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**The Determinants of Working Capital Management Practices: ""  
A Malaysian Perspective**

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A thesis  
submitted in partial fulfilment  
of the requirements for the Degree of  
Doctor of Philosophy

at  
Lincoln University  
by  
Mohd Ridzuan Darun

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Lincoln University"

4233

*This thesis is dedicated to my late Dad  
who departed while I was completing this research.*

Abstract of a thesis submitted in partial fulfilment of the requirements for the Degree of Doctor of Philosophy.

## **The Determinants of Working Capital Management Practices: A Malaysian Perspective**

by

Mohd Ridzuan Darun

**Purpose of research** – this study examines the practice of Working Capital Management (WCM) in an organizational context, specifically Malaysian listed companies. Even though many studies of WCM have been undertaken in many countries around the world, the understanding of WCM practices in an organizational context has neither been adequately documented nor understood. Scholars have largely concentrated on developing sophisticated financial models, however managers need easy to use models (Gitman, Moses, & White, 1979). In the event of changes in organizational context, it is argued that the failure of WCM research to reflect the characteristics and challenges of contemporary organizational settings has led to a lack of understanding and gives rise to the need for a conceptual framework explaining current WCM practices. This study intends to first develop an understanding of the determinants of the various WCM practices currently used in organizations; and secondly to develop a conceptual framework explaining the dynamics of WCM in a Malaysian context.

**Design and methodology** – this research used multiple-case studies of five Malaysian companies listed on the main board of Bursa Malaysia. Key informants, representing various functional areas and hierarchical levels, were interviewed to gain insights about how working capital components were managed within the organizational context. The semi-structured interviews were designed to explore the diversity of WCM practices. Data was analyzed using qualitative methods to gain rich narratives and in-depth understanding of WCM practices for each case, then, cross case analysis enabled this research to develop a conceptual framework.

**Main finding** - this study proposes a conceptual framework to provide a comprehensive understanding of WCM in an organizational context. A conceptual framework was developed based on observed patterns in five determining perspectives from multiple case studies which

enabled this study to distinguish two differing WCM approaches, namely integrated and non-integrated WCM approaches. This study suggests that the conditions of these determining perspectives influenced the choice of WCM approach. The five determining perspectives were: perceived environmental uncertainty, budgetary control, organizational structure, interdependency and information technology, and organizational culture.

**Contribution of study** – the conceptual framework adds value to the body of WCM knowledge by identifying how Malaysian companies manage their working capital and describes the dynamics of WCM that have previously not been explained. In terms of managerial practice, this study provides practitioners and academicians views about the influence of determining perspectives over the approach taken in WCM practices.

**Keywords:** Working Capital Management, Organizational Context, Theory and Practice, Managerial Approach

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## Abbreviations

AFTA	Asian Free Trade Agreement	FA	Forecast Accuracy
BE	Budget Empasis	GR	Government Regulations
BR	Bank Regulation	HF	Horizontal Flow
CD	Customer Demand	IT	Information Technology
CEO	Chief Executive Officer	IE	Innovation Effort
CFO	Chief Financial Officer	IM	Inventory Management
CIM	Competing in Market	JIT	Just In Time
CMC	Compromising Minimise Conflict	KPI	Key Performance Indicator
CO	Consistency	NAP	National Automotive Policy
CR	Competitors' Reaction	OP	Ongoing Planning
CSR	Corporate Social Report	PEU	Perceived Environment Uncertainty
CS	Centralized Structure	RAPM	Reliance on Accounting Performance Measure
DS	Decentralized Structure	RO	Result Oriented
ES	Economic Situations	SFM	Short-term Financial Management
EM	Energy and Material Cost	SIT	Specialization on Individual Task
ERP	Entreprise Resource Planning	SM	Sense Making
ED	ERP Dependency	VF	Vertical Flow
ER	Exchange rates	WCM	Working Capital Management

# Chapter 1

## Introduction

### 1.1 Purpose of Research

The significant decline of corporate performance during the late 1990s financial crisis saw corporations in South East Asia, including Malaysia, pay more attention to Working Capital Management (WCM) (Claessens, Djankov, & Xu, 2000). For example, at Telekom Malaysia, one of the largest companies in Malaysia, their main concern shifted to improving WCM due to customers' slow payments, as rival companies offering competitive rates made cash collection even more difficult (Crane, 2001). According to a survey by REL Consultancy Group, Asian companies, including those in Malaysia, are gradually improving their WCM performance, but have yet to equal the WCM performance of other multi-national corporations (Bacani, 2007). Even though a number of studies on WCM have been and still are undertaken around the world, especially in Western countries, the understanding about how to manage working capital from a whole organizational context is not explicit.

Improving WCM is important for companies to withstand the impacts of economic turbulence (Kolay, 1991; Reason, 2008). Alternatively, effective WCM is also essential for companies during booming economic periods (Lo, 2005). WCM is not only to insulate corporations from financial upheaval but can be managed strategically to improve competitive position and profitability as the wider perspectives of WCM contribute to greater opportunities to create wealth. Appropriate speed of a cash cycle through receivable and payable management helps enhance profitability and liquidity (Johnson & Soenen, 2003). Furthermore, effective inventory management is also critical to the management of liquidity and profitability in many companies.

WCM is related to all aspects of managing current assets and current liabilities (Emery, Finnerty, & Stowe, 2004; Hampton & Wagner, 1989; Hill & Sartoris, 1992; Scherr, 1989; Vander Weide & Maier, 1985). Each individual component of WCM – cash, receivables, payables, and inventory management – influence WCM performance via its own objectives and functions (Schilling, 1996). In addition, the decisions made in any one WCM component have an impact on the other components (Sartoris, Hill, & Kallberg, 1983).

It is argued that, since WCM involves the full range of business processes, effective WCM should be *integrated* along the processes in order to maximize organizational performance (Arcelus & Srinivasan, 1993; Crum, Klingman, & Tavis, 1983; Damon & Schramm, 1972). However, a study in New Zealand by McInness (2000) showed that 94% of companies manage WCM components in a segregated manner. McInness's study explained the phenomenon in New Zealand which is allegedly different to the WCM practices of Malaysian companies. Nevertheless, it is argued that the failure of WCM research to reflect the characteristics and challenges of contemporary organizational settings has led to lack of understanding and gives rise to the need for a conceptual framework explaining WCM practices.

The development of a theory, as well as interpreting the practice of WCM, should be cognisant of the surrounding organizational environment. Furthermore, theory and practice exist in a reciprocal relationship. While theory can be used to guide practice, theory itself should be developed from an interpretation of practice. The first step in narrowing this gap is to understand WCM practices in actual organizational settings. The second step is to develop a conceptual framework identifying the determinants of WCM practices, thus providing a guide to formulating an effective WCM strategy in the Malaysian context.

Therefore this study is intended to:

- Develop an understanding of the determinants of the various WCM practices currently used in selected Malaysian listed companies
- Develop a WCM conceptual framework explaining the dynamics of WCM in selected Malaysian listed companies.

## **1.2 Research Questions**

The primary research question is: *How is working capital managed in the Malaysian Listed Companies' context?* Two secondary questions are designed to answer this primary question.

- First, to develop an understanding of the determinants of various WCM practices currently used in Malaysian listed companies: How do internal and external factors affect the style of WCM?
- Second, to develop a WCM conceptual framework explaining the dynamics of WCM in Malaysian listed companies: What factors affect managers' WCM decision making processes?

## **1.3 Significance of the Study**

A WCM conceptual framework intends to provide a comprehensive explanation of WCM in contemporary organizational settings; this proposes an understanding of various WCM practices for use in formulating effective WCM strategies and invites future research. Furthermore, this is the first study examining determinants of WCM practices in an organizational context, specifically Malaysian companies. In addition, this study contributes to the body of WCM knowledge by identifying how companies manage working capital in a local setting. It is believed that managers, academicians, and professionals can use this framework to evaluate WCM practices within organizational contexts.

## **1.4 Malaysian Context**

Malaysian firms are selected for the study because of the researcher's familiarity with the local social and economic environment. Understanding the Malaysian environment enables the development of a conceptual framework to be more relevant within the context of the study. For example, the influence of culture on managerial practice requires an understanding about ethnic groups, religious beliefs, current trends, and so forth to properly interpret data. Thus, the findings can be described as being of the Malaysian context.

This section provides information about economics, society, and workforce conditions in Malaysia. This information is useful as a reflection of the Malaysian environment within which WCM is conducted.

### **1.4.1 Malaysian Economic Background**

Over a decade after the Asian financial crises, the Malaysian economy, recovered from the economic turmoil from macroeconomic aspects (Ariff, 2007; Ching, 2004). Ariff (2007), showed that the Malaysian Gross Domestic Product (GDP) grew at a rate of 5.4 percent on average between 1999 and 2006, compared to a contraction of 7.4 percent in 1998. In 2009, the main drivers of GDP consisted of services, manufacturing, and agriculture sectors, in that order (Ministry of Finance Malaysia, 2008).

The Malaysian economy, known for its high degree of openness, is sensitive to what is happening in the surrounding environment (Ariff, 2007), and export trade is one of the important drivers of growth (Ching, 2004). According to the Economist Intelligence Unit (2008), export oriented manufacturing dominated the total Malaysian production output, accounting for about 80% in 2007. However the recent global economic recession with the epicentre in the United States has weakened the buying power of developed countries like the United States, Japan, and many others (Malaysian Central Bank, 2009). According to the Ministry of International Trade and Industry (2010), Japan (ranked third) and the United

States (ranked fourth) were major export market destinations for Malaysian firms in 2010, and recent global economic instabilities have influenced Malaysian exports to developed countries (Malaysian Central Bank, 2009). This indicates that the Malaysian economy is impacted by market volatility (Ching, 2004) .

#### **1.4.2 Malaysian Society and Workforce**

Malaysia is a multi-cultural society consisting of three main ethnic groups; Malay, Chinese, and Indian. The three main ethnic groups have been working and living together since the founding of Malacca as the main trading centre for entrepreneurs from India, Middle East, and China since the 1400s (Andaya & Andaya, 1982). Malaysia is a collectivist society where ethnic values are embedded in daily life and respected across ethnic groups (Storz, 1999). In other words, Malaysians are allowed to practice their cultural and religious beliefs while being respectful of differences from others.

In terms of workforce, Ahmad and Singh (2001) found that the Malaysian workforce lacks any dominant managerial practice due to ethnic differences. In that sense, managerial style is observed to be different in many companies, which leads to no dominating managerial style being called “Malaysian management practice” (Wan, 2008). However, ethnic differences are not considered a main constraint, as in fact the Malaysian workforce is demonstrably diverse and versatile (Ahmad & Singh, 2001; Bhopal & Rowley, 2005; Wan, 2008). In other words, this suggests that Malaysian managers are able to adapt to foreign organizational values.

Malaysian managers are predominantly influenced by foreign oriented concepts which they have learnt from managerial textbooks developed from Western organizational values although the theories are argued as irrelevant to the Malaysian context (Ahmad & Singh, 2001). Wan (2008) found that foreign multinational companies based in Malaysia adopt hybrid organizational values. She suggested that American or British companies are

observed to embed Western and local values within organizational practice, while Japanese companies have combined oriental practice with Malaysian values.

## **1.5 Overview of WCM Components**

Before discussing the research methodology, it is useful to describe the four main WCM components used in this study, namely cash, inventory, payables, and receivables. It should be acknowledged that WCM is not limited to internal interaction, but is implicated in multiple levels of interaction both internally and externally (Brigham & Ehrhardt, 2008; Gentry, Metha, Bhattacharyya, Cobbaut, & Scaringella, 1979). The nature of the four WCM components will be explored in the following subsections.

### **1.5.1 Cash Management**

Cash acts as a buffer for a company to finance its operations in a manner that is suitable for the nature of its business operating cycle (Boisjoly & Izzo, 2009; Emery, et al., 2004; Gitman, 2009; Scherr, 1989). The challenge in cash management is to balance the appropriate level of cash and marketable securities that reduce the risk of insufficient funds for operations with the opportunity cost of holding excessively high levels of these resources. The integrative style of cash management is dependent on the cycle of the business operation, and changes in cash management would directly influence working capital performance (Boisjoly & Izzo, 2009). Various activities are involved in maintaining the balance of cash, and thus, a company's competency should include the ability to formulate a cash management strategy including the synchronizing of cash inflows and outflows through cash budgeting and cash forecasting.

Cash budgeting constitutes the projected cash receipts, cash disbursements, and cash balance over a period of time (Brigham & Ehrhardt, 2008; Moyer, McGuigan, & Kretlow, 2009). The cash budget is an important tool for managers in maintaining a specified level of

liquidity. In order to achieve and maintain liquidity, managers rely on understanding the business operation cycle.

Cash forecasting includes estimating cash needed for operations on a daily, weekly, monthly, or annual basis. It is largely dependent on business activities such as sales and marketing, production cycle, supply chain, cash collection, and cash disbursements (Gitman, et al., 1979). A manager's ability to predict cash shortages or surpluses gives ample time (for finance managers) to seek financing alternatives or investments in marketable securities (Moyer, et al., 2009).

### **1.5.2 Inventory Management**

Inventory management (the second component) plays an important role in business activities of purchasing, producing, and marketing (Crum, et al., 1983). Furthermore, maintaining appropriate inventory levels is associated with the cycle of business activities, and it incurs inventory related costs such as ordering, carrying, and stock out costs (Moyer, et al., 2009). Ordering cost refers to all costs of placing orders and receiving materials into the warehouse. Carrying cost refers to all costs of holding materials for certain periods of time. The longer times required to hold inventory increases carrying cost. Stock out cost refers to all cost incurred due to situations where demand is higher than available stock. This includes costs to reordering materials and delivering inventories into the markets.

