Accountability Journal*, 14(1), 12-29.

Tabachnick, B. G. (2014) *Using multivariate statistics*, 6th ed. edition. Harlow, UK: Pearson.

Tabachnick, B. G. & Fidell, L. S. (2013) *Using Multivariate Statistics*. London, UK: Pearson.

Tadawul (2016) *Tadawul*, 2016. Available online: https://www.tadawul.com.sa/wps/portal/ [Accessed Feb, 15].

Tansley, C. & Newell, S. (2007) Project social capital, leadership and trust. *Journal of Managerial Psychology*, 22(4), 350-368.

Tappeiner, G., Hauser, C. & Walde, J. (2008) Regional knowledge spillovers: Fact or artifact? *Research Policy*, 37(5), 861-874.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y.-M. & Lauro, C. (2005) PLS path modeling. *Computational Statistics & Data Analysis*, 48(1), 159-205.

Terhune, K. W. (1970) The effects of personality in cooperation and conflict. *The structure of conflict*, 5(1), 193-234.

Thomas, C. Y. (1996) Capital markets, financial markets and social capital (an essay on economic theory and economic ideas). *Social and Economic Studies*, 45(2/3), 1-23.

Tiller, M. G. (1983) The dissonance model of participative budgeting - an empirical exploration. *Journal of Accounting Research*, 21(2), 581-595.

Tokman, M., Davis, L. M. & Lemon, K. N. (2007) The wow factor: Creating value through win-back offers to reacquire lost customers. *Journal of Retailing*, 83(1), 47-64.

Tsai, L. L. (2007) Solidary groups, informal accountability, and local public goods provision in rural china. *The American Political Science Review*, 101(2), 355-372.

Tsai, W. (2000) Social capital, strategic relatedness and the formation of intraorganizational linkages. *Strategic management journal*, 21(9), 925-939.

Tsai, W. (2002) Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing. *Organization Science*, 13(2), 179-190.

Tsai, W. & Ghoshal, S. (1998) Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal*, 41(4), 464-476.

Tversky, A. & Kahneman, D. (1975) Judgment under uncertainty: Heuristics and biases, *Utility, probability, and human decision making*. New York, USA: Springer, 141-162.

Tyler, K., Patton, M., Mongiello, M., Meyer, D., Tyler, K. & Stanley, E. (2007) The role of trust in financial services business relationships. *Journal of Services Marketing*, 21(5), 334-344.

UN (2014) *Country classifications*.

Urbach, N. & Ahlemann, F. (2010) Structural equation modeling in information systems research using partial least squares. *Journal of Information Technology Theory and Application*, 11(2), 5.

Usunier, J.-C. (1998) *International and cross-cultural management research*. London, UK: SAGE Publications Ltd.

Uzzi, B. (1996) The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American sociological review*, 61(4), 674-698.

Van der Stede, W. A. (2003) The effect of national culture on management control and incentive system design in multi-business firms: Evidence of intercorporate isomorphism. *European Accounting Review*, 12(2), 263-285.

Van Maanen, J. E. (1972) *Breaking in: A consideration of organizational socialization*. Boston, USA: MIT.

Van Oorschot, W. & Arts, W. (2005) The social capital of european welfare states: The crowding out hypothesis revisited. *Journal Of European Social Policy*, 15(1), 5-26.

Villena, V. H., Revilla, E. & Choi, T. Y. (2011) The dark side of buyer–supplier relationships: A social capital perspective. *Journal of Operations Management*, 29(6), 561-576.

Vinzi, V. E., Chin, W. W., Henseler, J. & Wang, H. (2010) *Handbook of partial least squares: Concepts, methods and applications*. New York, USA: Springer Science & Business Media.

Vogt, W. (1999) Dictionary of statistics and methodology. Second ed. London, UK: Sage publications.

Waller, W. S. (1988) Slack in participative budgeting: The joint effect of a truth-inducing pay scheme and risk preferences. *Accounting, Organizations and Society*, 13(1), 87-98.

Warde, A., Tampubolon, G. & Savage, M. (2005) Recreation, informal social networks and social capital. *Journal Of Leisure Research*, 37(4), 402.

Wasko, M. M. & Faraj, S. (2005) Why should i share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS quarterly*, 29(1), 35-57.

Watson, G. W. & Papamarcos, S. D. (2002) Social capital and organizational commitment. *Journal of Business and Psychology*, 16(4), 537.

Weetman, P. (2010) Management accounting. 2nd ed. ed. New York, USA: Financial Times/Prentice Hall.

Weetman, P. (2011) *Financial and management accounting an introduction*, 5th ed. edition. Harlow, USA: Financial Times Prentice Hall.

Weiss, D. J., Dawis, R. V. & England, G. W. (1967) Manual for the minnesota satisfaction questionnaire. *Minnesota Studies In Vocational Rehabilitation*.

Welsch, G. A. (1988) *Budgeting : Profit planning and control*, 5th ed. edition. Englewood Cliffs, N.J, USA: Prentice Hall.

Weygandt, J. J., Kimmel, P. D. & Kieso, D. E. (2009) *Managerial accounting: Tools for business decision making*. New York, USA: John Wiley & Sons.

Williams, M. (2001) In whom we trust: Group membership as an affective context for trust development. *Academy Of Management Review*, 26(3), 377-396.

Wilson, R. M. S. (1992) *Managerial accounting : Method and meaning*. London: Chapman & Hall.

Witmer, D. F., Colman, R. W. & Katzman, S. L. (1999) *From paper-and-pencil to screen-and-keyboard*. Thousand Oaks, CA, USA: Sage.

Wold, H. (1966) Estimation of principal components and related models by iterative least squares. Multivariate analysis. . *In:* 1966, K. P. (ed.). New York, USA: Academic Press.

Woolcock, M. (1998) Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and society*, 27(2), 151-208.

Yang, J., Wang, J., Wong, C. W. & Lai, K.-H. (2008) Relational stability and alliance performance in supply chain. *Omega*, 36(4), 600-608.

Yli-Renko, H., Autio, E. & Sapienza, H. J. (2001) Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategic management journal*, 22(6-7), 587-613.

Young, S. M. (1985) Participative budgeting: The effects of risk aversion and asymmetric information on budgetary slack. *Journal of Accounting Research*, 23(2), 829.

Yuen, D. (2006) The impact of a budgetary design system: Direct and indirect models. *Managerial Auditing Journal*, 21(1/2), 148-165.

Yuen, D. (2007) Antecedents of budgetary participation: Enhancing employees' job performance. *Managerial Auditing Journal*, 22(5), 533-548.

Appendix:

Appendix A: English Questionnaire:

Dear Participant,

My name is Faisal Abdullah Al Hudithi and I am an accounting lecturer at the University of Dammam, Saudi Arabia. Currently, I am a PhD student at the University of Hull, United Kingdom and my PhD advisor is Professor Waymond Rodgers. As a part of my research on "Social Capital and Participative Budgeting: Process Thinking Perspective", this questionnaire is designed to survey the impact of social capital factor during the usage of participation in budget settings within different manufacturing firms in Saudi Arabia.

Knowing that your time is valuable, this survey has been designed to be completed within twenty minutes. Also, most of the questions are organised to be answered by simply ticking the appropriate number (i.e. selecting from 1 to 7). Furthermore, your answers and comments will be treated in a confidential manner and will be used for academic purposes only. I truly appreciate your time and effort in completing this survey.

This is an anonymous questionnaire. Please make sure that you do not disclose your identity (i.e. write your name, or any other personal comments) that will make you identifiable on the attached questionnaire. ***By completing this questionnaire, you are confirming that you are taking part in this survey.***

If you have any concerns about the conduct of this research project, please contact the Secretary, HUBS Research Ethics Committee, University of Hull, Cottingham Rd, Hull, HU6 7RX; Tel No (+44) (0)1482 463410; fax (+44) (0)1482 463689

Sincerely,

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Section One:

Please circle the extent of the following elements regarding your participation in setting budgets for your area of responsibilities:

Please, rate your participation in the following budgeting process:	Strongly Disagree	Disagree	Disagree Somewhat	Undecided	Agree Somewhat	Agree	Strongly Agree
1- I participate in the setting of budgets for my department (unit).	1	2	3	4	5	6	7
2- I would be informed of the reasons for the rejection of the proposed budget.	1	2	3	4	5	6	7
3- I am authorised to decide what activities are necessary to achieve budget goals for my department (unit).	1	2	3	4	5	6	7
4- I am frequently discussing my budget goals with the budgeting committee (i.e. budgeting department).	1	2	3	4	5	6	7
5- My opinion is an important factor in finalising the budget of my department (Unit).	1	2	3	4	5	6	7
6- The budgeting committee (i.e. budgeting department) would discuss budget goals with me, after the budget is finalised.	1	2	3	4	5	6	7
7- I have frequent communication with other co-workers.	1	2	3	4	5	6	7

Section Two:

Please circle the extent of the following elements regarding ambiguity of roles within your firm.

Please, rate yourself for the following areas:	Strongly Disagree	Disagree	Disagree Somewhat	Undecided	Agree Somewhat	Agree	Strongly Agree
1- I have clear, planned goals and objectives for my job.	1	2	3	4	5	6	7
2- I know that I have used my time properly.	1	2	3	4	5	6	7
3- I know what my responsibilities are.	1	2	3	4	5	6	7
4- I know exactly what is expected of me.	1	2	3	4	5	6	7
5- I feel certain about how much authority I have on the job.	1	2	3	4	5	6	7
6- Explanation for what has to be done is always clear.	1	2	3	4	5	6	7

Section Three:

Please circle the extent of the following elements regarding your job satisfaction.