The approach taken in inventory management directly influences the working capital performance (Yang, Ronald, & Chu, 2005). Holding too much inventory may incur high carrying costs; however it also reduces risk of 'stock-out' shortages.

A company's ability to respond to market demands is largely dependent on how efficiently it manages inventories and how responsive suppliers are to supplying materials for production, sale or rendering services. Therefore, closer relationships with suppliers are

important for companies to cope with fluctuation of market demands (Bowersox, Closs, & Stank, 2003).

### **1.5.3 Payables Management**

The third component is accounts payables; one of the major sources of spontaneous finance (Gitman, 2009; Hill & Sartoris, 1992; Moyer, et al., 2009). Companies along with their suppliers need to agree to establish a relationship or partnership with specific arrangements including credit terms (Hill & Sartoris, 1992).

Credit terms generally include payment terms, such as credit period, cash discount, credit guarantee, and so forth (Gitman, 2003; Moyer, et al., 2009). Credit period refers to time specifying maximum days in which payment should be made to suppliers. Cash discount refers to incentives (in percentage format) given to companies for early payments. A company is entitled to a discount (i.e. two percent of the total amount) when payment is made during the discount period; however this term is not always available and is dependent on the suppliers' credit terms.

In some cases, a customer is requested to provide a credit guarantee from a financial institution. This normally occurs when suppliers question the customer's creditworthiness or the risk of credit default is high. In circumstances of credit default, suppliers are entitled to claim a credit guarantee to settle overdue accounts. However, this arrangement is not always imposed and it depends on suppliers' credit terms. In a sense, there is no such fixed standard of credit terms and it is normally based on companies and suppliers credit arrangements.

Delaying payments to the end of the credit period or beyond the credit period creates additional short-term financing costs for the company. Although this gives an additional cushion to finance business operations; it may ruin the company's reputation (i.e. credit background), forego cash discount savings, and weaken a healthy financial supply chain (Brigham & Ehrhardt, 2008; Moyer, et al., 2009; Rafuse, 1996).

#### **1.5.4 Receivable Management**

Accounts receivables are credit sales given to customers for the purchases of goods or services. The management of accounts receivable (fourth component) is largely influenced by credit policy and collection procedures (Brigham & Ehrhardt, 2008; Moyer, et al., 2009). Credit policy and collection procedures affect cash inflows, sales, and risk of bad debts (Hill & Sartoris, 1992). Any changes made in credit policy will have direct impact on working capital performance. For example, management's decision to reduce or increase credit period is to influence the cash conversion cycle.

A credit policy normally includes credit standards, credit period, and cash discounts (Gitman, 2003; Moyer, et al., 2009). Credit standards specify requirements to establish the worthiness of customer's credit background. The credit period is the length of time given to customers to pay the invoices. Cash discounts refer to cash incentives given to customers for early payments made within discount period; however this option may not be available depending on the company's credit policy.

Collection procedures aim to reduce delays in collecting outstanding receivables. The collection activities may include but are not limited to collection processes such as sending a letter of demand, follow up calls, collection agency, and legal action. The collection procedures may be different in some companies due to the volume and values of receivables (Moyer, et al., 2009).

It is evident that the process of managing the working capital components is embedded within normal operating business activities and involves the participation of multiple levels of members within an organization (Gitman, 2009). It is argued that the operating business activities of some companies may involve synchronizing of WCM components to improve organizational performance. For example, companies placing orders to purchase materials (inventory management) in advance then payments (payable

management) are made before cash receipts (cash management). The nature of operational activities creates cash flows that are neither instantaneous nor synchronized. Hence the working capital decision making process is becoming more difficult, and in some companies, working capital transactions are far more complex and responsibility of managing WCM components is widely distributed throughout an organization.

## **1.6 Research Methodology**

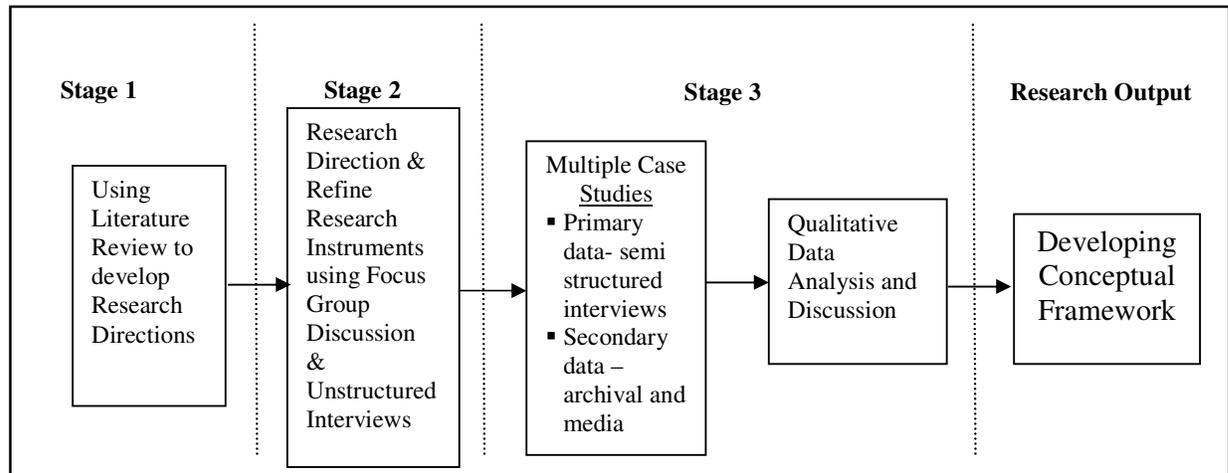
This study employs qualitative research methodology which enables an in-depth understanding of various WCM practices and leads to the development of a conceptual framework. In particular, a multiple-case study approach is used to enable the researcher to observe replication between organizations for conceptualization purposes. Eisenhardt and Graebner (2007) have emphasized that multiple case studies generate a more robust conceptual framework because the propositions are grounded in rich evidence. Furthermore, the multiple-case study approach enables the researcher to view issues from the lenses of the informants, which involve narratives and dialogues in telling stories and presenting other evidence that arises from their natural settings. Case study researchers frequently discover new issues during their journeys (Auerbach & Silverstein, 2003).

### **1.6.1 Research Sequence**

This study consists of three stages which serve the purpose of identifying the determinants of WCM practices and ultimately developing a conceptual framework. Figure 1.1 illustrates the sequences of this study:

Stage 1: Undertaking an extensive WCM literature review involving a wide range of academic disciplines (accounting, strategic management, operation management, and organizational behaviour) to identify the research questions.

**Figure 1.1 Research Sequence**



Stage 2: Using research questions as a topic for focus group discussion and unstructured interviews (consist of management accountants and treasurers) to narrow the focus of study and refine research instruments for subsequent fieldwork.

Stage 3: The research instrument is to be used to collect relevant data. Multiple-cases are to be employed and semi-structured interviews (primary data) are to be conducted with key informants from various functional areas (finance, marketing, production, and supply chain) who are directly involved in WCM. The interviews are to be recorded and transcribed for analysis, and stored according to appropriate ethical standards. Data is coded, categorised and themed for theoretical constructs and narrative explanations. Archival records and media (secondary data) are accessed (also through appropriate ethical process) to provide further insights.

### **1.6.2 Developing Conceptual Framework**

The insights gained from the research sequence offers a theoretical conjecture from an iteration process of extant literature along with multiple case study research findings. This process requires a constant comparison of data to develop a conceptual framework. Case reports are developed for each case explaining how and why a particular proposition is or is

not identified (Yin, 2003). In comparing cases, the explanation of why replication of patterns is identified in certain cases, but not in some cases (Yin, 2003).

## **1.7 Thesis Structure**

The remainder of this thesis is organized into six chapters and followed by appendices. In chapter 2, this study begins with an extensive literature review of WCM. There are four main sections in this chapter. The first section identifies four distinct eras describing major transitions in WCM research. The second section extends the literature review to other disciplines, specifically investigating factors that have influenced WCM, and (third) previous WCM studies examining WCM practices. The fourth section discusses the issue of relevance of extant WCM literature in explaining WCM practices in the organizational context.

Initially, the research question is too broad and requires preliminary work to narrow the focus of this study. Chapter 3 discusses the preliminary work seeking an early understanding of WCM practices in the Malaysian context. The early work comprises a focus group discussion and unstructured interviews. The data analysis findings, along with extant literature, suggest propositions for subsequent fieldwork and methodology recommendations.

Chapter 4 explains the rationale of using qualitative research methodology. This study adopts multiple-case methodology in order to answer the research questions and stated objectives. Moreover, detailed descriptions about research design, case selection, data collection, and data analysis are given. The following discussion, chapters 5 and 6 present the result of data analysis and the development of a conceptual framework.

In chapter 5, the findings from multiple-case studies are explained in detail. The data analysis explores the propositions stated in chapter 3 and constructs determining perspectives (including a new perspective emerged during data collection) that have influenced the WCM practices of Malaysian companies. Additionally, the evidence suggests that each determinant

perspective comprises variations which enable this research to identify the similarities and differences of the characteristics of WCM practices.

Chapter 6 extends the analysis from chapter 5 and proposes a conceptual framework describing WCM practices. A WCM typology is developed based on consistent patterns of the determining perspectives as observed from the five intensive cases. Furthermore, the research findings are linked to extant literature enabling the development process of an emerging framework.

In chapter 7, the concluding remarks comprise a discussion of the contribution to the body of WCM knowledge, implications for managerial practice, key limitations, and future research.

## **Chapter 2**

### **Literature Review**

#### **2.1 Introduction**

Making sense of WCM practices today and likely future directions requires an in-depth understanding of historical perspectives. This chapter aims to develop an understanding from extant literature about the development of WCM research, explaining WCM in particular environments from the 1900's until the present. This includes exploring three agendas in relation to working capital: first, the evolution of WCM research, which includes major transition stages along the journey; second, factors influencing the management of working capital; and third, a review of previous studies of WCM practices. In doing so, the relevance of models, concepts or frameworks developed to serve managers' needs in particular operating environments will be examined.

The remainder of this chapter is arranged in five sections. The second section is a description of the evolution of WCM research, while the third section examines factors influencing WCM and the fourth reviews previous studies of WCM practices. The fifth section explores the relevance of WCM studies in explaining practices adopted in complex organizational settings and, finally, section six summarizes this chapter.

#### **2.2 Evolution of Working Capital Management Research**

In this section, the review of WCM literature examines the journey of working capital research from the earliest awareness era (1900s-1940s), to a pre and post World-War II era (1920s-1950s), to the optimization and simulation approaches of working capital in the industrialisation era (1950s-1980s), through to the focus on the effectiveness of WCM in the current, globalisation era (1990s-2000s). Each section will explore the important issues associated with the evolving development of WCM research in these different periods.

### **2.2.1 Working Capital: Awareness Era (1900s-1940s)**

The period between the 1900s and 1940s saw limited development in WCM research as a discrete management practice, largely due to limited research. A search of the ABI Inform database found only 23 articles related to working capital published in various journals in this period, and there appeared to be an inconsistent interpretation of what was included within the term ‘working capital’. Disputes over definitions and categorizations of working capital indicate a learning stage, developing an understanding of working capital characteristics and seeking common ground between working capital theory and practice.

One of the earliest definitions of working capital was proposed by Mann (1918, p. 342), “the amount of money or money equivalent found to be necessary to conduct the current operations of the utility”. It is also known as net working capital (NWC), the amount of capital required to keep a company in operation or staying liquid. NWC is a reflection of the operating cycles, financing alternatives, and liability obligations.

In 1947, the Committee on Accounting Procedure of the American Institute of Accountants issued an Accounting Research Bulletin (ARB) no. 30 which defined working capital and classified the operating cycle. It stated:

Working capital, sometimes called net working capital, is represented by the excess of current assets over current liabilities and identifies the relatively liquid portion of total enterprise capital which constitutes a margin or buffer for meeting obligations to be incurred and liquidated within the ordinary operating cycle of the business (Committee on Accounting Procedure, 1947, p. 282).

ARB no. 30 specified the operating cycle for current assets and current liabilities to be twelve months because many transactions fall within this time period. However, it also acknowledged the existence of longer business cycles in certain industries, where companies may use extended periods, for example wineries, lumber and agriculture. This bulletin was criticized by practitioners for its inconsistency with practices. The current review suggests

that two important issues identified during this period are disputes over operating cycles of working capital and specifications of current assets and current liabilities.

Swartz (1947) argued that ARB no. 30's requirement for the operating cycle to be defined as 12 months was inconsistent with practice. He explained that certain companies may produce two or more products that had different operating cycles. In a sense, this creates confusion for accountants in relation to products which differ in terms of operating cycles.

The classification of items that can be considered as current assets or current liabilities in ARB no. 30 sparked arguments from practitioners. For example, ARB no. 30 excluded from current assets the deferred expenses or unallocated costs which normally benefited companies in the long-term. Swartz (1947) argued that accountants, using their own judgement and with limited guidance, had to distinguish between deferred charges and prepaid expenses in the balance sheet. In general, he disagreed that accountants may not be able to determine or categorise what could be included or excluded in current assets due to borderline cases.

Swartz (1947) also explained the exclusion from current liabilities of contractual obligations (e.g. prepaid rentals) that were expected to be refunded. He raised doubts about accountants having to make judgements about what would happen in the near future, and what should or should not be included in the balance sheet. Furthermore, he commented that ARB no. 30 had diverted the orientation of the balance sheet from disclosing what had happened to what was expected to happen.

### **2.2.2 Working Capital in the Pre and Post World-War II Era: Liquidity & Financing (1920s-1950s)**

The pre and post World-War II (WWII) era (1920s-1950s) had significant influence on the development of working capital studies. The overlapping period between the awareness stage and this era was due to similar operating environments and evidence (of

development of working capital) appearing in both periods. The main arguments in this period revolved around appropriate levels and financing of working capital. Benjamin (1939) stated that companies were better off having positive NWC as it would improve liquidity. Positive NWC refers to companies keeping higher ratios of current assets (e.g. cash, receivables or inventories) to current liabilities (e.g. payables, prepaid expenses), and depending less on bank loans or supplier's credits to finance working capital requirements. Alternately, a low current ratio refers to companies having low current assets (e.g. reduced cash or minimized inventory levels) and higher current liabilities, which increases dependency on financing (e.g. banks loans) for working capital requirements.

According to Chandler (1994), interwar, (between WWI and WWII), American companies expanded their international market shares and even dominated British domestic markets. He highlighted the importance of high capital capabilities and economies of scale as competing factors for large American corporations during this period. In terms of working capital, Ketchum (1942) identified that many American companies in the 1920s preferred to offer equity market securities to finance working capital, while in the 1930s many companies were able to fund their own working capital activities and decrease dependency on bank loans. This indicates that, during this period, companies preferred to adopt the positive NWC approach to manage working capital activities.

Chandler (1994) further stated that the World-War II period saw an extraordinary increase in industrial output, with more than half of American manufacturing capacity dedicated to producing armed forces related products. Consequently the requirement for working capital dramatically increased (Ketchum, 1942). Companies who were normally in favour of issuing equity market securities (common stocks) to finance their working capital or financing working capital on their own, experienced difficulties due to investors' reactions to the uncertainties of war, the rising cost of materials, higher labour costs and need for new

plants to fulfil higher demands (Ketchum, 1942). Furthermore, Ketchum observed that companies fell short on cash and switched to banks as an alternative to finance working capital. This indicates a trend away from the positive NWC approach to a low current ratio approach to managing working capital.

The tendency of American companies to finance working capital through bank loans increased as the war intensified. However, banks were becoming reluctant to provide financing due to the risks and uncertainties of war (Ketchum, 1943). Therefore, the U.S. government was forced to inject funds into American companies for the construction of new plants and machinery and to help fund working capital requirements. This had a flow-on effect after the war.

According to Chandler (1994), post WWII, large capital intensive corporations with advanced technology dominated the emerging markets. For example, he observed that International Business Machines (IBM) conquered the rapidly growing computer sector and Boeing and Douglas dominated the commercial airline industry. Consequently, the practice of working capital management appeared to reflect a change in organizational focus. American companies had regained strong liquidity positions, with total current assets exceeding current liabilities by the end of the 1940s (Carey, 1949). This indicates that companies switched back to adopt the positive NWC approach to managing working capital. As this area became more complex, researchers put more effort into developing various techniques to manage working capital operations.

### **2.2.3 Working Capital in the Industrialisation Era: Optimization and Simulation Models (1950s-1980s)**

The industrialisation era between the 1950s and 1980s resulted in a change of direction in working capital studies. Advanced technologies and machinery transformed manufacturing sectors, enabling companies to gain benefits from economies of scale hence

lowering operational costs (Kaplan, 1994). Chandler (1994) identified that, after the 1950s, American companies grew in size and created multiple divisions to focus on many different business activities. He explained that senior managers lacked the necessary training and experience to evaluate the performance of different business activities, and a range of mathematical models were used to support their decision making processes. Consequently, working capital studies in this period developed various mathematical and simulation models to help managers.

Indeed, several scholars have seen the potential for mathematical solutions to lower WCM requirements by linking together two or more working capital components (Beranek, 1963; Kim & Chung, 1990; Shapiro, 1973; Thompson, 1975). For example, inventory levels (e.g. high or low) influence the determination of the credit discount policy (Beranek, 1963) and, conversely, the length of the credit period influences inventory levels (Thompson, 1975).

As a consequence, the development of working capital studies placed more emphasis on developing mathematical models as decision making tools for WCM components. Beranek (1963) introduced a simultaneous decision making model for cash discount policy and inventory levels. He suggested the optimal cash discount rate depended on the level of inventory (higher inventory levels indicating better offerings of cash discount rates). Shapiro (1973) proposed a credit policy model in inflationary and deflationary environments. Usually, during a recession consumers are likely to slow their payments, so Shapiro's model was designed to determine the length of the credit period. Furthermore, Shapiro's model determined the optimal time for purchasing inventory. Thompson (1975) introduced the use of capital budgeting technique to determine optimal inventory levels. He explained the need to re-evaluate the economic order quantity for inventory management when credit policies were assumed to be affected during economic downturns. Kim and Chung (1990) argued that proposal of previous studies would result in constant changes of credit policy and could result

in companies losing customers. They proposed a joint evaluation of inventory and account receivables to determine suitable cash flow approaches needed for operations management.

Many optimization models have received criticism due to their lack of adaptability in differing organizational settings and business environments (See for example: Damon & Schramm, 1972; Knight, 1972; Merville & Tavis, 1973). Knight (1972) highlighted the shortcomings of mathematical models in dealing with uncertainties and risks in working capital. He suggested a combination of simulation and mathematical models to resolve the shortcomings of using mathematical models alone in the budgetary process when identifying the parameters (i.e. sales volume, inventory level, credit policy).

Subsequently, scholars diverted their efforts to incorporating simulation models into the management of working capital components. Damon and Schramm (1972) developed a decision making model to identify the optimal level of working capital by identifying key parameters in production, finance, and marketing. Next, Merville and Tavis (1973) proposed an interlocking planning model, where decisions about receivables, inventory and financing components were linked. Then, Bierman, Chopra and Thomas (1975) demonstrated a ruin consideration model that linked working capital with capital structure. They proposed that working capital decisions should be linked to other functional units (production, marketing and finance), not only to avoid ruin (e.g. technically insolvency), but also to improve sales through changing inventory levels and credit policies.

While working capital research in this era offered alternatives for improving working capital performance, the usefulness of optimization and simulation models to practitioners were not appreciated until a survey by Gitman, Moses and White in 1979. They found that managers in large corporations in the United States tended to use sophisticated financial techniques in managing working capital activities. They also confirmed that managers used

optimization and simulation models to improve their manufacturing capabilities and increase profitability by minimizing production costs.

However, in a challenging and dynamic business environment, decision making processes using mathematical and simulation models are difficult to configure in complex organizational settings. A survey by Trahan and Gitman (1995) found that optimization and simulation models lack broad acceptance by many chief financial officers (CFOs) of the Fortune 500 largest corporations and the Forbes 200 best small companies because of their inflexibility. Recognising these challenges and opportunities, a new stream of working capital studies emerged, focusing on the effectiveness of WCM.

#### **2.2.4 WCM in the Globalization Era: Effectiveness (1990s-Present)**

Effective WCM revolves around two important variables, namely profitability and liquidity (Pass & Pike, 1984; Shin & Soenen, 1998). Pass and Pike (1984) further argued that effective management of working capital components is imperative to improve organizational performance. As profitability is a subjective term and can be interpreted in different ways, it is crucial to specify Pass and Pike's definition of profitability as 'maximizing shareholder value'. As mentioned earlier, liquidity is concerned with the ability of a company to satisfy its financial obligations on a day to day basis (Moyer, et al., 2009). Furthermore, two differing notions are identified within this period, believed to contribute to effective WCM; namely financial perspective and organizational context.

From a financial perspective, WCM studies have suggested effective WCM could be achieved by improving the cash conversion cycle to incorporate performance. As previously mentioned, the notion of shortening the cash conversion cycle (similar to 'squeezing' WCM components) leads to positive liquidity (Richards & Laughlin, 1980) and improved profitability (Johnson & Soenen, 2003). The first study was conducted by Shin and Soenan (1998), who found a significant relationship between shortened cash cycles and an

improvement in profitability among American companies. Later studies found similar results in countries like Greece (Lazaridis & Tryfonidis, 2006), India (Vishnani & Shah, 2007), Kenya (Mathuva, 2010), and Malaysia (Mohamad & Mohd Saad, 2010; Zariyawati, Annuar, Taufiq, & Abdul Rahim, 2009). Similar results were also found for small and medium size enterprises (García-Teruel & Martínez-Solano, 2007).

In contrast, differing conditions, identified in Belgium (Deloof, 2003) and Pakistan (Raheman & Nasr, 2007), gave rise to profitable companies paying suppliers early or within the discount period, with managers preferring to gain savings from early payments which could improve profit margins. Some studies conclude that 'squeezing' WCM components is an alternative to maximizing profitability, and the effectiveness of WCM is seen merely in financial terms. Alternatively, some companies may take advantages of cash discounts to improve profitability.

It should be noted that the message conveyed with the 'squeezing' approach arguably hinders the establishment of a healthy financial supply chain (Brigham & Ehrhardt, 2008; Hofmann & Kotzab, 2010; Moyer, et al., 2009; Rafuse, 1996). One of the elements in a squeezing approach is stretching payment to suppliers, however, this is considered 'unequal distribution of power' (Hofmann & Kotzab, 2010). Delaying payments to suppliers could involve stakeholders in multiplying effects, with companies growing at the expense of suppliers and customers. Instead, companies are advised to leverage cross-enterprise collaboration to gain a competitive edge (Hofmann & Kotzab, 2010) as synchronizing the flow of inventories and payables within the supply chain would benefit the whole value chain. Cross-enterprise collaboration refers to an integrative platform where members of a supply chain share information and cooperatively develop strategic plans to synchronize operations (Bowersox, et al., 2003).

In fact, many scholars have suggested that strategic collaborations of cross-enterprise segments to fulfil market demand may influence WCM (Bowersox, et al., 2003; Mohr, Fisher, & Nevin, 1996; Mollenkopf, Gibson, & Ozanne, 2000; Wadhwa, Kanda, Bhoon, & Bibhushan, 2006; Wood, 1993). Moreover, researchers expressed the view that improving communication channels between manufacturers, suppliers and retailers through information sharing platforms may reduce the uncertainty inherent in market behaviour. Consequently, companies could more effectively manage their WCM activities and production plans.

From an organizational context, researchers have suggested that establishing effective WCM transcends finance and largely depends on other disciplines (Brigham & Ehrhardt, 2008; Gitman, 2009). As mentioned earlier, the process of managing working capital components is an important part of managing business operating cycles and involves the participation of a wide range of people within an organization (Gitman, 2009; Schilling, 1996). A typical operation cycle involves three main activities: purchasing materials, producing products, and selling products (Moyer, et al., 2009). These activities create cash flows that are neither instantaneous nor synchronized. As mentioned in chapter 1, companies have to purchase materials (for production) in advance, then payment (payables) is normally made before cash receipts occur (cash collection from receivables). In large companies, working capital transactions are complex, and accountability for managing WCM components is distributed among a range of finance managers (Gentry, et al., 1979); hence the decision making process regarding working capital components should be synchronized in order to maximize profitability.

The area of WCM studies focusing on organizational contexts is currently underdeveloped. Scholars have proposed alternatives derived from organizational contexts to improve WCM, such as information technology for coordination (Fairchild, 2005), Six Sigma to reduce root causes of problems (Srisvastava, 2004), horizontal organizational structure to

improve adaptability to consumer demands (Sehgal, Sahay, & Goyal, 2006), and Just In Time (JIT) strategy to improve supply chains (Bartezzaghi, Turco, & Spina, 1992). Similarly, managing working capital strategically in organizational contexts has the potential to build an effective management tool for working capital components.

The shortcomings of the financial perspective do not assist managers in interpreting and making sense of diverse information, which has become increasingly important when competing in the current, globalization era with emerging global competition, advanced technologies, and innovative products and services (Harrison & McKinnon, 2007). This raises the need to explore WCM in organizational contexts to better help managers and academicians explain WCM practices in the current environment.

### **2.3 Factors Influencing the Management of Working Capital**

The effectiveness of WCM, as described in the previous section, continues to be the main theme in the globalization era, and organizational context is considered an alternative approach to improving effectiveness. Managers are urged to consider various factors in decision making processes, because the more volatile market conditions are, the more resources and the greater coordination required to manage WCM components (Hill, Kelly, & Highfield, 2010). Consequently this section aims to develop an understanding from the literature of factors that have influenced current WCM practices.

It is evident that there are a wide range of factors affecting WCM practices. These factors can be categorized as external and internal factors, as shown in Table 2.1 (presented on page 26). While external factors may affect many companies globally and across industries, there are certain factors only affecting companies within a particular industry or country. At an organizational level, a set of internal factors affects the whole organization, including WCM, but in different manners, according to their direction and relationships between them. Consequently, an ability to interpret and respond to changes in these

environmental variables is critical (Johnson & Soenen, 2003) for management, including managers who are involved in WCM decision making processes. The following paragraphs describe identified factors, and their level of influence on WCM.

The review of the literature identified six external factors believed to influence WCM in a mostly holistic manner: political situation, economic and business environment, industrial effects, legislation, competition, and financial regulation. The review further found that their effect varies across industrial and geographical settings. For example, United Kingdom legislation addresses how small business holders go about charging interest on overdue invoices (Peel, Wilson, & Howorth, 2000), to protect small enterprises who are highly dependent on efficient working capital, while many companies have encountered difficulties in managing working capital components during economic recessions due to global uncertainties (Claessens, et al., 2000). In other words, legislation may have only localised, limited effects while economic conditions appear to affect many companies across industries or borders and some companies are more sensitive to environmental changes than others.