Please, indicate your satisfaction in the following areas:	Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Undecided	Somewhat Satisfied	Satisfied	Very Satisfied
1- The policies and practices toward employees of this company.	1	2	3	4	5	6	7

2- Company policies and the way in which they are administered.	1	2	3	4	5	6	7
3- The way employees are informed about the company policies.	1	2	3	4	5	6	7
4- The way company policies are put into practice.	1	2	3	4	5	6	7
5-The way the company treats its employees.	1	2	3	4	5	6	7

Section Four:

Please select the extent of the following elements regarding your relationship with employees in your department, co-workers in other departments and other external competitors.

Please rate yourself regarding the following elements:	Strongly Disagree	Disagree	Disagree Somewhat	Undecided	Agree Somewhat	Agree	Strongly Agree
1- I have frequent communication with other co-workers.	1	2	3	4	5	6	7
2- I maintain a close social relationship with some co-workers.	1	2	3	4	5	6	7
3- I spend time interacting with other co-workers.	1	2	3	4	5	6	7
4- I know some of the co-workers on a personal level.	1	2	3	4	5	6	7
5- Members in my department are always honest and trustworthy.	1	2	3	4	5	6	7
6- Members in my department exhibit a great deal of integrity.	1	2	3	4	5	6	7
7- I fully trust members of my department.	1	2	3	4	5	6	7
8- Overall, the intentions of those in my department are good.	1	2	3	4	5	6	7
9- I voluntarily share my know-how, information, and knowledge with other co-workers.	1	2	3	4	5	6	7
10- I voluntarily share my know-how, information, and knowledge with competitors.	1	2	3	4	5	6	7
11- I co-operate or communicate with other employees in teams or groups, for sharing information and knowledge.	1	2	3	4	5	6	7
12- I can access documents, information and knowledge held by other divisions within the organisation.	1	2	3	4	5	6	7
13- Overall, a climate of co-operation and trust exists in the agreements with other companies, for the development of new products and the improvement of existing products.	1	2	3	4	5	6	7
14- Companies in our collaboration agreements assume a high degree of commitment with regard to our projects.	1	2	3	4	5	6	7

15- Companies in our collaboration agreements share the same goals and interests concerning our common projects.	1	2	3	4	5	6	7
16- Please select Agree	1	2	3	4	5	6	7
17- Companies in our collaboration agreements share a common vision regarding the environment and key success factors.	1	2	3	4	5	6	7
18- Members in my department share the vision of helping others.	1	2	3	4	5	6	7
19- Members in my department share the same goal of learning from each other.	1	2	3	4	5	6	7
20- Members in my department share the same value that helping each other is pleasant.	1	2	3	4	5	6	7
21- I feel certain about how much authority I have on the job	1	2	3	4	5	6	7

Section Five:

Please circle the extent of the following elements regarding information that you have about your department that higher level management does not have.

In comparison with a higher management level, you are:	Strongly Disagree	Disagree	Disagree Somewhat	Undecided	Agree Somewhat	Agree	Strongly Agree
1- In possession of better information regarding the activities undertaken in your area of responsibility.	1	2	3	4	5	6	7
2- More familiar with the input/output relationship inherent in the internal operation of your area of responsibility.	1	2	3	4	5	6	7
3-Better able to assess the potential impact on your activities of factors external to your area of responsibility.	1	2	3	4	5	6	7
4-More certain of the performance potential of your area of responsibility.	1	2	3	4	5	6	7
5-More familiar technically with the work of your area of responsibility.	1	2	3	4	5	6	7
6-You have a better understanding of what can be achieved in your area of responsibility.	1	2	3	4	5	6	7

Section Six:

Please circle the extent of the following elements regarding your own performance.

Please, indicate your own performance in the following areas:	Significantly Below Average	Below Average	Somewhat Below Average	Undecided	Somewhat Above Average	Above Average	Significantly Above Average
1-Determining goals, policies, and courses of action (e.g. work scheduling, budgeting, programming).	1	2	3	4	5	6	7
2-Collecting and preparing information, usually in the form of records, reports and accounts (e.g. measuring output, record keeping, job analysis).	1	2	3	4	5	6	7
3-Exchanging information with people in the organisation other than your subordinates, in order to relate and adjust programs (e.g. expediting, liaison with other managers, arranging meetings).	1	2	3	4	5	6	7
4-Assessment and appraisal of proposals or reported/observed performance (e.g. employee appraisals, judging output records, product inspection).	1	2	3	4	5	6	7
5- Directing, leading and developing your subordinates.	1	2	3	4	5	6	7
6- Maintaining the work force of your unit (e.g. selecting and promoting employees).	1	2	3	4	5	6	7
7-Advancing the general interests of your organisation through speeches, consultation, or contact with others outside the organisation.	1	2	3	4	5	6	7
8-How do you evaluate your overall performance?	1	2	3	4	5	6	7

Section Seven:

General information and experience of the participant:

1. **Your Work Position is:**

   Entry level□ Department Head□ Manager□ Senior Manager □

   Director □

2. **Your Age:**

   Younger than 25 Years□ 25-34 Years□ 35-44 Years□ 45-54 Years□ 55 & Over□

3. **Your Gender**: Male□ Female□

4. **Education Level:**

   High School□ Diploma□ Bachelor□ Master's□ PhD□

5. How many years is your **total work experience:**

   0-5 □ 6-10 □ 11-15 □ More than 15 □

6. How many years is your **work experience in the current firm:**

   0-5 □ 6-10 □ 11-15 □ More than 15 □

7. How many years is your **work experience in your current position:**

   0-3 □ 4-6 □ 7-9 □ More than 9□

8. Number of staff **under your supervision**:

   1-15□ 16-30 □ 31-45 □ More than 45 □

9. Do you hold a professional certificate **(i.e. Certified in Production and Inventory Management, Certified Manufacturing Engineer or similar)**

   CPIM□ CME□ Not Applicable □ Other □ (Please indicate……)

Dear Participant,

This is the end of our survey and we would like to thank you for taking the time and effort to complete it. We highly appreciate your time and effort.

Thank-you once again,

Yours sincerely,

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Appendix B: Arabic Questionnaire:

عزيزي المشارك،

أنا باحث في مرحلة الدكتوراة بجامعة هل البريطانية، صُمم هذا الإستبيان كجزء من رسالتي العلمية بعنوان «رأس المال الاجتماعي والموازنة بالمشاركة: وجهه نظر منهجية التفكير» لمعرفة تأثير رأس المال الاجتماعي على صناع القرارعند الاستعانة بعملية المشاركة في إعداد الموازنات داخل الشركات الصناعية بالمملكة العربية السعودية.

نظرًا لأهمية وقتك، صُمم هذا الاستبيان بحيث يتم إكماله خلال 20 دقيقة، إن معظم الأسئلة موضوعة بشكل يتيح الإجابة عليها بسهولة من خلال وضع علامة حول الرقم المناسب (أي الأختيار من 1 إلى 7)، علاوة على ذلك، سوف يتم التعامل مع إجاباتك وتعليقاتك بشكل سري وسوف تستخدم فقط للأغراض البحثية الأكاديمية.

يرجى التأكد من عدم الإفصاح عن هويتك أو كتابة اسمك أو اي دلالة أخرى قد تؤدي إلى التعرف عليك.
قيامك بملء الاستبيان المرفق يدل على موافقتك على أن تكون جزءًا من هذه الدراسة الأكاديمية.

إذا كان لديك أية ملاحظات بشأن هذا المشروع البحثي، يرجى التواصل مع منسق لجنة أخلاقيات البحث العلمي على العنوان التالي:

HUBS Research Ethics Committee, University of Hull, Cottingham Rd,
Hull, HU6 7RX +44 (0)1482 463410, +44 (0)1482 463689

مع خالص التقدير والاحترام،

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القسم الأول:

من فضلك ضع دائرة حول الرقم الذي يحدد مدى صحة العناصر التالية المتعلقة بمشاركتك في إعداد الموازنات الخاصة بقسمك/إدارتك.

من فضلك قيِّم مشاركتك في عملية إعداد الميزانية التالية:	لا أوافق بشدة	لا أوافق	لا أوافق إلى حد ما	محايد	أوافق إلى حد ما	أوافق	أوافق بشدة
1. أشارك في وضع الموازنات الإدارة/القسم الخاصة/الخاص بي.	1	2	3	4	5	6	7
2.يتم إبلاغي بأسباب رفض الموازنات المقترحة.	1	2	3	4	5	6	7
3.أنا مخوَّل بتحديد الأنشطة اللازمة لتحقيق أهداف الموازنة الإدارة/القسم الخاصة/الخاص.	1	2	3	4	5	6	7
4.أناقش أهداف الميزانية بإستمرار مع لجنة/وحدة إعداد الموازنة (إدارة الموازنات).	1	2	3	4	5	6	7
5.يمثل رأيي عنصرًا هامًا في الوصول للموازنة النهائية للإدارة/القسم الخاصة/الخاص.	1	2	3	4	5	6	7
6.تناقش لجنة إعداد الموازنة (أو إدارة إعداد الموازنة) أهداف الموازنة معي بعد التوصل للموازنة النهائية.	1	2	3	4	5	6	7
7.أتواصل بشكل متكرر مع زملائي في العمل.	1	2	3	4	5	6	7

القسم الثاني:

من فضلك ضع دائرة حول الرقم الذي يحدد مدى صحة العوامل التالية المتعلقة بعدم وضوح المهام داخل الشركة.

من فضلك أعطِ تقييمًا لنفسك في كل من الجوانب التالية:	لا أوافق بشدة	لا أوافق	لا أوافق إلى حد ما	محايد	أوافق إلى حد ما	أوافق	أوافق بشدة
1.لدي أهدافًا واضحة ومحددة مسبقًا لوظيفتي.	1	2	3	4	5	6	7
2.أعلم أنني قد استخدمت وقتي بشكل سليم.	1	2	3	4	5	6	7
3.أعرف ما هي المسؤوليات الموكلة إلي.	1	2	3	4	5	6	7
4.أعرف بالتحديد ما هي الأمور المتوقعة مني.	1	2	3	4	5	6	7
5.أنا متأكد من حدود السلطة والصلاحيات التي أتمتع بها في وظيفتي.	1	2	3	4	5	6	7
6.يتم تزويدي بشرحٍ وافٍ حول الأمور المطلوب مني القيام بها.	1	2	3	4	5	6	7

القسم الثالث:

من فضلك ضع دائرة حول الرقم الذي يحدد مدى صحة العناصر التالية المتعلقة بالرضا الوظيفي.

من فضلك حدد درجة رضائك عن الجوانب التالية:	غير راضٍ نهائيًا	غير راضٍ	غير راضٍ إلى حد ما	لا أعلم	راضٍ إلى حد ما	راضٍ	راضٍ تمامًا
1.السياسات والممارسات تجاه موظفي هذه الشركة.	1	2	3	4	5	6	7
2.سياسة الشركة وطريقة إدارتها بها.	1	2	3	4	5	6	7
3.طريقة إبلاغ الموظفين بسياسة الشركة.	1	2	3	4	5	6	7
4.طريقة تنفيذ سياسة الشركة.	1	2	3	4	5	6	7
5.طريقة تعامل الشركة مع موظفيها.	1	2	3	4	5	6	7

القسم الرابع:

من فضلك اختر الرقم الذي يحدد مدى صحة العناصر المتعلقة بعلاقتك مع موظفي إدارتك، وزملائك في الإدارات الأخرى، والمنافسين خارج المنظمة.

من فضلك أعطِ تقييمًا لنفسك فيما يتعلق بالعوامل التالية:	لا أوافق بشدة	لا أوافق	لا أوافق إلى حد ما	محايد	أوافق إلى حد ما	أوافق	أوافق بشدة
1.أتواصل مع زملائي بشكل متكرر.	1	2	3	4	5	6	7
2.تربطني علاقة اجتماعية وثيقة ببعض زملاء العمل.	1	2	3	4	5	6	7
3.أقضي بعض الوقت في التواصل مع زملاء العمل الآخرين.	1	2	3	4	5	6	7
4.أعرف بعض زملاء العمل بشكل شخصي.	1	2	3	4	5	6	7
5.إن أعضاء إدارتي يكونون دائمًا صادقين.	1	2	3	4	5	6	7
6.إن أعضاء إدارتي يتسمون بدرجة عالية من النزاهة.	1	2	3	4	5	6	7
7.أنا أثق تمامًا في أعضاء إدارتي.	1	2	3	4	5	6	7
8. تكون نوايا أعضاء إدارتي حسنة بشكل عام	1	2	3	4	5	6	7

9.أشارك خبرتي ومعلوماتي ومعرفتي بشكل تطوعي مع زملائي بالإدارات الأخرى.	1	2	3	4	5	6	7
10. أشارك خبرتي، ومعلوماتي، ومعرفتي بشكل تطوعي مع المنافسين.	1	2	3	4	5	6	7
11.أتعاون و أتواصل مع الموظفين الآخرين في فرق العمل أو المجموعات بهدف مشاركة المعلومات والمعرفة.	1	2	3	4	5	6	7
12.أستطيع الوصول للوثائق والمعلومات والمعرفة التي تحتفظ بها الأقسام الأخرى داخل المؤسسة.	1	2	3	4	5	6	7
13.بشكل عام، يسود جو من التعاون والثقة في الاتفاقات مع الشركات الأخرى التي تهدف لتطوير منتجات جديدة، وتحسين المنتجات الحالية.	1	2	3	4	5	6	7
14. تتسم الشركات المتعاونة مع شركتي بدرجة عالية من الالتزام فيما يخص مشروعاتنا.	1	2	3	4	5	6	7
15. لدى الشركات المتعاونة مع شركتي نفس الأهداف والمصالح المتعلقة بمشروعاتنا المشتركة.	1	2	3	4	5	6	7
16.من فضلك اختر محايد كإجابة لهذا الفقرة.	1	2	3	4	5	6	7
17. تشاركنا الشركات المتعاونة مع شركتي نفس الرؤية فيما يخص البيئة وعوامل النجاح الرئيسية.	1	2	3	4	5	6	7
18. يشترك أعضاء إدارتي في نفس الرؤية حول مساعدة الآخرين.	1	2	3	4	5	6	7
19. يشترك أعضاء إدارتي في نفس هدف التعّلم من بعضهم البعض.	1	2	3	4	5	6	7
20. يؤمن أعضاء إدارتي بمبدأ أن مساعدة بعضنا البعض أمر جيد.	1	2	3	4	5	6	7
21.أنا متأكد من مقدار السلطة التي أتمتع بها في الوظيفة.	1	2	3	4	5	6	7

القسم الخامس:

من فضلك ضع دائرة حول الرقم الذي يحدد مدى صحة العناصر التالية المتعلقة بالمعلومات التي تعرفها عن إدارتك، والتي لا تمتلكها مستويات الإدارة الأعلى.

بالمقارنة مع مستوى الإدارة الأعلى،:	لا أوافق بشدة	لا أوافق	لا أوافق إلى حد ما	محايد	أوافق إلى حد ما	أوافق	أوافق بشدة
1.أمتلك معلومات أفضل فيما يتعلق بالأنشطة التي تقع في نطاق مسؤوليتي.	1	2	3	4	5	6	7
2.لدي دراية أكثر بالعلاقة بين المدخلات والمخرجات المتضمنة داخل عمليات التشغيل الداخلية في نطاق مسؤوليتي.	1	2	3	4	5	6	7
3.أنني أكثر قدرة على تقييم التأثير المحتمل للعوامل الخارجية التي تحدث خارج نطاق مسؤوليتي على أنشطتي.	1	2	3	4	5	6	7
4.إنني واثق بدرجة أكبر في مقومات الأداء الخاصة بنطاق مسؤوليتي.	1	2	3	4	5	6	7
5.لدي دراية أكثر بالعمل الذي يتم في نطاق مسؤوليتي من الناحية التقنية.	1	2	3	4	5	6	7
6.أفهم بشكل أفضل الأمور التي يمكن تحقيقها في نطاق مسؤوليتي.	1	2	3	4	5	6	7

القسم السادس:

من فضلك ضع دائرة حول الرقم الذي يحدد مدى صحة العناصر التالية المتعلقة بأدائك الوظيفي.

من فضلك قيِّم أداءك في الجوانب التالية:	أقل من المتوسط بدرجة كبيرة	أقل من المتوسط	أقل من المتوسط إلى حد ما	لا أعلم	أعلى من المتوسط إلى حد ما	أعلى من المتوسط	أعلى من المتوسط بدرجة كبيرة
1.تحديد الأهداف والسياسات ومسارات العمل(على سبيل المثال، جدولة العمل، وضع الموازنة، البرمجة).	1	2	3	4	5	6	7
2.جمع وإعداد المعلومات، بشكل سجلات وتقارير وحسابات (على سبيل المثال، قياس المخرجات، حفظ السجلات، التحليل الوظيفي)	1	2	3	4	5	6	7
3.تبادل المعلومات مع أشخاص آخرين في المؤسسة بخلاف مرؤوسيك من أجل ربط وتعديل البرامج (على	1	2	3	4	5	6	7

سبيل المثال، التواصل مع المديرين الآخرين، ترتيب الاجتماعات).							
4.تقييم المقترحات أو الأداء (على سبيل المثال، تقييم أداء الموظفين، النظر في سجلات المخرجات، معاينة المنتج).	1	2	3	4	5	6	7
5.توجيه، وقيادة، وتطوير مرؤوسيك.	1	2	3	4	5	6	7
6.الحفاظ على فريق العمل في إدارتك (على سبيل المثال: اختيار وترقية الموظفين).	1	2	3	4	5	6	7
7.تعزيز المصالح العامة للشركة من خلال المشاورات، أو التواصل، مع أشخاص آخرين من خارج المؤسسة.	1	2	3	4	5	6	7
8.كيف تقَيِّم أداءك بالعمل ككل.	1	2	3	4	5	6	7

القسم السابع:

معلومات عامة عن المشارك:

- **المنصب الوظيفي:**

موظف□ رئيس قسم□ مدير□ مدير قطاع □ مديرتنفيذي □

- **العمر:**

أقل من 25 عامًا □ 25-34 عامًا □ 35-44 عامًا □ 45-54 عامًا □ 55 عامًا أو أكثر □

- **الجنس:**

ذكر□ أنثى□

- **المستوى التعليمي:**

الثانوية العامة □ دبلوم متوسط□ بكالوريوس□ ماجيستير□ دكتوراة□

- **ما هو مجموع سنوات خبرتك العملية:**

5-0□ 10-6□ 15-11□ أكثر من 15□

- **كم عدد سنوات خبرتك في الشركة الحالية:**

5-0□ 10-6□ 15-11□ أكثر من 15□

- **كم عدد سنوات خبرتك في منصبك الحالي:**

3-0□ 6-4□ 9-7□ أكثر من 9 □

- **عدد الموظفين الذين يعملون تحت إشرافك:**

15-1□ 30-16□ 45-31□ أكثر من 45□

هل أنت حاصل على شهادة مهنية معتمدة؟ (مجال الإنتاج، إدارة المخزون، مهندس تصنيع معتمد أو ما شابه ذلك).