The current review also identified eleven internal factors that are considered to affect WCM: managerial practice, working capital policy, performance measurement systems, information technology, employees' behaviour, investment policy, production and supply chain management, payables management, credit policy, and employees' financial knowledge. The review suggests that these factors seem to affect an organization as a whole, but certain factors may specifically impact WCM components. For example, implementation of a performance management and measurement system is aimed to strategically improve overall organizational performance (Srisvastava, 2004) and involves participation of all members of the organization. Alternatively, changes in working capital policy would

specifically affect WCM performance. For example, a receivables policy specifies terms and conditions in approving credit applications and cash collection activities and an inventory handling policy specifies how materials should be maintained and organized. If a company intends to shorten the cash conversion cycle, managers may ‘squeeze’ elements of working capital policy to conserve cash, a move likely to influence working capital performance. These examples indicate how certain internal factors are most likely to affect WCM, while others affect the organization as a whole.

**Table 2.1 The Internal and External Factors Affecting WCM**

Factors	Effect on WCM	References:
1. External Factors	1) Political situation	(Carey, 1949; Ketchum, 1942, 1943)
	2) Economic and business environment	(Ben-Horim & Levy, 1983; Claessens, et al., 2000; Herbst, 1974)
	3) Industrial effects	(Filbeck & Krueger, 2005; Hawawini, Viallet, & Vora, 1986; Raheman, Qayyum, & Afza, 2011; Smith, 1997)
	4) Legislation	(Peel, et al., 2000)
	5) Competition	(Filbeck & Krueger, 2005)
	6) Financing/interest rates/regulations	(Cocheo, 2004; Holdren & Hollingshead, 1999; Strischek, 2001)
2. Internal Factors	1) Managerial practice / working capital policy	(Boisjoly & Izzo, 2009; Deloof, 2003; Edwards, Wagner, & Wood, 1985; Fredenberger, DeThomas, & Ray, 1993; García-Teruel & Martínez-Solano, 2007; Hill, et al., 2010; Johnson & Soenen, 2003; Knight, 1972; Lazaridis & Tryfonidis, 2006; Sathyamoorthi, 2002)
	2) Performance measurement system	(Srisvastava, 2004)
	3) Information technology	(Fairchild, 2005; Jaiswal & Kaushik, 2005)
	4) Employees' behaviours	(Krishna, Dmitri, & Victor, 1993; Loeser, 1988)
	5) Investment policy	(Appuhami, 2009; Seidner, 1990)
	6) Production and Supply Chain management	(Bartezzaghi, et al., 1992; Evans, Naim, & Towill, 1993; Hamlin & Heathfield, 1991)
	7) Shareholders wealth	(Filbeck, Krueger, & Preece, 2007; Pass & Pike, 1984)
	8) Inventory management	(Edwards, et al., 1985; Raman & Kim, 2002; Yang, et al., 2005)
	9) Payable management	(Kolay, 1991; Rafuse, 1996)
	10) Credit policy	(Kolay, 1991; Ooghe, 1998; Walia, 1977)
	11) Employees financial knowledge	(Cheatham & Cheatham, 1993; Gitman & Maxwell, 1985)

Information gained from internal and external factors is very broad and fragmented which makes it difficult for managers and scholars to speculate what actions are needed and how working capital components should be managed. Basically, such analysis is unable to provide a clear and comprehensive understanding of how internal and external factors affect WCM practices. Although these factors are intuitively important in WCM decision making processes, a detailed and comprehensive understanding is necessary to help managers and academicians have a more robust explanation of WCM.

## **2.4 Prior Studies on WCM Practices**

Since this study examines WCM practices, it is useful to review prior studies on WCM practices. An extensive literature review found that many WCM studies have been investigating WCM practices from the late 1970s till the present. Many of these studies were interested to learn about management's perceptions of working capital approaches, and the mail survey approach has dominated this research stream. A summary of prior studies investigating WCM practices is given in Table 2.2 (presented on page 29).

Previous studies suggest that particular working capital approaches are associated with how companies organize the levels of WCM components. There are two main working capital approaches identified in the literature, namely the situational changes and risk avoiding approaches. Situational changes refers to the flexibility of working capital policy to adapt to changes in demand (Smith & Sell, 1980). For example, companies are observed to carry high levels of inventory to avoid 'stock-out' situations, or offer attractive receivables or payables terms to induce business. In contrast, risk avoiding is less flexible, working capital policy is more static and there is a greater tendency to minimize levels of WCM components (the previously mentioned 'squeezing' approach) (Smith & Sell, 1980).

Researchers have found that many companies have used a risk avoiding approach to minimize levels of WCM components (Belt & Smith, 1991b; Gentry, et al., 1979). Gentry et

al. (1979) found that a large proportion of companies in France, India, and the U.S. preferred to minimize the level of WCM components to just enough to support anticipated sales during the planning period.

Alternatively, there is also evidence that some companies offer flexibility in working capital policy to adapt to changes in demand. A study by Belt and Smith (1991b) showed that Australian companies adopted situational changes and indicated these companies were more flexible in terms of working capital policy to enable WCM components to be more adaptable to changes in their environment. This may be due to the Australian economy being driven by commodity export-oriented firms where flexibility to meet demands is essential. Similarly, Gentry et al. (1979) found that a large proportion of Belgian companies adopted situational changes and held additional levels of WCM components to cater for sudden increases in demands and production costs, for example. A comparable result was identified in Canada by Khoury, Smith, and MacKay (1999) where companies adopted a situational changes approach, being flexible in terms of working capital policy.

Extant literature offers important insights into WCM practices. However, it is argued that these studies employed a narrow focus on management tendencies to build effective WCM practices considering a financial perspective alone. The operational scope of WCM is broader, and involves consideration of multiple internal and external factors; consequently little is known about WCM practices in complex organizational settings.

**Table 2.2 Summary of Previous Studies on WCM Practices**

Author(s) / Methodology	Sample	Focus of Study	Main Findings
Gitman, Moses, and White (1979) / survey	Fortune 1000 companies divided into two groups, top 150 and bottom 150 firms (response rate 32.6%).	An examination of corporate cash management practices.	Managers were relying on budget to manage cash. The sample companies preferred to shorten collection and paid least attention to delaying payables. Top 150 firms are to use more sophisticated financial models to manage WCM components, compared to bottom 150 firms.
Gentry et al. (1979) / survey	Fortune 500 companies in the U.S. and large companies in Belgium, French, and India.	An investigation of management perceptions of the working capital objectives, and to compare and contrast perceived working capital practices in four countries. The study intended to identify variables that influenced cash flows	Majority of companies in four countries (the U.S., Belgium, France, and India) indicated working capital objective was to support anticipated sales and minimize levels of WCM components. Further strengthened market dominance and internal communication between different departments enhanced cash flow predictability.
Smith and Sell (1980) / survey	Fortune 1000 companies divided into two groups 200 largest and 200 smallest companies (response rate 32.2%)	An investigation of responsibilities, objectives, and WCM practices.	Decision authority of working capital policy was given to top management. Large proportions of companies implemented situational changes working capital policy. Situational changes refers to flexibility of working capital policy to changes in consumer demands.
Belt and Smith (1991b) / survey	144 companies from Top 500 companies list in Australia (response rate 27.1%).	A comparison study of WCM practices between Australia and the U.S. This was an extension of earlier studies by Smith and Sell (1980) and Belt and Smith (1991a).	Australians adopted situational working capital policy which enabled changes to working capital in response to market sentiment, while the American adopted risk avoiding policy (reducing financial surprises).
Peel and Wilson (1996) / survey	250 small manufacturing and service companies in the U.K (response rate 34%).	An examination of working capital and budgeting practices of small companies in the U.K.	A majority of sample companies used quantitative methods in budget preparation and management of working capital. The study identified variations where new and strong growth companies tended to minimize WCM components, compared to long established companies.
Ooghe (1998) / multiple case studies	16 large companies located in Shanghai, China	An investigation of financial management practices in China.	There was no clear indication of working capital policy as the sample companies did not have comprehensive WCM processes: no credit and collection procedures, relaxed payable terms (range from 180 to 360 days), and managers lacked knowledge of working capital.
Maxwell, Gitman, and Smith (1998) / survey	2075 U.S. and Non-U.S. large companies but only 133 companies responded 78 U.S. and 55 foreign firms (response	An investigation to identify changes in WCM practices of U.S. firms between 1979 and 1996. This was an extension of the study by Gitman et al. (1979). Further,	There were considerable changes in how companies managed cash in terms of technology usage (such as electronic wired transferred) which has accelerated the process of collection. More U.S. firms utilized bank electronic based facilities to quicken the process of

	rate 6.4%).	this study also compared WCM practices among U.S., Europe, Pacific Rim, and Mexico.	collection than non-U.S. firms.
Khoury, Smith and MacKay (1999) / survey	350 small companies in Canada (response rate 15.8%)	An examination of working capital practices in Canadian small companies, an extension of earlier studies in the U.S. and Australia.	Larger proportion of Canadian companies adopted situational change working capital policy, compared to the U.S. and Australia. Furthermore, changes to working capital policy were made whenever required.
McInnes (2000) / survey	125 listed companies in New Zealand (response rate 13.6%)	An investigation of working capital practices in New Zealand listed companies.	WCM components were managed in a segregated manner as opposed to the theory. Further, New Zealand companies perceived financing decisions in working capital requirements as very important, while investment decisions were largely ignored.
Howorth and Westhead (2003) / survey	1928 small companies in the U.K. (response rate 17.8% or 343 valid response).	This study intended to learn about any difference in terms of take-up of WCM routines between small companies.	The study identified four types of routines in WCM processes. The focus of managing working capital was to improve only one area, which normally had the worst performance (e.g. collecting receivables on time).

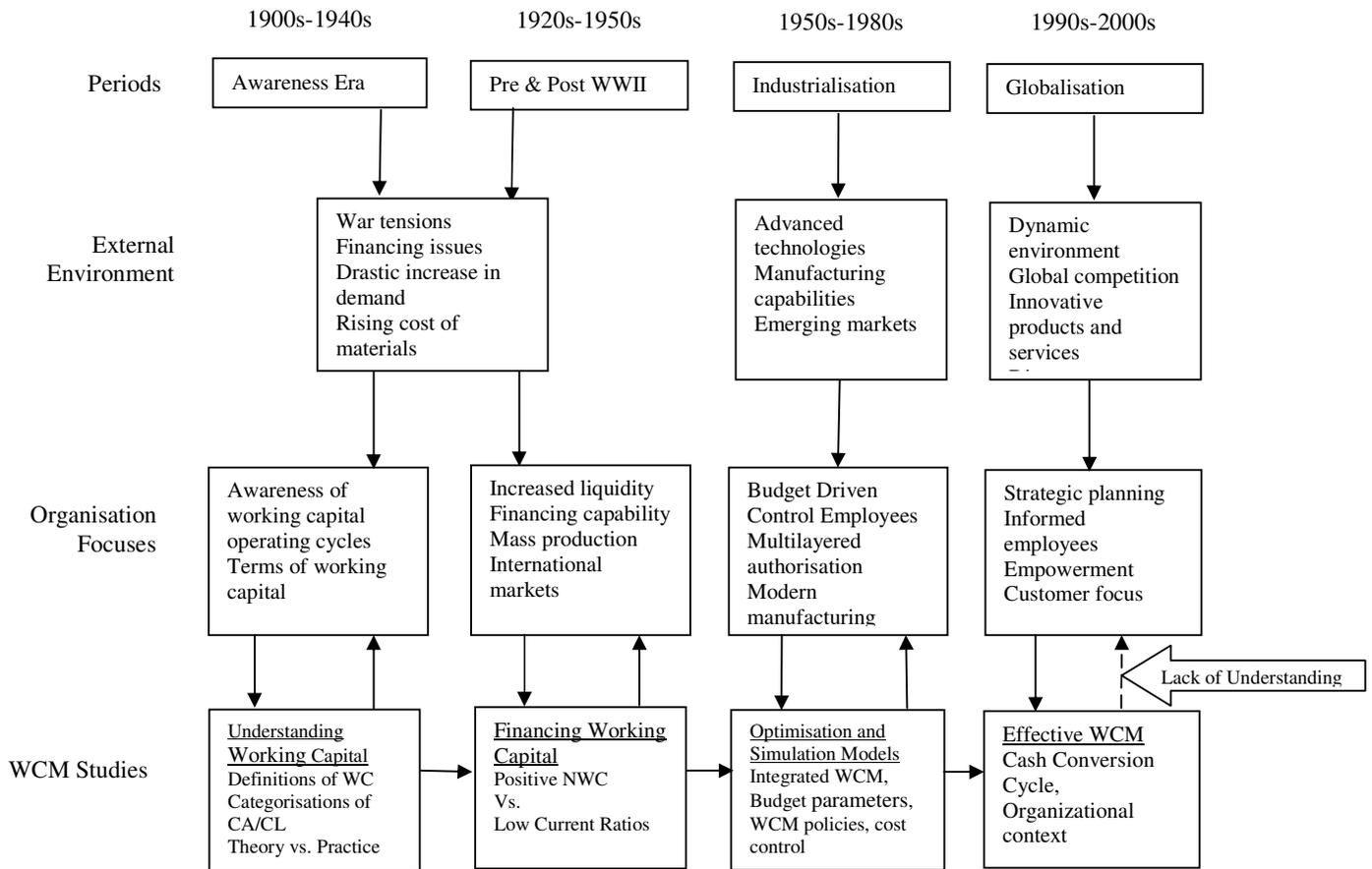
## **2.5 WCM Research – Lack of Understanding**

This section reconciles the development eras of WCM research as illustrated in Figure 2.1 (below). As discussed in preceding sections, the evolution of WCM witnessed major transitions in WCM research to accommodate managers' changing preferences in response to particular organizational focuses and operating environments. Furthermore, this study also extended the review of literature to gain an understanding of factors influencing WCM. This section aims to discuss the relevance issue of current WCM research in an organizational context and raises the need for a conceptual framework.