CPIM□ CME□ لا ينطبق□ أخرى □ (حدد.....)

عزيزي المشارك،

هذه هي نهاية الاستبيان. أود أن أشكرك على بذل الوقت والجهد لتعبئة هذا الاستبيان. إنني أقدِّر بشدة وقتك وجهدك.

مع خالص التقدير والاحترام.

فيصل بن عبد الله الحديثي
الباحث و طالب الدكتوراة
قسم المحاسبة و المالية
جامعة هل
هل، المملكة المتحدة
F.a.al-hudithi@2013.hull.ac.uk

أ.د. وايموند رودجرز
المشرف على رسالة الدكتوراة
قسم المحاسبة و المالية
جامعة هل
هل، المملكة المتحدة
w.rodgers@hull.ac.uk

Appendix C: Ethical Approval Letter:

UNIVERSITY OF Hull

Mr Faisal Al Hudithi
70 Queens Court
55 Queens Dock Avenue
HULL
HU1 3DR

Hull University Business School
Research Office
T +44(0)1482 463536
E h.carpenter@hull.ac.uk

Ref: HUBSREC 2015/17

15 October 2015

Dear Faisal

Re: Social capital and participative budgeting: process thinking prospective.

Thank you for your research ethics application.

I am pleased to inform you that on behalf of the Business School Research Ethics Committee at the University of Hull, Jon Simon has approved your application on 15 October 2015.

I wish you every success with your research.

Yours sincerely,

Hilary Carpenter
Secretary,
Research Ethics Committee

Hull University Business School
University of Hull
Hull, HU6 7RX
United Kingdom

School reception
+44 (0) 1482 347500

www.hull.ac.uk/hubs

Accredited by Association of MBAs

Appendix D: Invitation Letter from Chamber of Commerce:

غـــرفـــة الشرقيـة
ASHARQIA CHAMBER

الرقم : ٣٢٠٠٠٠٠/٤٥/١٨٢٢
التاريخ : ٢٠١٥/١٠/١٣م
الموافق : ١٤٣٦/١٢/٣٠هـ

سعادة الدكتور / فيصل بن محمد المهنا ابا الخيل
الملحق الثقافي السعودي في المملكة المتحدة

سلمه الله

السلام عليكم ورحمة الله وبركاته

نفيد سعادتكم بان الطالب فيصل بن عبدالله الحديثي المبتعث بالمملكة المتحدة طالب الدكتوراه في المحاسبة يرغب في القدوم الى المملكة العربية السعودية لزيارة عدد من الشركات والمؤسسات بالمنطقة الشرقية خلال الفترة من ٢٠١٥/١٢/٠١م حتى ٢٠١٦/٠٣/٠١م وذلك لتوزيع استبانة خاصة بدراسته لمرحلة الدكتوراه.

عليه نفيدكم بانه لا مانع لدينا من استقبال المبتعث وتيسير مهمته تحقيقاً للهدف المنشود من دراسته.

وتفضلوا بقبول خالص التحية والتقدير

الامين العام
عبدالرحمن بن عبدالله الوابل

• P.O. Box 719 Dammam 31421 - Saudi Arabia • t +966 13 857 1111 f +966 13 857 0607 • chamber@chamber.org.sa www.chamber.org.sa • الغرفة التجارية الصناعية للمنطقة الشرقية Chamber of Commerce & Industry Eastern Province

Appendix E: Data Collection End Letter:

غـــرفـــة الشرقـيـة
ASHARQIA CHAMBER

الرقم : ٣٢٠٠٠٠٠/١٤/٤٤٧
التاريخ : ٢٠١٦/٠٣/٠٧م
الموافق : ١٤٣٧/٠٥/٢٧هـ

سعادة الدكتور / فيصل بن محمد المهنا ابا الخيل
الملحق الثقافي السعودي في المملكة المتحدة

سلمه الله

السلام عليكم ورحمة الله وبركاته

بالإشارة الى خطابنا رقم ٣٢٠٠٠٠٠/٤٥/١٨٢٢ بتاريخ ٢٠١٥/١٠/١٣م المتضمن الموافقة على طلب استقبال الطالب المبتعث بالمملكة المتحدة فيصل بن عبدالله الحديثي وتيسير مهمته لزيارة عدد من الشركات والمؤسسات بالمنطقة الشرقية وذلك لتوزيع استبانة خاصة بدراسته لمرحلة الدكتوراه.

نفيد سعادتكم بان الطالب فيصل بن عبدالله الحديثي قد انهى مهمته بزيارة عدد من الشركات والمؤسسات بالمنطقة الشرقية.

وتفضلوا بقبول خالص التحية والتقدير

الامين العام
عبدالرحمن بن عبدالله الوابل

Appendix F: Support Letter from Business School:

MINISTRY OF HIGHER EDUCATION | وزارة التعليم العالي
UNIVERSITY OF DAMMAM | جامعة الدمام

جامعة الدمام
UNIVERSITY OF DAMMAM
(٠٤٣)

الي من يهمه الامر

السلام عليكم و رحمة الله وبركاته وبعد:

أفيدكم بأن الباحث/ فيصل بن عبدالله الحديثي، أحد الطلاب المبتعثين الى المملكة المتحدة للحصول على درجة الدكتوراه في تخصص المحاسبة. تهدف رسالة الدكتوراه التي يقوم بها الى قياس تأثير استخدام الموازنة بالمشاركة و الرأس المال الاجتماعي على الاداء الوظيفي وفق نظرية إتخاذ القرارات.

وحيث ان هذه الدراسة تتطلب توزيع إستبانات للقياس هذا التأثير أمل التكرم بمساعدته في توزيعها وجمع المعلومات المطلوبة لدراسته.

وتقبلوا سعادتكم أطيب تحياتي ،،،

عميد كلية ادارة الاعمال

د. خالد بن إدريس الفلقي

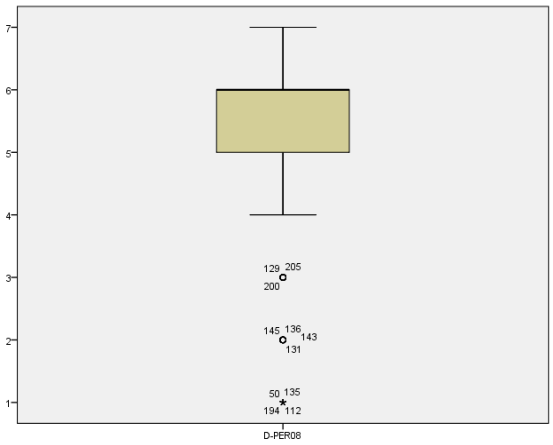
P.o Box 1982 ص . ب Dammam 31441 الدمام المملكة العربية السعودية
Tel. +966 3 8577000 Ext 2226 مباشر +966 3 8576735 ت. Fax. +966 3 8578048 www.ud.edu.sa info@ud.edu.sa

الرقم: .....
التاريخ: .....
المشفوعات: .....

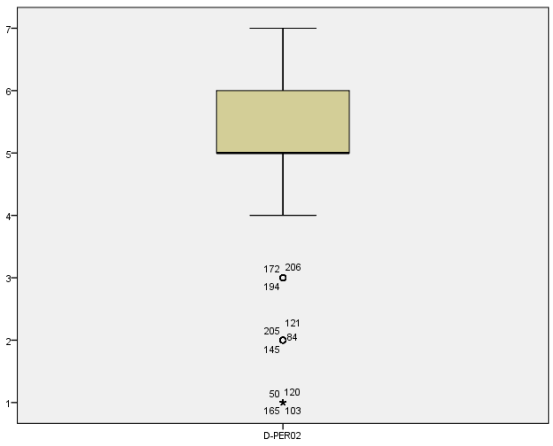
مطابع جامعة الدمام
UNIVERSITY OF DAMMAM PRINTING PRESS

Appendix G: Outliers:

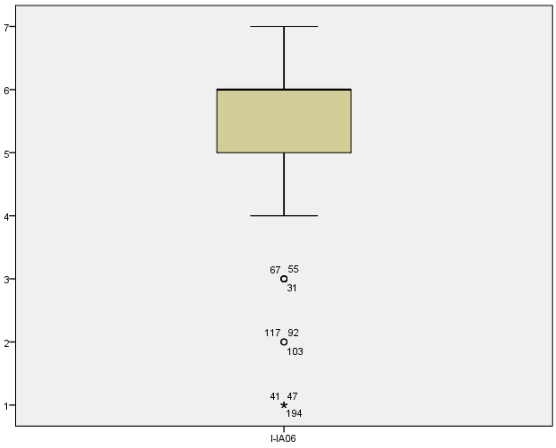
- Performance item no. 8 outlier boxplot.



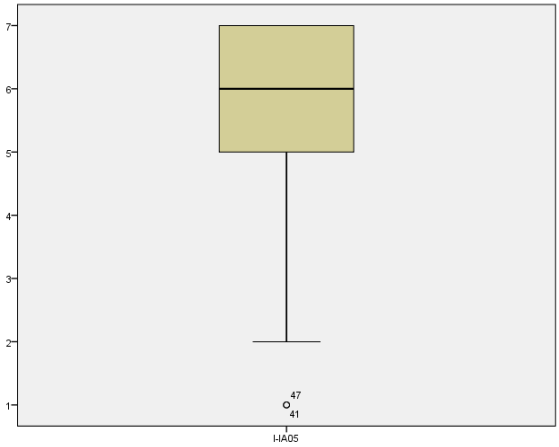
- Performance item no. 2 outlier boxplot.



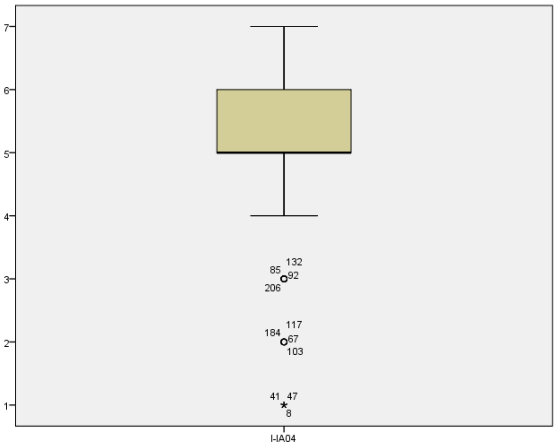
- Information Asymmetry item no. 6 outlier boxplot.



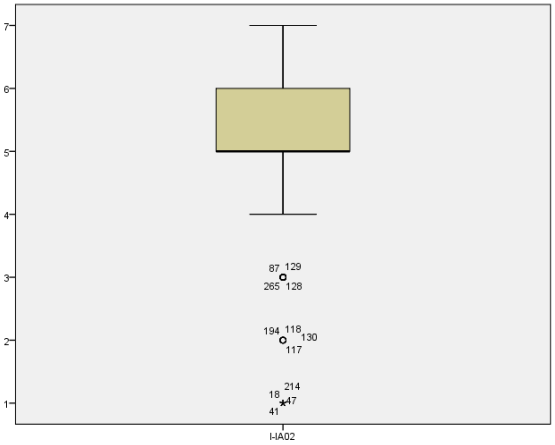
- Information Asymmetry item no. 5 outlier boxplot.



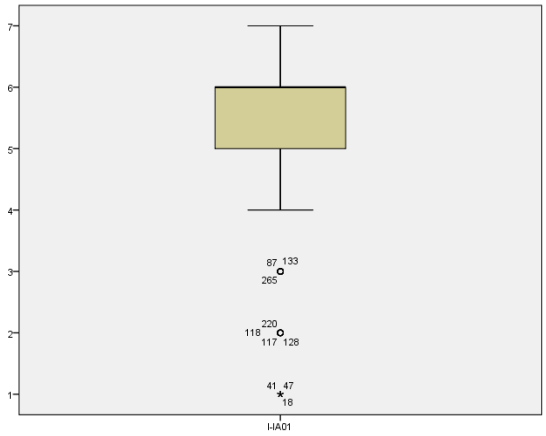
- Information Asymmetry item no. 4 outlier boxplot.



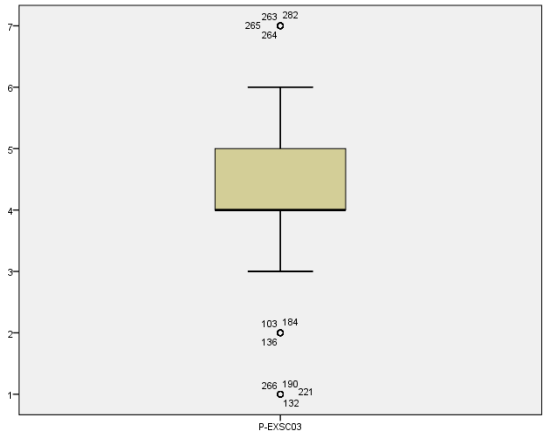
Information Asymmetry item no. 2 outlier boxplot.



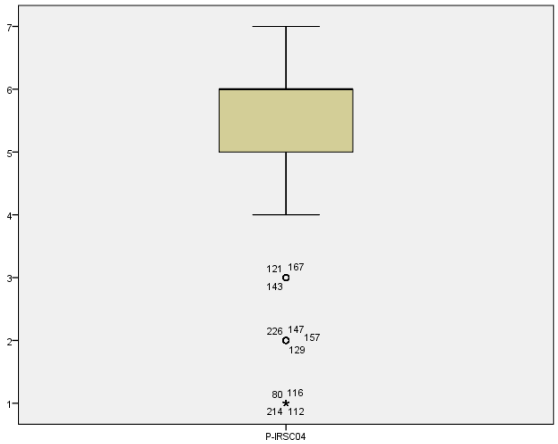
- Information Asymmetry item no. 1 outlier boxplot.



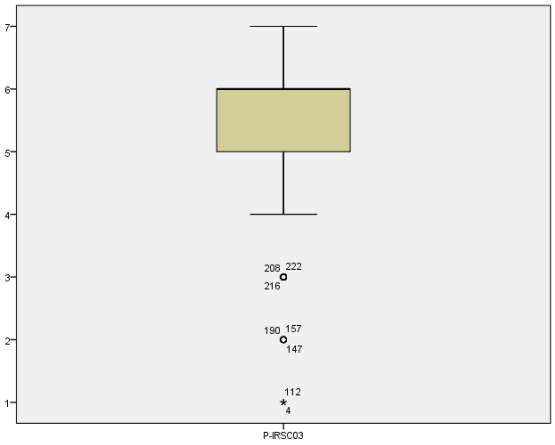
- External Relational Social Capital item no. 3 outlier boxplot.



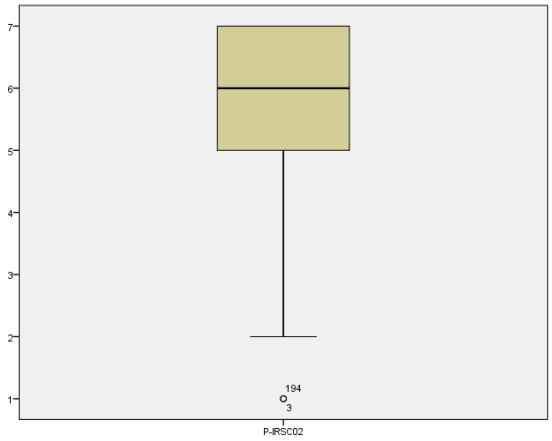
- Internal Relational Social Capital item no. 4 outlier boxplot



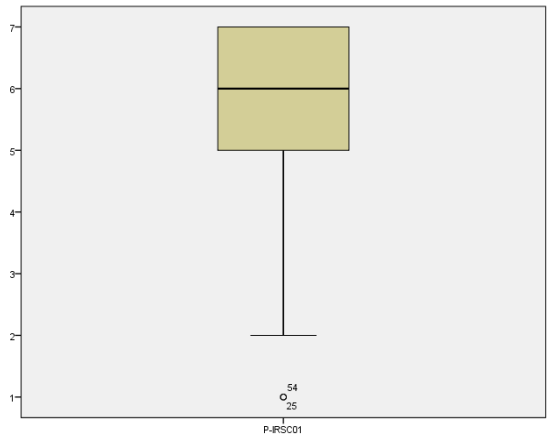
- Internal Relational Social Capital item no. 3 outlier boxplot.



- Internal Relational Social Capital item no. 2 outlier boxplot.



- Internal Relational Social Capital item no. 1 outlier boxplot.



Appendix H: Trimmed Mean Results:

- Participative budgeting item means and trimmed means:

Variable	PB01	PB02	PB03	PB04	PB05	PB06
Mean	4.23	4.09	3.80	3.70	3.87	3.50
Trimmed Mean	4.25	4.10	3.77	3.76	3.86	3.44

- Satisfaction item means and trimmed means:

Variable	SAT01	SAT02	SAT03	SAT04	SAT05
Mean	4.37	4.36	4.43	4.40	4.41
Trimmed Mean	4.42	4.40	4.48	4.44	4.45

- Internal relations social capital item means and trimmed means:

Variable	IRSC01	IRSC02	IRSC03	IRSC04
Mean	5.86	5.76	5.35	5.43
Trimmed Mean	5.98	5.88	5.43	5.55

- Cognitive dimension social capital item means and trimmed means:

Variable	CSC01	CSC02	CSC03	CSC04
Mean	4.60	4.88	4.81	4.98
Trimmed Mean	4.66	4.97	4.90	5.08

- Eternal relations social capital item means and trimmed means:

Variable	EXSC01	EXSC02	EXSC03	EXSC04
Mean	4.48	4.64	4.46	4.59
Trimmed Mean	4.53	4.69	4.49	4.64

- Structural dimension social capital item means and trimmed means:

Variable	SDSC01	SDSC02	SDSC03
Mean	4.77	4.82	5.07
Trimmed Mean	4.84	4.89	5.16

- Information Asymmetry item means and trimmed means:

Variable	IA01	IA02	IA03	IA04	IA05	IA06
Mean	5.41	5.28	5.12	5.35	5.66	5.71
Trimmed Mean	5.51	5.37	5.19	5.44	5.77	5.82

- Performance item means and trimmed means

Variable	PER01	PER02	PER03	PER04	PER05	PER06	PER07	PER08
Mean	5.12	5.22	5.06	4.94	4.96	4.63	4.74	5.57
Trimmed Mean	5.3	5.34	5.15	5.03	5.07	4.69	4.82	7.71

Appendix I: Normality Test:

- Performance Items' Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
D-PER01	.189	283	.000	.895	283	.000
D-PER02	.202	283	.000	.879	283	.000
D-PER03	.187	283	.000	.907	283	.000
D-PER04	.171	283	.000	.910	283	.000
D-PER05	.181	283	.000	.899	283	.000
D-PER06	.147	283	.000	.914	283	.000
D-PER07	.157	283	.000	.914	283	.000
D-PER08	.295	283	.000	.806	283	.000

- Information Asymmetry Items' Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
I-IA01	.223	283	.000	.872	283	.000
I-IA02	.210	283	.000	.895	283	.000
I-IA03	.187	283	.000	.906	283	.000
I-IA04	.207	283	.000	.878	283	.000
I-IA05	.231	283	.000	.861	283	.000
I-IA06	.261	283	.000	.830	283	.000

- Structural Dimension Social Capital Items' Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P-SDSC01	.184	283	.000	.926	283	.000
P-SDSC02	.206	283	.000	.922	283	.000
P-SDSC03	.192	283	.000	.901	283	.000

- External Relational Social Capital Items' Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P-EXSC01	.182	283	.000	.930	283	.000
P-EXSC02	.161	283	.000	.931	283	.000
P-EXSC03	.176	283	.000	.936	283	.000
P-EXSC04	.166	283	.000	.931	283	.000

- Cognitive Social Capital Items' Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P-CSC01	.180	283	.000	.925	283	.000
P-CSC02	.184	283	.000	.911	283	.000
P-CSC03	.188	283	.000	.909	283	.000
P-CSC04	.182	283	.000	.904	283	.000

- Internal Relational Social Capital Items' Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P-IRSC01	.266	283	.000	.806	283	.000
P-IRSC02	.264	283	.000	.827	283	.000
P-IRSC03	.212	283	.000	.886	283	.000
P-IRSC04	.220	283	.000	.859	283	.000

- Satisfaction Items' Normality Test

Tests of Normality

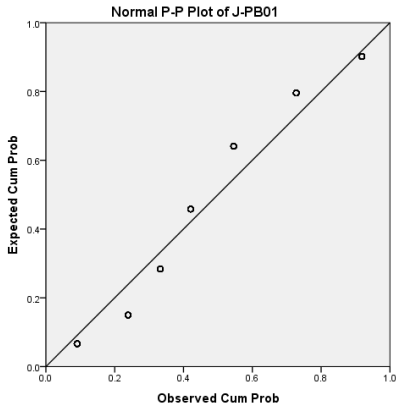
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
D-SAT01	.190	283	.000	.924	283	.000
D-SAT02	.181	283	.000	.919	283	.000
D-SAT03	.191	283	.000	.914	283	.000
D-SAT04	.177	283	.000	.913	283	.000
D-SAT05	.173	283	.000	.910	283	.000

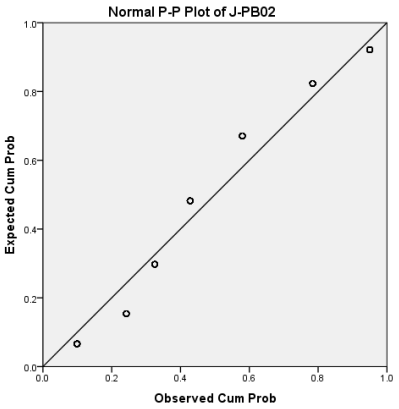
- Participative Budgeting Items' Normality Test

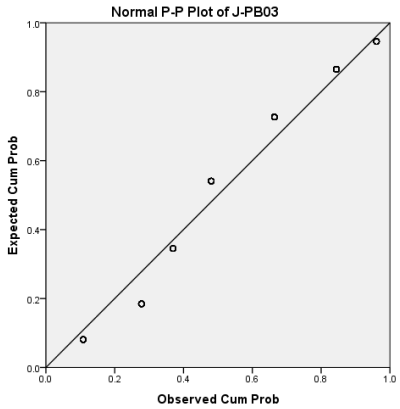
Tests of Normality

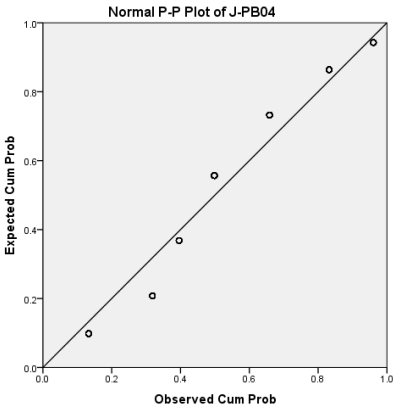
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
J-PB01	.177	283	.000	.880	283	.000
J-PB02	.180	283	.000	.886	283	.000
J-PB03	.165	283	.000	.898	283	.000
J-PB04	.167	283	.000	.878	283	.000
J-PB05	.174	283	.000	.887	283	.000
J-PB06	.156	283	.000	.899	283	.000

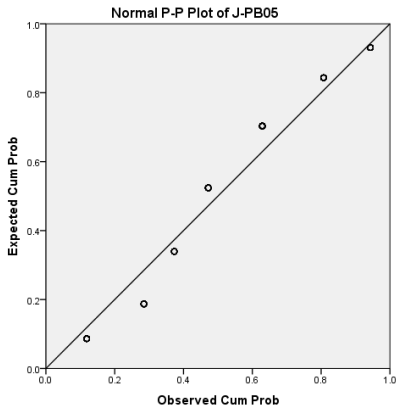
Appendix J: P-P Plot results:

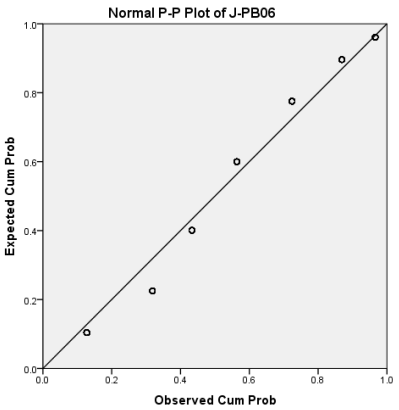


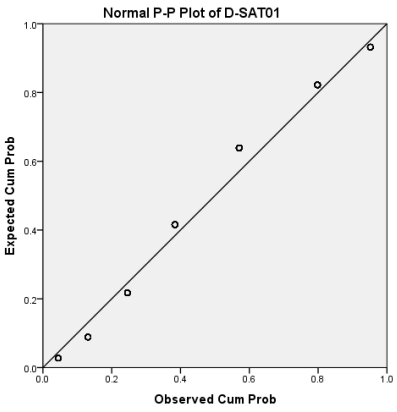


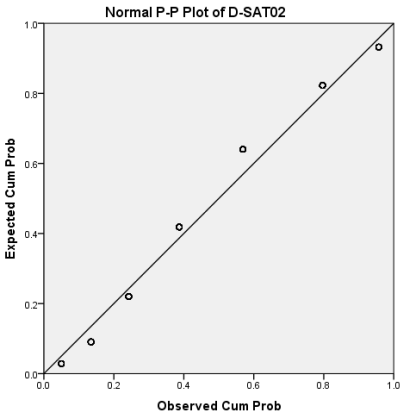


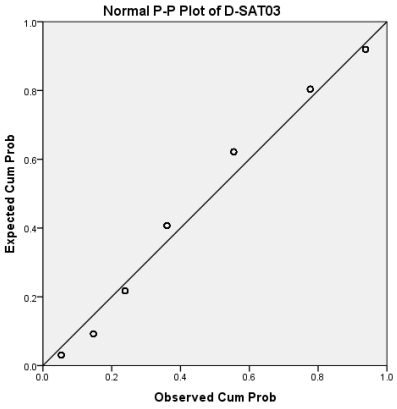


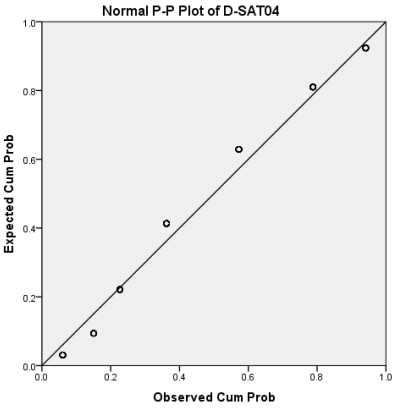


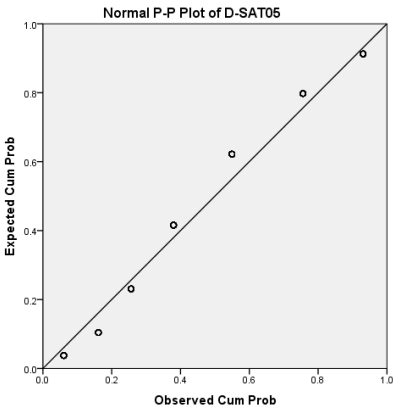


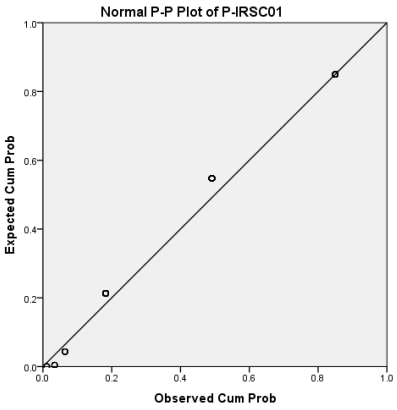

Normal P-P Plot of D-SAT01
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

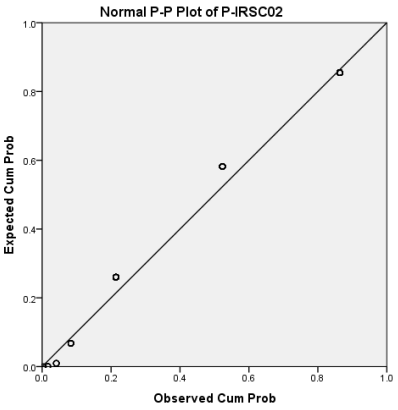

Normal P-P Plot of D-SAT02
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

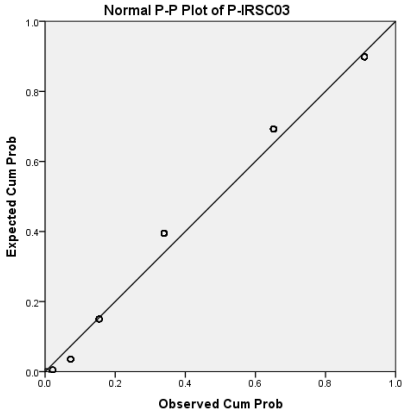

Normal P-P Plot of D-SAT03
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

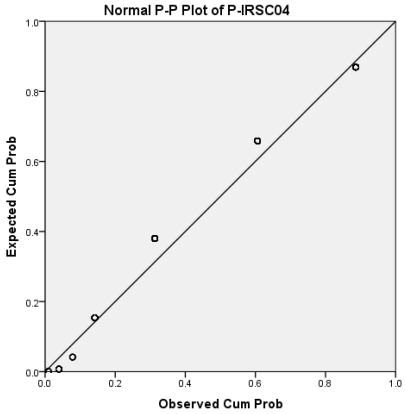

Normal P-P Plot of D-SAT04
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

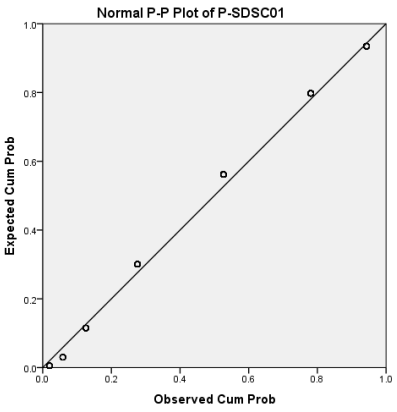

Normal P-P Plot of D-SAT05
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

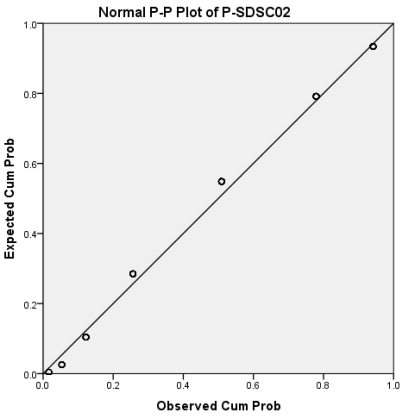

Normal P-P Plot of P-IRSC01
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

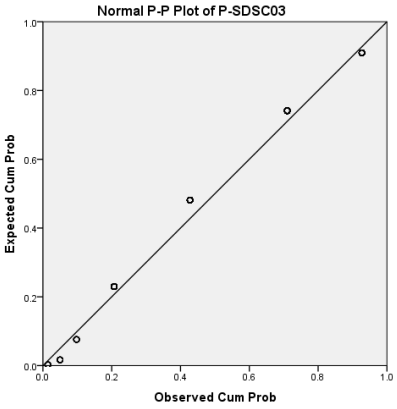

Normal P-P Plot of P-IRSC02
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

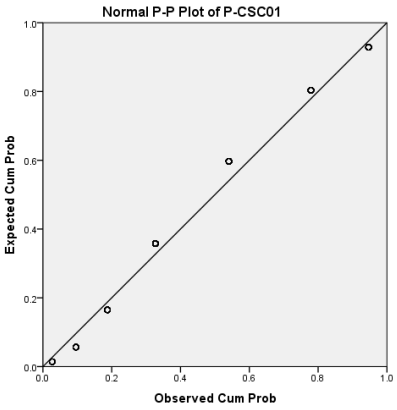

Normal P-P Plot of P-IRSC03
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

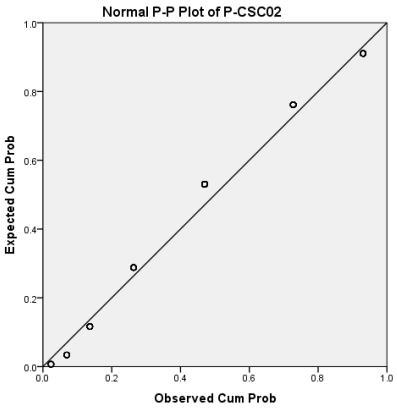

Normal P-P Plot of P-IRSC04
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

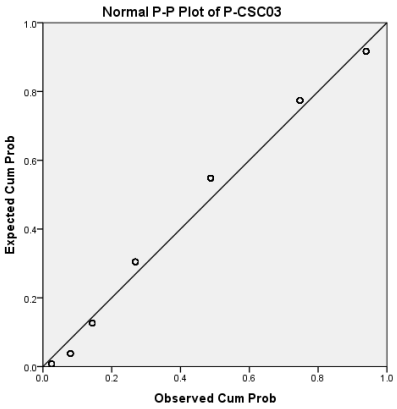

Normal P-P Plot of P-SDSC01
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

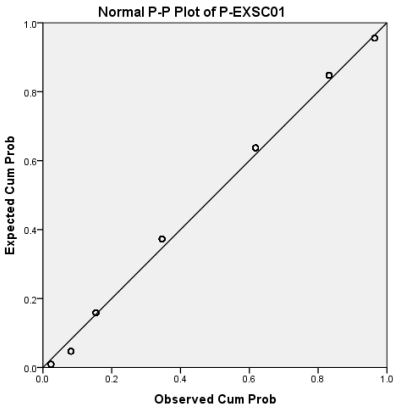

Normal P-P Plot of P-SDSC02
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

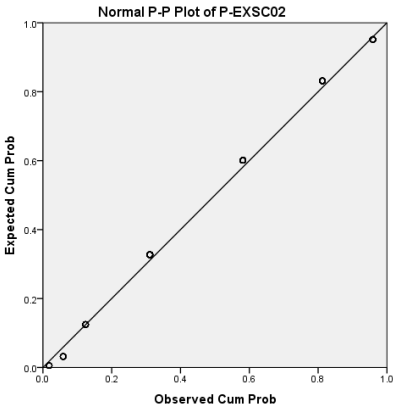

Normal P-P Plot of P-SDSC03
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

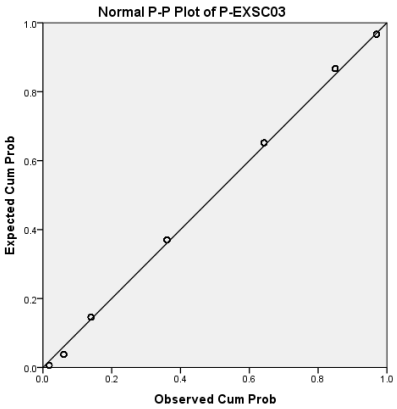

Normal P-P Plot of P-CSC01
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

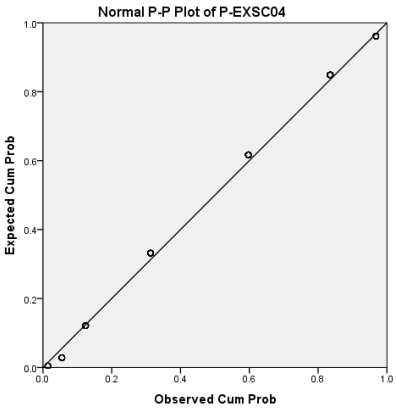

Normal P-P Plot of P-CSC02
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

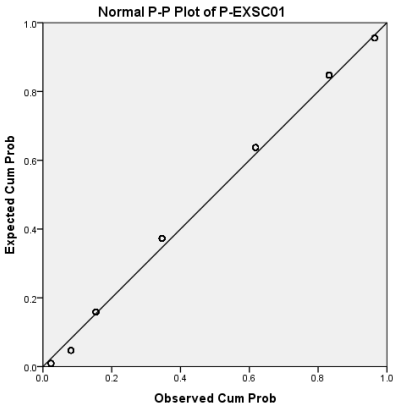

Normal P-P Plot of P-CSC03
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

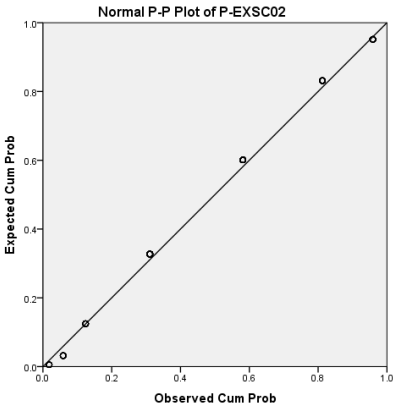

Normal P-P Plot of P-EXSC01
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

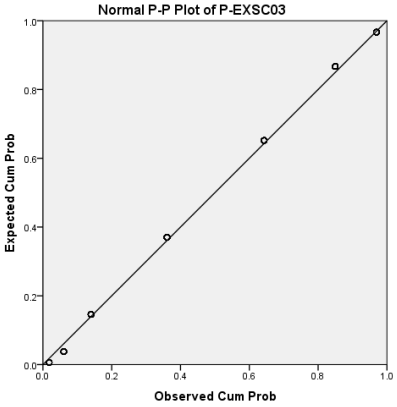

Normal P-P Plot of P-EXSC02
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