The awareness and pre and post WWII eras saw increasing participation of practitioners and academicians in developing an understanding of working capital characteristics through a series of debates. Main arguments revolved around the level of liquidity and financing working capital requirements. The development of WCM studies offered managers recommendations for dealing with opportunities and challenges in that period. For example, American corporations realised that strong liquidity positions and economies of scale would give them a competitive edge to dominate international markets and survive through the uncertainties of World War II (Chandler, 1994).

In the industrialisation era, managers were struggling to cope with the rapid growth of their organizations, and lacked knowledge and experience regarding many different business activities. In response, working capital studies proposed various optimisation and simulation models to assist managers with a statistical approach to decision making processes. This was in line with American companies that had experienced dramatic growth into emerging markets, and the needs for mathematical models and budget oriented tools to compete in that environment (Chandler, 1994; Johnson & Kaplan, 1991).

**Figure 2.1 The Chronology of Evolution of WCM**



In the current globalization era, the effective management of working capital is one of the most important agendas when competing in the emerging, global competition, where information is paramount in making sense of market directions. It is apparent that sophisticated financial models alone are unable to help managers and academicians with a more robust explanation of WCM; hence, organizational contexts are undeniably important to improving organizational performance. WCM involves the full range of business processes, so the decisions made regarding working capital components should be synchronized in order to maximize organizational performance (Crum, et al., 1983). However, a study in New Zealand by McInness (2000) showed that 94% of companies manage WCM components in a more segregated manner. This differs from suggestions by WCM researchers; that effective WCM should be *integrated* along the processes in order to maximize organizational

performance (Arcelus & Srinivasan, 1993; Crum, et al., 1983; Damon & Schramm, 1972). Managers need concepts, models and frameworks to be more flexible and dynamic. Unfortunately, the WCM literature lacks explanations of how companies should manage WCM components in complex organizational settings.

Accordingly, it is apparent that WCM research to date has been unable to provide relevant information to managers for managing working capital activities in current environments. This phenomenon is comparable to that which Johnson and Kaplan (1991) highlight in their seminal discourse 'Relevance Lost: The Rise and Fall of Management Accounting', where they observed that information obtained from financial reports is unrealistic in providing understanding of the complexity of contemporary organizational settings.

The evolution of WCM has shown that changes in managerial practice should influence the management of working capital. For example, the use of sophisticated financial models enabled managers to make decisions in response to the need to lower costs during the industrialization era (Kaplan, 1994). However, the use of sophisticated financial models, in the globalization era, is rather irrelevant, as managers are unable to apply them within the organizational context of the current environment (Van der Stede, Chow, & Lin, 2006).

An understanding of internal and external factors enables a dynamic view to be developed of WCM. In other words, each company may respond differently to each factor as the level of sensitivity of a company may influence how managers make decisions. An example of this can be seen in companies operating in hostile market conditions, where managers are suspected to observe external factors more closely in decision making processes compared to less hostile market conditions (Auzair, 2011; Duncan, 1972). In this case, each company would react differently to its environment which may or may not influence the management of working capital. Unfortunately, the body of WCM knowledge is unable to

provide a comprehensive understanding of how WCM components are managed in particular market conditions.

The earlier review of WCM practices identified that scholars are more interested in learning about managerial practices primarily from a financial point of view (see for example: Belt & Smith, 1991b; Maxwell, et al., 1998; McInnes, 2000). As stated earlier, the scope of WCM practices embedded within an organizational context needs a more holistic view of managerial practices (Brigham & Ehrhardt, 2008). Consequently, the overall process of WCM, which may be highly or loosely coordinated within the organizational context, is not fully understood. Hence, this study suggests that an in-depth understanding of WCM practices in an organizational context may enable further explanations regarding the dynamics of WCM.

This study aims to construct a conceptual framework of WCM, which may offer an understanding of WCM in an organizational context. At this juncture, it is useful to review the main research question again as detailed in chapter 1, to grasp the research issues. The main research question is: *How is working capital managed in a Malaysian Listed Company's context?* This then leads to two secondary questions. First, *how do internal and external factors affect WCM practices?* Second, *what are the factors that affect managers' WCM decision making processes?*

Taking together all the issues discussed in this chapter, it is evident that WCM practices are not fully understood in organizational contexts. WCM research lacks explanations as to how companies manage WCM components in complex organizational settings; this clearly indicates the urgency to construct a WCM conceptual framework. As mentioned earlier, WCM decision making has not yet been sufficiently documented which has led the researcher to undertake preliminary work to gain better insights in regards to

managing the components of working capital. This, in turn, may open up potential to develop propositions for further research.

## **2.6 Chapter Summary**

This chapter reviewed the WCM literature in order to gain an understanding to explain WCM in contemporary organizational contexts. The review explored the evolution of working capital research from the early 1900s until the present. The review of extant literature suggested four distinct eras describing major transitions in WCM research. The four periods are: the awareness era (1900s to 1940s), the working capital in pre and post war era (1920s-1950s), the working capital in industrialisation era (1950s-1980s), and the shift to effectiveness of WCM in the globalisation era (1990s-2000s).

The review has been extended to examine the factors influencing WCM and studies focused on WCM practices. A review of the literature identified a wide range of internal and external factors influencing WCM, however, the insight gained was insufficient to enable managers and academicians to manage or understand WCM practices in certain conditions. Furthermore, studies of WCM practices found companies using a working capital approach to control levels of WCM components. Nevertheless, the focus of WCM research has been dominated by financial perspectives and neglected the notion of WCM as part of an organizational context and processes.

This review concludes that current WCM literature lacks the understanding to describe WCM in an organizational context. The relevance of WCM research in guiding managers during this globalization era is questionable; hence, this study is intended to develop a conceptual framework explaining WCM practices in a contemporary organizational context. However, the scope of the research questions is too broad and needs preliminary work to narrow the focus of study by reference to the Malaysian context.

# **Chapter 3**

## **Forces Shaping Working Capital Management Practices**

### **– Phase I**

#### **3.1 Introduction**

The previous chapter identified the lack of WCM research to interpret and understand managers' working capital decision making from an organizational perspective. This leads this study to undertake preliminary work to gain insights into firms' management of working capital. The initial broad research question – how Malaysian listed companies managed working capital – has been narrowed and the preliminary work has developed a set of propositions for the subsequent field research.

The remainder of this chapter is organized into four sections. The second section discusses the research methodology used to collect and analyse the data at the preliminary work stage. The third section is a discussion of preliminary findings, linked to relevant literature, while the fourth section presents propositions for subsequent field research, having narrowed the focus of the study and adopted methodology recommendations raised. Finally, the fifth section summarizes the chapter.

#### **3.2 Preliminary Work Approach**

The preliminary work aims to gain insights into WCM practices in Malaysian listed companies. Sekaran (2003) suggests that preliminary work is essential to provide the researcher with 'in-depth information' about the topic of the study, which could be done through unstructured interviews and review of relevant literature. The findings of preliminary work are then used to guide the research in moving forward. It is imperative to acknowledge that the preliminary findings are insignificant and it would be premature to begin development of a conceptual framework at this stage. The development of the conceptual

framework, via the subsequent multiple-case approach is further discussed in chapter 5 and provides more rigorous explanations of WCM practices.

### 3.2.1 Key Informants and In-depth Discussions

Six informants from Malaysian listed companies participated in the discussions. The focus group discussion was conducted in a conference room of a well known hotel located in Kuala Lumpur, Malaysia, and the unstructured interviews were conducted at participants' corporate offices. The key informants consisted of senior managers (finance), procurement manager, and treasurers because of their understanding regarding WCM practices. The participants represented a broad range of manufacturing and service companies to better contribute to greater understanding of various WCM practices (shown in Table 3.1). This arrangement is most appropriate in the preliminary stage since it enables identification of the maximum number of related variables (an inductive approach) and allows propositions to be developed (Slagmulder, 1997).

**Table 3.1** Participants: Designation and Business Domain

Participant	Participant Designation	Company/Business Domain
A	Treasurer	Company A: Utility Services
B	Deputy Treasurer	Company B: Fast Food Chain Restaurant
C	Group Finance Manager	Company C: Automotive Manufacturer
D	Procurement Manager	Company D: Oil and Gas Manufacturer
E	Group Finance Manager	Company E: Vessels Services
F	Group Financial Controller	Company F: Port Services

Unstructured interviews and a focus group discussion were conducted to allow participants to tell their stories. After each point was related by the informants the researcher repeated the point or raised another question to ensure the stories were captured accurately and fully. This process facilitated elaboration, enabling rich interpretations to be drawn from the discussions, which were recorded using a digital device and transcribed for analysis. The transcripts were reviewed several times to ensure verbatim accuracy, then, the data was cleaned, replacing all names and company identifications with pseudonym and preparing the transcriptions for coding purposes.

### 3.2.2 Coding Process

Qualitative data analysis is a complex process and requires a systematic approach. The analysis process involves coding data into organised categories which pertain to one or more logical explanations or set of ideas (Lofland, Snow, Anderson, & Lofland, 2006; Miles & Huberman, 1994). The particular coding processes employed are those proposed by Corbin and Strauss (2008) and Auerbach and Silverstein (2003).

NVivo8 software plays an important role in facilitating the coding process. The transcripts were transferred to NVivo8 software, where texts were labelled with codes and memos were written to further interpret the findings and inform the analysis process. The actual coding processes, from open coding, to categorizing codes, identifying themes, then through to determining perspectives of WCM practices are described below.

**Open coding** is a process where data, in text form, is segregated and organized to represent 'blocks' of raw data (Corbin & Strauss, 2008). The researcher creates as many codes as seem important to explain the subject of study (Auerbach & Silverstein, 2003). At this stage the study produced 93 codes, of which the following is an example.

*Participant A: During recession, all the projects are postponed, so suddenly we have a lot of inventories inside our store, sometimes we have to hire additional space for inventories.*

Participant A indicated that economic recession was affecting the company's working capital performance. This statement is important and affects inventory levels, so a code was created and labelled as *economic recessions*. This process was repeated until all the transcripts were reviewed.

The frequency of codes differs in terms of volume; some codes appear many times whilst others are only mentioned a few times. The frequency of recurring codes does not represent the importance of the variables, as each code carries some ideas that may be considered important to the informants and, hence, their WCM practices. At this stage, any

ideas or propositions that can explain WCM practices in the Malaysian context are invaluable.

The coding process identified some comments that are relevant to more than one code. For example, the statement (below) was labelled as *conventional ways*, but can also be considered as *working capital policy*. To distinguish the most appropriate codes, the descriptions of relevant codes were reviewed and compared to the context of the statement. Following the given example, the informant indicated *conventional ways* of managing working capital had influenced how the working capital policy had been set up, hence the coding.

*We have been following our conventional ways, like 30-60 days payables, 60 days receivables. So used to the system*

Problematically, the coding process may generate a large number of codes which leads to potential dangers. When working with too many codes, researchers may face difficulties in interpreting, linking, and explaining the data (Miles & Huberman, 1994). Thus, it is essential for the researcher to make sense of the data and organize it in a logical and explanatory manner. This brings the coding discussion to the next level.

**Categorizing codes** is a process of grouping codes into categories that bring some meaning to and highlight relationships between them. This process is also known as axial coding (Corbin & Strauss, 2008) or repeating ideas (Auerbach & Silverstein, 2003). Table 3.2 exemplifies the grouping of codes into categories.

The categorizing activity includes comparing the meaning of each code and linking it into a category or creating a standalone category that adds values and logical explanations to the emerging determining perspectives. The two examples (below) illustrate the grouping of codes expressing similar meanings and relationships. In the first example, participants A and D's statements expressed the influence of the Malaysian economic conditions on business performance, while in the second example, participants A and B's statements expressed

Table 3.2 Categorizing Codes

Category	Quotes
Economic Conditions	Participant A: <i>During recession, all the projects are postponed, so suddenly we have a lot of inventories inside our store, sometimes we have to hire additional space for inventories.</i> (code known as economic recession)  Participant D: <i>The port operation depending heavily on the imports and exports of the country, if there is a downturn of the country's economic, our business volume is down means our income is affected.</i> (Code known as economic activity)
Materials and Energy Cost	Participant A: <i>...if the coal price gone up, we cannot pass that to the public. We cannot peg the fuel charges...</i> (code known as rising energy cost)  Participant B: <i>...when the procurement say it's cheap now. The price is going up (soon) better buy more (now)...</i> (code known as rising material cost)

the concern that material and energy costs were affecting their operations. As in the open coding process, the researcher found codes which were related to more than one category, so similar steps (as described on page 40) were taken to overcome these issues. The categorizing process was repeated until all the codes had been compared and contrasted, creating 28 categories from 93 codes, as shown in Table 3.3.

Table 3.3 Categories and Quotes from Participants

No.	Category	Participants' Quotes
1.	Exchange rate	<i>Currently Ringgit Malaysia (RM) is weakening so most of our new contracts normally quoted in RM</i>
2.	Economic conditions	<i>Looking at the country's economy like GDP, so we also estimate the demand for our service, it is used to be 1.5 multiply by GDP</i>
3.	Rising material and energy cost	<i>When the procurement say it's cheap now. The price is going up (soon) better buy more (now)</i>
4.	Bank imposed regulations	<i>Financial institutions imposed gearing level... you want to expand but at the same time you have to maintain your gearing level...</i>
5.	Government enforced regulations	<i>We are governed by the government acts; we cannot just simply impose anything...</i>
6.	Consumer demands & relationships	<i>The company integrates or disintegrates normally they will look into the current market, like us, the market (changes) are overseas and local markets...</i>
7.	Seasonal effects	<i>In motor industry, you see slowdown especially (during) festive seasons...</i>
8.	Conventional ways	<i>We have been following our conventional ways, receivables 30-60days, and 60 days payables, so used to the system...</i>
9.	Employees attitude and disciplines	<i>You cannot overcome the problems but the problems are within your control (people that contribute to performance)...</i>
10.	Employees skills and competency	<i>We spent a lot of money on ensuring the competency of the people...</i>
11.	Vertical information flow	<i>The whole linkages are controlled by the financial controller...</i>
12.	Horizontal information flow	<i>Integration is done through the regular interface meetings from relevant departments...</i>
13.	Centralized decisions	<i>They (financial controllers) basically working closely (with) Managing Director or CEO. They are the one who will determine the direction of the company, at our level</i>

14.	Decentralized decisions	<i>We don't know what really happen at the branches level or subsidiaries, may be they can make better decision, rather than just being standardized.</i>
15.	Budget emphasis	<i>It (budget) has to be a two way thing; the board will look into the earning per share that board wants...</i>
16.	Cash flow projections	<i>Normally for acquiring more vessels they are looking at the cash flow (projection)...</i>
17.	Maximizing resources	<i>What they (consumers) need is what we eventually have to produce anything that we produce ahead maximizing our capacity to sell outside...</i>
18.	Financial strength	<i>Our company is included in the billion (dollar) club, so the financial (aspect) is not (an) issue, for small company like before the decision is very critical...</i>
19.	Plant capability	<i>We have to see our plant capability so we have to analyse plant capability and market demands...</i>
20.	Plant reliability	<i>The reliability of the plant...suddenly plant shutdown due to some failures...</i>
21.	Product processing cycles	<i>There is always timing difference in term you need to buy raw material first before actually come out with the final products...</i>
22.	Performance monitoring arrangements	<i>Some companies used certain ratios to measure WCM that the management is comfortable at...</i>
23.	Frequent monitoring activities	<i>It's a regular feedback because these people have important things to attend...</i>
24.	Employees performance evaluation	<i>We want them to fulfil the key performance indicators (KPI)...</i>
25.	Working capital policy	<i>All depend on how your businesses are related, because if you integrate something that do not support each other...policy doesn't work</i>
26.	Collection procedures and credit policy	<i>What we will do is we will make sure we have refined credit limit before we do business with them. Then make sure they pay within (terms)...</i>
27.	Managing suppliers	<i>When the supplier failed to deliver products at the right time, it caused projects delayed...</i>
28.	Ongoing planning	<i>We have the earnings growth lets draw down on what kind of sales do we need and what kind of production that we need, it is virtually impossible may not be...</i>

The cognitive process of organizing codes into particular categories shapes the raw data into logical patterns, according to the researcher. Corbin and Strauss (2008) indicate that the more efforts made when working with data, the more likely the researcher is to have the “aha” moment, discovering reasons behind the data. This takes the discussion to the next, higher level in the data analysis process.

**Themes** are the dominant notions that group together a number of categories which share common relationships (Auerbach & Silverstein, 2003). Following a similar process to categorizing codes resulted in 11 themes being created from the 28 categories, as illustrated in Table 3.4.

Table 3.4 Themes Development

No.	Themes	Categories
1.	Market conditions	<ul style="list-style-type: none"> <li>- Consumer demands &amp; relationships</li> <li>- Seasonal effects</li> </ul>
2.	Economic Factors	<ul style="list-style-type: none"> <li>- Exchange rate</li> <li>- Economic conditions</li> <li>- Rising materials and energy cost</li> </ul>
3.	Financing	<ul style="list-style-type: none"> <li>- Bank imposed regulations</li> </ul>
4.	Government Regulation	<ul style="list-style-type: none"> <li>- Government enforced regulations</li> </ul>
5.	Use of budget	<ul style="list-style-type: none"> <li>- Budget emphasis</li> <li>- Ongoing planning</li> <li>- Cash flow projection</li> </ul>
6.	Monitoring Performance	<ul style="list-style-type: none"> <li>- Frequent monitoring activities</li> <li>- Performance monitoring arrangements</li> <li>- WCM policies</li> <li>- Collection procedures and credit policy</li> </ul>
7.	Utilizing WCM components	<ul style="list-style-type: none"> <li>- Maximizing resources</li> <li>- Financial strength</li> <li>- Plant capability</li> <li>- Plant reliability</li> <li>- Product processing cycles</li> <li>- Managing suppliers</li> </ul>
8.	Information flow arrangement	<ul style="list-style-type: none"> <li>- Vertical information flow</li> <li>- Horizontal information flow</li> </ul>
9.	Structural designs	<ul style="list-style-type: none"> <li>- Centralized – formal channels</li> <li>- Decentralized – informal channels</li> </ul>
10.	Basic assumptions	<ul style="list-style-type: none"> <li>- Attitude &amp; disciplines</li> <li>- Skills and competency</li> </ul>
11.	Values	<ul style="list-style-type: none"> <li>- Conventional ways</li> <li>- Employees performance evaluations</li> </ul>

The coding process is now approaching a preliminary understanding of WCM practices. Themes are organized in an illustrative manner to form one or more set of ideas or frameworks (Auerbach & Silverstein, 2003; Lofland, et al., 2006). This process generated

Table 3.5 Determining Perspectives of WCM Practices

No.	Determining perspectives	Themes
1.	Perceived Environment Uncertainty	<ul style="list-style-type: none"> <li>- Market conditions</li> <li>- Economic conditions</li> <li>- Financing</li> <li>- Government regulations</li> </ul>
2.	Budgetary Control	<ul style="list-style-type: none"> <li>- Use of budget</li> <li>- Monitoring performance</li> <li>- Utilizing WCM components</li> </ul>
3.	Organizational Structure	<ul style="list-style-type: none"> <li>- Information flow arrangement</li> <li>- Structural designs</li> </ul>
4.	Organizational Culture	<ul style="list-style-type: none"> <li>- Basic assumptions</li> <li>- Values</li> </ul>

four preliminary determining perspectives that are believed to influence the WCM practices. Table 3.5 (above) shows the process of organizing themes to formulate a preliminary understanding of the determining perspectives of WCM.

### **3.3 Determining Perspectives of WCM Practices: Preliminary Findings**

The previous section showed the coding process followed to gain early insights into WCM practices. The coding process identified four preliminary determining perspectives that have influenced WCM practices in Malaysian listed companies which are: perceived environment uncertainty (PEU), budgetary control, organisational structure, and organisation culture. In this section, the four perspectives will be discussed and linked to extant literature.

#### **3.3.1 Perceived Environment Uncertainty**

The degree (high-low) of PEU has been found to influence the decision making approach (Duncan, 1972; Sawyerr, 1993). Low PEU refers to situations in which certain probabilities can be assigned to outcomes, while high PEU refers to situations where probabilities cannot be assigned (Duncan, 1972). In an environment perceived as low uncertainty, control arrangements would predominately employ cost control (Sawyerr, 1993). In terms of working capital, managers are expected to be more focused on internal processes and the decision making focus is intended to achieve specified targets.

In contrast, managers are considering a diverse set of information to make decisions when there is high PEU (Duncan, 1972). The levels of working capital components are difficult to determine and managers are suspected of considering various internal and external factors to enhance the adaptability of WCM components to market changes.

From the initial results it is evident that PEU influences managerial approaches to working capital components. Participant A provided one example of this:

*During recession, all the projects postponed, so suddenly we have a lot of inventories inside our store, sometimes we have to hire additional space for inventories.*

While a similar situation also affected company F:

*The port operation depending heavily on the import and export of the country, if there is a downturn of the country's economic, our business volume is down means our income is affected.*

These companies are both sensitive to economic conditions where the WCM performance is affected by issues such as delays in cash collections and high inventory levels.

The evidence further suggests that PEU influences how managers make WCM decisions. As participant D put it:

*The key tasks of the financial controllers are to determine the levels of working capital management, how they organized it in respective companies depending on their current market and environment*

The above statement implies that financial controllers consider external variables when determining levels of working capital.

In situations where parameters (e.g. consumer demands) are relatively well known, managers are to focus on achieving individual targets. For example, participant F indicated that each business unit was expected to focus on cost control and profitability.

*The people who actually manage inventory unit are specified for this (focus on individual task). They are not very much integrated to accounts receivable and all that. Their main purpose is how I maintaining (cost control) these stock levels...*

In contrast, in situations where PEU is high, it has greater influence on organizational performance. Furthermore, it was observed that more interactions occurred between managers, especially in the WCM decision making process. As participant B put it:

*...the environment change and the group and management actually very understanding of changes in environment right now and we (managers) really look at it (through discussions) and see (speculate) what impact towards the group and how we actual work towards to reducing it overall because each division play a part it's not one division...*

This statement indicates that company B organizes a series of discussions for managers to interact and learn about market directions.

### 3.3.2 Budgetary Control

Hopwood (1972) recognised that budgetary control influences managerial approaches to achieving intended targets (Hopwood, 1972). If, in particular circumstances, managers are able to recognize the parameters to improve organizational performance, they are to emphasize financially oriented outcomes (budget emphasis), targeted output (production volume), mandatory monitoring (formal meetings/reports), and corrective action processes (Harrison, 1993; Hartmann, 2000). In terms of working capital, a manager relies on financial performance measures to control subordinates in order to achieve intended WCM targets.

Alternatively, companies operating in volatile markets where knowledge and quick response are key to competitiveness, financial measures only are inadequate to facilitate the decision making process; hence, subjective performance measures (i.e. supply chain performance) are indispensable in enhancing organizational adaptability (Van der Stede, et al., 2006).

The evidence suggests that budgetary control influences the managerial approach to WCM. The use of budgets to facilitate decisions can be differentiated between companies. There is evidence that some managers rely more on budgets to achieve intended WCM targets, while others are considering multiple sources of information to determine suitable WCM levels. For example, participant A indicated the budget had less relevance in managing WCM components.

*Working capital planning, we prepare the budget you know, looking at the country's economy like GDP, so we also estimate the demand, so we prepare how much the inventory, how much the cash flow forecast...*

This company uses more abstract information to determine appropriate levels of WCM components and implies that company A adopts an ongoing planning approach.

In another example, participant B indicated that the fluctuation of external variables highlighted the importance of coordination, thus managers are depending on intensive interactions and multiple sources of information to reach consensus decisions.

*Planning for financial expenses, we have to know everyday how much you need in term of payables, in term of receivables, in term of inventory. We have to know how much balance we have for the restricted period...we actually do weekly and six monthly (projection), to see if we need to borrow. They (managers) do feedback (discussions and reports) to us their requirements in term of projection. We will compile it at the treasury level.*

Alternatively, budgeting is extensively used to facilitate managers' decision making to achieve intended targets, especially when parameters are known. In such circumstances, the budget is used to control subordinates, thus keeping WCM components at certain levels.

Participant F stated:

*We know what is the demand level or requirement of regular service, unless there is sudden breakdown on a few equipments then it would be a need for reorder then we will place the order otherwise, we will keep at minimal level*

### **3.3.3 Organizational Structure**

Organizational structure is about the formal scope of duties of members within an organization, including a description of how the operational tasks are conducted (Daft, 2004; Lawrence & Lorsch, 1967). This involves how managers share information (flow) and decision making arrangements regarding WCM components (Sartoris & Hill, 1983).

In some companies, managers are encouraged to develop consensus in the WCM decision making process (Fairchild, 2005). Individuals or groups within the organization share information about local markets and conditions obtained from personal or group experience that stimulate the decision making process (Argyris & Schön, 1978; Harrison & McKinnon, 2007; Senge, 1990). Thus, more flexible organisational structures and open interactions are important when making sense of market directions.

Daft (2001) suggests that organizations should employ appropriate information arrangements to suit organizational needs, categorized as vertical and horizontal flows. He

indicates that vertical information flow is mainly designed for control, and horizontal is for coordination and creating learning organizations. Vertical information flow is associated with centralized decision making, formal reporting systems, and standardization, to achieve consistency. Alternatively, horizontal information flow is associated with decentralized decision making, horizontal communication flow, informality, and fewer rules, to encourage learning activities.

In terms of structural design, in those companies with a high degree of formalization (strict rules, cost control, and standardized procedures), many appear to adopt a centralized decision making approach, undertaken at the top level of the organizational hierarchy (Lawrence & Lorsch, 1967). Meanwhile, companies who adopt a decentralized approach normally encourage managers to consider multiple perspectives in decision making processes (Harrison & McKinnon, 2007), and is associated with intensive interaction, open communication and integrated information flow (Chenhall & Morris, 1986).

The evidence also suggests that organizational structure influences managerial approaches to WCM. Specifically, it influences information sharing flow and organizational structure design. The evidence identifies two discernible information sharing arrangements: vertical flow and horizontal flow. For example, participant D indicated that the financial controller was well informed about activities related to working capital.