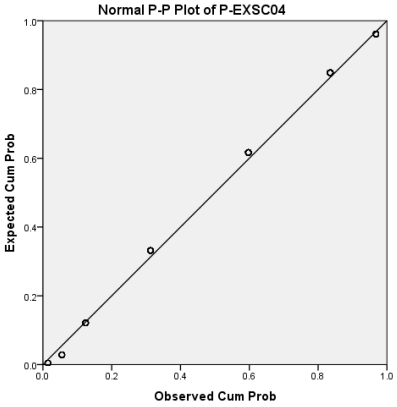

Normal P-P Plot of P-EXSC03
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of P-EXSC04
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of P-EXSC01
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of P-EXSC02
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of P-EXSC03
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of P-EXSC04
Expected Cum Prob
Observed Cum Prob
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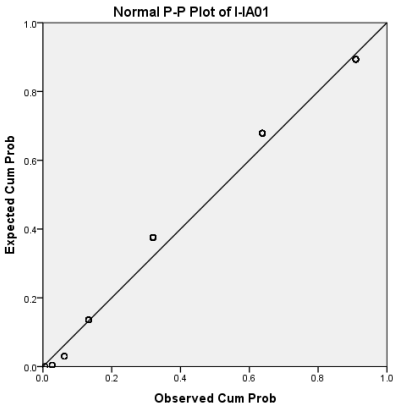
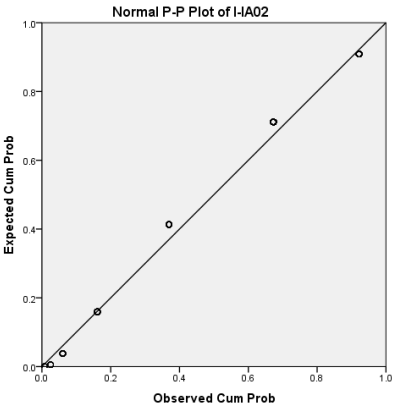
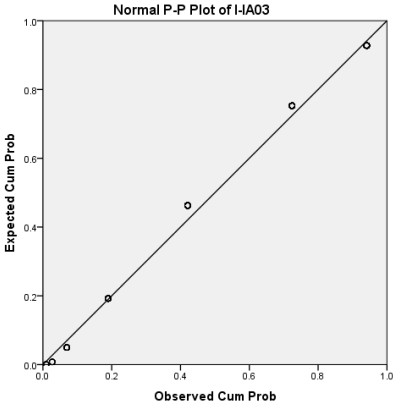
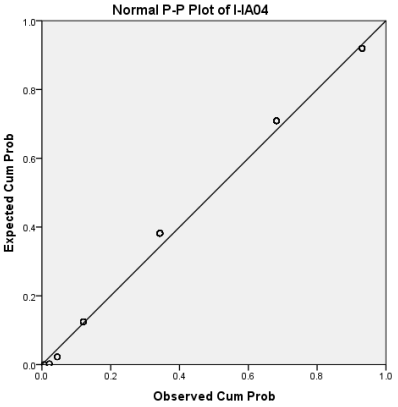
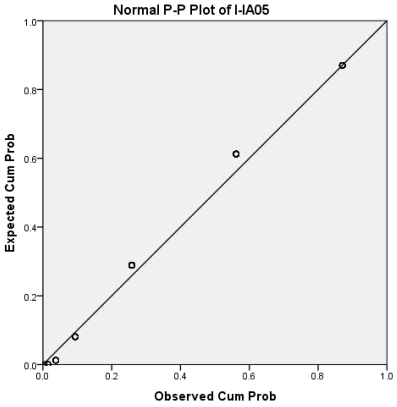
0.2
0.4
0.6
0.8
1.0

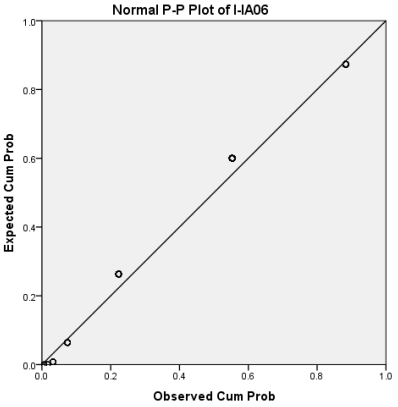

Normal P-P Plot of I-IA01
Expected Cum Prob
Observed Cum Prob

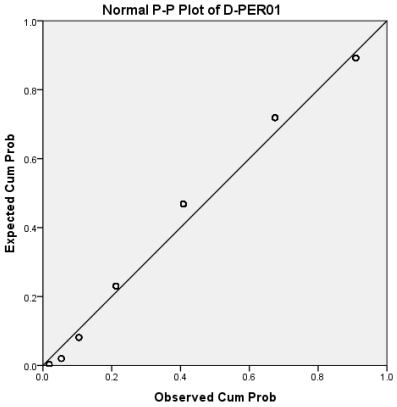

Normal P-P Plot of I-IA02
Expected Cum Prob
Observed Cum Prob

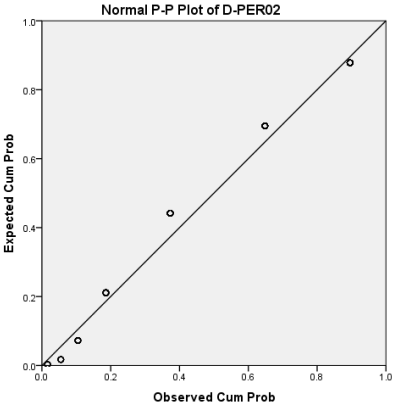

Normal P-P Plot of I-IA03
Expected Cum Prob
Observed Cum Prob

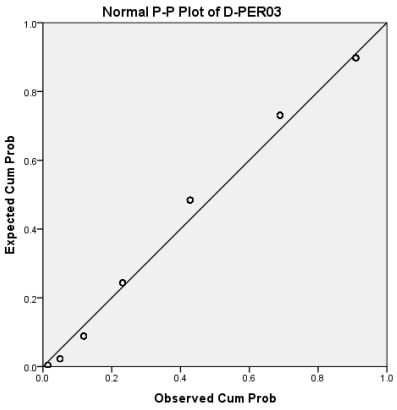

Normal P-P Plot of I-IA04
Expected Cum Prob
Observed Cum Prob

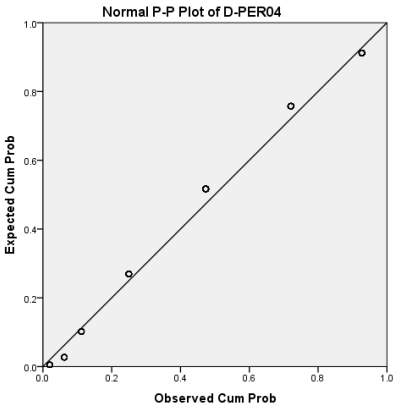

Normal P-P Plot of I-IA05
Expected Cum Prob
Observed Cum Prob

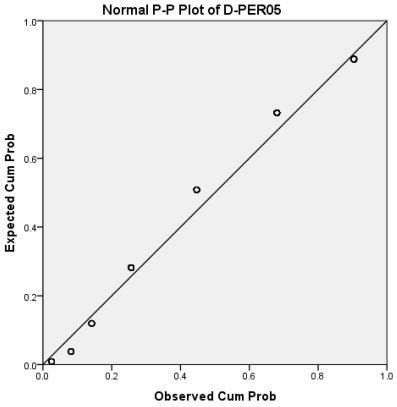

Normal P-P Plot of I-IA06
Expected Cum Prob
Observed Cum Prob

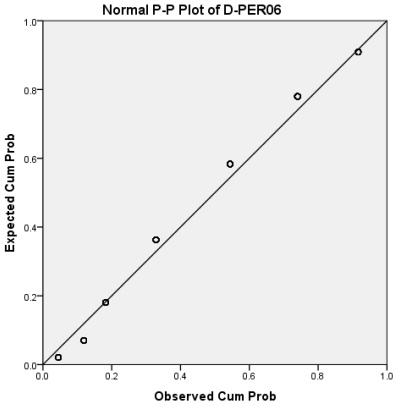

Normal P-P Plot of D-PER01
Expected Cum Prob
Observed Cum Prob

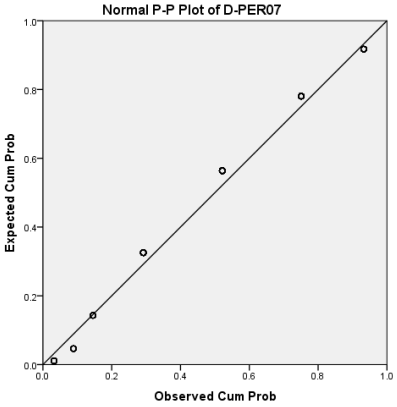

Normal P-P Plot of D-PER02
Expected Cum Prob
Observed Cum Prob

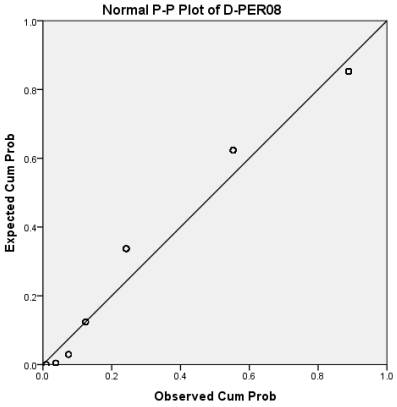

Normal P-P Plot of D-PER03
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of D-PER04
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of D-PER05
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of D-PER06
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of D-PER07
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of D-PER08
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0