*The whole linkages are controlled by the financial controller, he will keep the inventory record of our stock, financial controller will keep record of receivables, who has not paid, and collection also done by them and then how much the outstanding need to be paid to suppliers.*

And a similar arrangement was observed at company E:

*Although, I am the group financial controller, there is no reporting line from their finance departments for me. All they do is their CEO reporting to our CEO...*

These statements suggest that these companies adopt a vertical information flow arrangement. In other words, senior managers are well informed of the conditions of working

capital activities in order for the respective senior managers to decide the appropriate levels of working capital components.

In contrast, company B adopts a horizontal flow arrangement, as B indicated information was shared horizontally where managers consistently communicate during the decision making process.

*We don't have exact meeting but we always communicate in term of projections and we will compile it at the treasury level...*

In terms of structural design, evidence exhibited two types of structural design that signify different decision making approaches: centralized and decentralized. Centralized refers to WCM decisions made at top management level, whereas decentralized refers to decisions happening anywhere within the organizational structure. Company A employs a decentralized structure, where decisions about working capital components are delegated to managers at business units.

*We don't know what really happened at branches level or subsidiaries. Maybe they can make better decision rather than being standardized*

As mentioned in the budgetary control section, company A faced difficulties in determining WCM levels, thus, the business unit managers were in better positions to decide the appropriate level of working capital.

In contrast, participant D indicated that many WCM decisions were made at senior management level, exemplifying a centralised process.

*They (financial controllers) basically working closely (with) Managing Director or CEO. They are the one who will determine the direction of the company, at our level, the management committee basically just to support, so if you talk about (WCM) actually how the company organize their working capital management, only the CEO and financial controller know...*

### **3.3.4 Organizational Culture**

It has been shown that some companies embed organizational cultures that enable them to be more effective in particular operational environments (Denison & Mishra, 1995;

Hooijberg & Petrock, 1993). In a sense, particular organizational cultures are used to enhance the ability of companies to penetrate their own markets. As in the above examples, company F embeds a bureaucratic culture through rules and procedures to improve employees' consistency, while company A adopts a culture of adaptability utilising learning activities to enhance organizational performance.

Denison and Mishra (1995) propose four categories of culture: adaptability, clan, mission and bureaucratic. Adaptability culture is associated with strategic focus in high uncertainty environments. Employees' ability to interpret changes in such environments is essential and they subsequently become mediators, creating new changes. Mission culture is associated with clear targets so employees are assigned to specific tasks (internal focus) to enable improvements.

Clan culture is associated with the adaptation of employees in high uncertainty environments (Denison & Mishra, 1995). There is a greater emphasis on employees' commitment to equip themselves (internal focus) with skills and knowledge to improve organisational performance. The final category, bureaucratic culture, is associated with internal focus and low uncertainty environments (Denison & Mishra, 1995). Employees are expected to be consistent and obey any instructions given by top management, and, to improve consistency, companies impose strict regulations, policies, routines, and procedures for daily activities.

The evidence suggests that organizational culture is one of the mechanisms used to effectively manage WCM components. Companies may use working capital policy and procedures to navigate performance, but the forces that drive WCM performance depend on the people involved in WCM processes. As Participant D stated:

*...you have to overcome (the problems) from the root causes, the market is just the market, you just have to make (meet) the demand of the market, you cannot overcome the problems but the problems are within your control (people that contribute to performance)...*

The preliminary work finds that companies have differing organizational cultures in relation to managing working capital components. For example, company F uses strict regulations, procedures, and guidelines to improve working capital:

*...they (employees) just follow instructions, they will say ok, my guidelines is, I have 30 days to collect, I make sure the collection (done) comes before the time...*

This implies that company F requires its employees to be consistent so rules and procedures are implemented to enhance consistency. Similarly, in company D:

*You have to remember we are operating our plant running 24 hours, you cannot assume it runs smoothly, so basically to overcome that...(for example) the plant maintenance must be regularly done and then we must have competent people to operate the plant that's why we spent a lot of money on ensuring the competency of the people..*

However, there is evidence that consistency alone is unable to improve organizational performance, as not all companies are able to impose strict regulations when parameters are not clear. It was observed that company A encouraged learning initiatives to improve working capital performance.

*Just three years ago we have used the key performance indicators; there were a lot of problems, sometimes the rating now we have changed it, last time used to be in term of competency. (Now) We have performance appraisal. We have core competency, leadership, and technical. Technical means the day to day job and on the technical line really technical, the core the way you should have like integrity, caring, leadership how you manage employees.*

The lower emphasis on rules and procedures in company A may be due to certain issues being difficult to predict and managers are more flexible in finding solutions for any unforeseen problems.

### **3.4 Propositions for Further Research**

The preliminary work findings, along with a review of relevant literature, were used to construct a set of propositions to guide this study during subsequent field research.

The data analysis identified four determining perspectives believed to influence the management of working capital. These perspectives demonstrate different managerial

approaches within the WCM practices of Malaysian companies. However, they require further investigation to verify their relationships with WCM practices, therefore the following propositions relating to management of working capital are presented:

Proposition 1 is that managers' perceptions of environmental uncertainty are associated with the managerial approach to WCM

Proposition 2 is that budgetary control approaches influence the managerial approach to WCM

Proposition 3 is that organizational structure influences the managerial approach to WCM

Proposition 4 is that organizational culture influences the managerial approach to WCM

The preliminary work provides the basis for case selection, types of informants, and research instruments. First, the preliminary findings suggest using a diverse set of companies in the manufacturing sector that have the important elements of WCM (i.e. payables, receivables, inventory and cash). Second, representatives from different functional areas (e.g. finance, sales, and production) should be interviewed due to their varied involvement in WCM decision making processes. Third, preliminary findings allowed modifications to the interview guides and identified secondary sources.

### **3.5 Chapter Summary**

This chapter discussed the preliminary work of gaining an early understanding of WCM and narrowing the focus of the study. The preliminary work consisted of focus group discussion and unstructured interviews with finance managers and treasurers, who were invited due to their comprehensive understanding of the challenges and opportunities in managing working capital components. Six Malaysian listed companies (services and

manufacturing sectors) participated in this process, where many contextual variables that influenced WCM practices were identified.

Discussions were transcribed into text format for coding purposes. The data was analysed in a qualitative manner utilising open codes, categories, themes, and ultimately, determining perspectives identified as PEU, budgetary control, organizational structure, and organizational culture. These determining perspectives were linked to extant literature to develop a set of propositions for subsequent fieldwork.

# **Chapter 4**

## **Research Methodology**

### **4.1 Introduction**

This chapter presents the research methodology and sequence which enabled the development of a response to the question: How is working capital managed in the Malaysian Listed companies' context? The remainder of this chapter is arranged in eight sections. Second is a short discussion about the suitability of methodological options, followed by the third section dealing with the research design. Fourth, the criteria for selecting companies is presented, then the fifth section on the development of research instruments. Considerations of quality aspects are presented in section six, while section seven presents data collection processes and section eight describes the data analysis. Section nine summarizes the chapter.

### **4.2 Methodological Options**

This study aims to construct a conceptual framework that explains the dynamism of WCM practices in Malaysian listed companies. Eisenhardt and Graebner (2007) suggest that the research question determines the appropriateness of the chosen methodology. In this section, possible methodologies are considered, briefly explaining quantitative and qualitative methods before concluding that a qualitative method utilising a multiple-case study is the most appropriate.

Quantitative methods are often associated with studies that aim to test a set of hypotheses or theories and tend to generalise findings of a sample to the whole population (Berry & Otley, 2004; Cooper & Schindler, 2006; Eisenhardt & Graebner, 2007). When an inquiry is of the “how much” or “how often” genre, the research strategy is likely to use surveys or archival strategies (Eisenhardt & Graebner, 2007; Yin, 2003). Other instruments used in quantitative studies, such as self administered questionnaires, focused interviews with

limited answers and observations, along with others, are associated within the “what”, “who”, and “where” types of research questions (Yin, 2003).

To date, much of the research on working capital has been dominated by quantitative methods (see for example: Anand & Gupta, 2001; Filbeck & Krueger, 2005; Filbeck, et al., 2007; García-Teruel & Martínez-Solano, 2007; Lazaridis & Tryfonidis, 2006). These studies mainly focused on identifying the relationship between companies’ profitability and working capital. However, these studies have provided minimal contributions in terms of the managerial aspects of working capital, meaning managers are struggling with complex optimization models (Trahan & Gitman, 1995), non-integrated WCM decision making processes (McInnes, 2000), and complex financial systems (Fairchild, 2005).

As this study aims to construct a conceptual framework for WCM, a qualitative method is most appropriate. Specifically, this study used a multiple-case study to enable the researcher to observe replication between cases to inform its development. Indeed, Yin (2003) suggests that the *how* and *why* questions are more explanatory and likely to use case studies. He suggests three points be considered when deciding which method to use: (a) the research questions, (b) researcher’s control over actual behavioural events, and (c) the degree of focus on contemporary events versus historical events. This study has conditions which meet the criteria for the use of qualitative methods, since the research question is of the ‘how’ and ‘why’ type; organisational practices or WCM practices are contemporary events; and researchers have no control over behavioural events.

### **4.3 Research Design**

The study employed a multiple case approach to fulfil its objectives. As Yin (2003) indicates the case study is a useful inquiry platform for understanding contemporary phenomena where the boundaries between phenomena and context are not explicitly documented. One of the advantages in the case study approach is the opportunity to view

emerging issues through the eyes of informants, utilising their narratives and dialogues in telling stories and presenting other evidence as it emerges. Berry and Otley (2004) explain that the case study is especially suited to understanding the content, processes and contexts of the practice of accounting and Hartley (2004) further confirms that case studies are increasingly used in organizational studies because of growing confidence in the case study method as a rigorous research strategy in its own right.

Furthermore, multiple case studies are more compelling and generate better grounded theory than single cases (Eisenhardt, 1989; Glaser & Strauss, 1967). Multiple case studies enable researchers to observe replication between organizations, whereas an individual case is used as an underlying subject to corroborate or contradict the conclusions drawn from the others (Yin, 2003). Therefore, multiple case studies provide a stronger base for the development of a conceptual framework (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2003).

As suggested by Yin (2003), the unit of analysis is fundamental in defining what the case study is actually about. Without specific research direction, researchers may investigate too broadly. In this study, the WCM practice of Malaysian listed companies is the unit of analysis.

#### **4.4 Case Selection**

This study used specific criteria to purposefully select (see explanations below) a number of large and long established manufacturing companies within the consumer products sector. Support for this approach is found from Eisenhardt (1989) where she states, “The sample was not random, but reflected the selection of specific cases to extend the theory to a broad range of organizations”. Furthermore, Yin (2003) suggests that cases should be purposefully selected to serve the main focus of the inquiry, which should predict either similarities or differences between cases.

The sample companies were selected by reference to the following criteria (see Table 4.1). First, manufacturing companies, particularly in the consumer products sector, were selected because of the degree of impact that WCM has on their performance. A study of 1,181 listed companies from thirty-six industries by Hawawini, Viallet, and Vora (1986) found that manufacturing related companies required higher working capital investment compared to service related companies. This indicates that there is likely to be greater effort required and higher possible risk for manufacturing companies in terms of managing working capital components. Manufacturing companies are mainly involved with production,

Table 4.1 Descriptions of Sample Companies

Pseudonym	Case 1	Case 2	Case 3	Case 4	Case 5
Consumer Products	Beverages	Dairy Products	Food Products	Automotive	Diversified (Group) - Automotive oil (Subsidiary)
Avg. Revenues (Approximate) 2006-2009	RM 900 Million	RM 600 Million	RM 3.5 Billion	RM 5 Billion	RM 10Billion (Group) – RM250Mil (Subsidiary)
Year Listed	1980s	1980s	1980s	1990s	1980s
No. of Interviews	4	5	5	5	11
Hierarchy of informants	3 senior managers, functional manager	CFO, senior manager, 2 functional managers	2 senior managers, 3 managers	Senior manager, 4 managers	2 senior managers, 3 functional managers, 6 officers
Types of departments / business units	Finance, Sales, and Supply Chain	Finance, Sales, and Production	Finance, Supply Chain, and Business Units	Finance, Marketing, Production Planning	Finance, Treasury, Sales, and Production
<u>Internal Sources</u> Annual Reports (2006-2009)	500pages	200 pages	650 pages	1000 pages	750 Pages
CSR Reports*	30pages	Not Available	190 pages	Not Available	80 Pages
Company's Official Websites	News Archives	News Archives	News Archives	News Archives	News Archives
<u>External Sources</u> ABI* - Company ABI* - Industry Local Sources*	120 articles 180 articles 50 pages	20 Articles 70 Articles 30 pages	140 Articles 150 Articles 100 pages	120 Articles 190 Articles 25 pages	70 Articles 65 Articles Not available

\* CSR – Corporate Social Responsibility Reports

❖ ABI Inform – Online databases

\* Local Sources – second stream of external sources composed of information about local market trends, industry development or operating environment related to each company.

marketing and finance and consequently will be involved with all working capital components (Damon & Schramm, 1972). Moreover, the study selected companies that were listed on the main board of Bursa Malaysia with high sales values as high turnover implies greater working capital activities compared to lower turnover companies (Hawawini, et al., 1986).

Finally, companies which had been listed for longer on the Main Board of Bursa Malaysia (particularly before the late 1990s) were selected. The period from the late 1990s until the present has witnessed economic cycles (i.e. economic booming and recessions) and Classens, Djankov, & Xu (2000) identified the significant decline in corporate performance during the late 1990s financial crisis in South East Asia, including Malaysia, was due to ineffective WCM structures. Consequently, Malaysian listed companies that have gone and or are going through difficult periods (e.g. the 1997 Asian Financial Crisis and current global recession) *and have survived* were selected in this study.

#### **4.4.1 Gaining Access to the Companies**

A set of 20 companies made the cut from the selection process; invitation letters were sent to the companies and followed by telephone calls and emails as follow ups. Initially, six companies agreed to participate, however, one company declined to continue after a short discussion with a senior manager (Accounting) due to heavy workloads and a handful of ongoing research. Thus, the study was left with five cases in hand.

The invitation letters were addressed to the Chief Executive Officer (CEO) of each company, who then delegated an appropriate senior manager(s) to liaise regarding the research. In the letter, a short discussion with a relevant senior manager was requested, to explain the research background and procedures. Once access was granted, the secondary data collection began (see Data Collection section below for more details) in order to understand the operating environment of each company and to develop a case background to

refine interview guides. This enabled the interview guides to be more relevant to the context of participating companies, and included recent events that might affect WCM (if any).

## **4.5 The Development of Research Instruments**

Preliminary work was conducted to gain early insights into WCM, as detailed in chapter 3. The data analysis generated four propositions for subsequent field research and narrowed the focus of the study. This process enabled refinement of interview guides as well as helping identify secondary data (e.g., archival records, annual reports and so forth). Yin (1994) suggests that preliminary work can clarify the appropriateness of chosen data collection procedures, research questions and research design. After this preliminary work was completed, a revised version of research instruments was produced; however, they are not considered definitive, as the nature of this research requires the instruments to collect appropriate data and also capture new issues during the data collection process.

Interview guides were designed for different types of informants; CFOs or senior managers (finance), finance officers, demand planning managers, and supply chain managers (see Appendix A). The interview guides were refined, based on propositions developed from the preliminary work and case background; nevertheless, additional questions were added when capturing intriguing issues or events which emerged during the data collection process. Case backgrounds (generated from archives) were basically comprised of recent events, important past events and ongoing issues that may directly or indirectly affect WCM. This facilitated an understanding of the nature, scope, and scale of each company's operation and its environment.

The main interview guide (for CFOs) had five sections. The first section was comprised of open ended questions relating to the operating environment and competitive landscape and contained information gained from case backgrounds. The second was focused on how budgetary control would assist managers to achieve their organisational goals. The

next section focused on who managed individual WCM components and who was dedicated to make decisions about WCM levels. Fourthly, the information sharing arrangements between managers and, fifthly, corporate style were elicited. Interview guides for finance officers, demand planners and supply chain managers were attuned to the appropriate roles and their involvement in the WCM decision making process. For example, the demand planners were asked about how they developed a demand forecast, while supply chain managers were asked about how they developed an inventory plan to fulfil demand forecasts. These interviews were more focused and related to the domains of expertise of the informants. Implicitly, they reveal interactions and interdependency among managers in WCM decision making processes.

## **4.6 Quality Considerations**

This section discusses some quality aspects to ensure the outcome of this study reaches its intended objectives in an appropriate manner.

### **4.6.1 Confidentiality and Ethical Procedures**

This study collected multiple sources of information and the contents may reveal the identities of participating companies. This raises concerns regarding confidential issues. Various preventive actions have been taken to protect the participants and companies, especially in the writing of reports, thesis preparation, transcriptions, data analysis, and storage arrangements.

Before conducting an interview, each informant was given a research background and procedures sheet. This document described the research objectives, confidentiality and due diligence of the researcher to protect the informants and the information gathered. Each informant signed a consent form for interview data to be analysed and published, provided anonymity would be preserved; pseudonyms were given to individuals and companies in all

reports and in this thesis. The consent form and documents containing names and organizations are securely stored for a period of time.

#### **4.6.2 Working with Data**

This study dealt with a large amount of data and required a systematic approach to organize and manage it. Corbin and Strauss (2008) suggest that computer software enables qualitative researchers to work with data and explanations in a systematic manner by rearranging data to generate views, which means easy navigation of the data to generate an idea or ideas. Consequently, this research used the NVivo8 software program to improve data management during analysis.

NVivo8 software is designed to support researchers to manage data, query data, construct models, and generate reports (Bazeley, 2007). In other words, NVivo8 software allows the researcher to organize data effectively throughout the analysis process. This software has been part of the research process and the tools provided for qualitative research ensured analysis processes were conducted in a rigorous manner.

As part of reliability checks, an independent reviewer reviewed and critiqued the data management procedures, specifically when it involved the NVivo8 software. The independent reviewer has experience using NVivo8 software in qualitative research and reviewed the data analysis using procedures including, shifting free nodes to tree nodes, generating reports from data, and result displays. The reviewer offered valuable feedback which added value to this research.

#### **4.6.3 Construct Validity**

This study considered the potential involvement of an independent researcher to form an independent view of each case to enhance research findings' validity. An independent researcher undertakes similar tasks, including coding process of primary evidence and review of secondary evidences, and forms independent views of the cases. However, this is not easy

during PhD research, where time and financial constraints and heavy workloads would be required from the independent researcher. Alternatively, discussions with supervisors and suggestions from qualitative experts were considered. Ultimately, two approaches were taken, 1) the case reports that contain primary and secondary evidence were reviewed by the supervisors, and 2) a summary of case reports were reviewed by the key informants of each company. The drafts of summary case reports were sent to key informants to crosscheck the credibility of data, a process which will, hopefully, improve the accuracy of contents and validity of data (Yin, 2003).

The use of multiple sources in this study also improves the validity of its findings (Yin, 2003). A variety of informant was utilised (see Data Collection below for more details), for example interviews with finance manager, production manager, and others from different hierarchal levels and functional areas enabled a triangulation process; where evidence was compared between informants (Eisenhardt, 1989; Yin, 2003).

#### **4.6.4 Reliability**

It is always essential that research procedures are documented; this enhances reliability and allows subsequent researchers to undertake similar studies and reach comparable conclusions (Yin, 2003). Yin (2003) suggests that case study protocol is not meant to generate similar findings from one case to another, but it helps reduce errors and bias. Here, each case study was conducted based on specified procedures (see Case Study Protocol in Appendix B).

### **4.7 Data Collection**

This section explains the data collection procedures. As mentioned earlier, the study required two tiers of evidence, primary and secondary. The following subsections explain the types of evidence amassed during the collection procedures.

#### **4.7.1 Primary Evidence**

Semi-structured interviews with 30 informants representing five companies were conducted. The number of informants was not predetermined; a checklist of subjects was used as a guideline to ensure adequate data was collected before leaving the company. The interview guides were designed for multiple levels of informants, covering different functional areas and hierarchical levels. Specifically, the key informants comprised of the CFO or senior manager (finance) and other finance officers involved in managing working capital components. In addition, informants representing sales and demand planning department and production or supply chain (inventory) department were interviewed due to their involvement in the WCM decision making process. At the entry point of each company, the CFO or senior manager (finance) was interviewed for approximately one hour, this interview leading to a comprehensive understanding of how WCM components are managed. Moreover, this interview allowed identification of other informants involved in decision making processes, and how managers go about the challenges and opportunities related to WCM. This process is also known as the snowballing technique (Cooper & Schindler, 2006). The subsequent interviews enabled further understanding of how managers made their WCM decisions and how resolved or unresolved conflicts were managed.

The interviews were recorded with informants' consent and transcribed, generating approximately 400 double-spaced pages of text. The majority of the interviews were conducted in English language; however, discussions with nine informants were comprised of English and Malay languages. After transcription and coding processes, related codes (informants' quotes) were translated from Malay into English by the researcher, as Malay is the researcher's first language. Then, the codes were sent to respective informants to cross check the accuracy of their meanings.

All interviews were semi-structured, where open and closed ended questions were combined. Closed ended questions enabled the collection of precise information related to WCM activities. On the other hand, open ended questions offer flexibility for informants to express their experiences and extend understandings of past or ongoing events, and to follow up the responses gathered from previous informants (Yin, 2003). To reduce bias in the interview data, informants were asked to explain what had happened or what was happening rather than express their opinions. This issue was later identified as a limitation of the study (see chapter 7 for more details).

#### **4.7.2 Secondary Data**

The role of secondary data was to provide general information about the participating companies and their environment. As mentioned earlier, this information enabled the researcher to develop case backgrounds which were also used to refine interview guides. Furthermore, this information was used as supplementary information in case reports. It should be noted that this document provides general information and may not directly affect the management of working capital; however, it assists in the understanding of the operating environments.

Two categories of secondary data were collected; internal and media sources (as shown in Table 4.1). Internal sources comprised of annual reports for 2006-2009, news archives (accessed from company's websites), and corporate social responsibility (CSR) reports (except for cases 2 and 5 as they did not produce CSR reports).

Media sources comprised two channels of information. Firstly, a stream of media articles found in the ABI Inform database, a comprehensive business and management periodicals and non-periodicals repository. This adds additional understanding of participating companies and their operating environments. ABI Inform enables systematic searching of articles on specific companies and industries. The search methods used the name

of each company and country to locate a particular company in a specific location (for example Microsoft AND Malaysia). Subsequently, searches for particular industries were conducted using the name of the industry and country (for example Steel Industry AND Malaysia).

In addition, a second stream of media sources was used to generate general understanding regarding the Malaysian business environment. This required information or specific documents (mentioned by informants in interviews) from local authorities to explore whether any external factors directly or indirectly affected WCM. This information provided a general understanding of the local Malaysian environment, containing multiple perspectives, such as social aspects, economic stability, government regulations, financial regulations and cultural aspects, among others. The local authorities (Malaysian Central Bank, Malaysia Economic Planning Unit, Malaysia Industry Development Authority, Malaysia International Trade and Industries, Malaysia External Trade Development Corporation, local universities, and research institutions) had conducted studies, compiled reports, or undertaken surveys about local business environments. Unfortunately, these were not available electronically, and therefore personal visits to the respective institutions with formal letters to gain access to the information were needed.

The collection of secondary data was conducted in two stages, prior and post interviews. As mentioned in the primary evidence section, internal sources were first reviewed to gain an understanding of the operating environment for each individual company and to refine interview guides; then, media sources (first and second streams) were collated after the interview process to gain further insights.

## 4.8 Data Analysis

The data analysis procedures for this study largely employed suggestions from Eisenhardt (1989), Eisenhardt and Graebner (2007), Miles and Huberman (1994), and Yin (2003).

The data analysis process begins immediately after the first interview and ends at the final writing stage of the thesis, according to Miles and Huberman (1994) and Yin (2003). This indicates that the data analysis process is embedded within the writing process, iterations of evidence, and linking to extant literature. Many qualitative research experts have suggested that data analysis should be done immediately after each interview and again before returning to sites, (see for example: Corbin & Strauss, 2008; Miles & Huberman, 1994; Yin, 2003). As some interviews may immediately follow each other, with little time to review the previous conversation immediately, it is imperative to review the last interview before attending another appointment. As suggested by Miles and Huberman (1994), a contact summary form was prepared (see Appendix C) after each interview to make sense of the data in hand and prepare for subsequent interviews. This process was consistently implemented throughout the collection process and checklists were used to ensure all relevant information (related to propositions) or new insights were collected before leaving each company.

Each interview was transcribed and then the coding process began. The transcripts were reviewed several times to improve the accuracy of verbatim discussions; then, all data was cleaned and all names and company identifications removed, preparing transcriptions for the coding process.

Lofland et al. (2006) state that analysing qualitative evidence involves coding data into categories that organize it and relate it to one or more frameworks or set of ideas. Furthermore, Miles and Huberman (1994) suggest the coding process begins with “packaging texts” (i.e. transcribed interviews) into codes then identifying the trends and “repackaging

and organizing” categories into themes. The process then continues with conceptualization of themes into one or more explanatory framework(s) (Miles & Huberman, 1994).

All the transcripts were transferred to NVivo8 software, where raw data is stored, organized, and linked to its respective codes. Codes were organized to represent phenomena found in the raw data, known as open coding (Corbin & Strauss, 2008), similar in principle to the codes developed from the preliminary work. The coding process produced 55 different open codes, about half the number in the preliminary work (see chapter 3 for more details). This indicates that the study is collecting the intended information and yet still discovering new issues during the data collection process. As different issues arose during the study, new categories were created to illustrate the patterns explaining the dynamics of WCM practices. Codes were revised again to distinguish their meanings (Miles & Huberman, 1994); codes which had similar meanings were combined or left as what are called “free nodes” in NVivo8. This process reduced the number of codes to 24 categories, also known as axial coding (Corbin & Strauss, 2008) or repeating ideas (Auerbach & Silverstein, 2003).

The codes were then grouped into themes, which exhibit relationships between them (Auerbach & Silverstein, 2003; Miles & Huberman, 1994). At this stage, each code was compared and contrasted which extends the understanding and logical meanings behind them. This process took the study to another level and produced twelve themes from 24 categories (see Appendix D).

The dominant views that emerged from the twelve themes produced five perspectives illuminating the determinants of WCM practices. The five determining perspectives, PEU, budgetary control, organizational structure, information technology and interdependency, and organizational culture, are discussed in the next chapter.

It is another essential part of the process for case reports to be developed in order to compare and contrast the cases and identify consistent patterns (Eisenhardt, 1989; Miles &

Huberman, 1994; Yin, 2003). Case reports aim to compose multiple evidence in a consistent manner and allow richer understanding of how companies managed working capital. Each case report ranged between 50 and 100 double-space pages in length. The case reports included selected quotes from primary evidence and figures and reports from secondary evidence, with each case report including detailed descriptions of the five determining perspectives in relation to the management of working capital. Subsequently, the summary drafts of case reports were sent to key informants to crosscheck the credibility of data, allowing revision of the contents and improved validity (Yin, 2003). The data was then organized using a conceptually ordered matrix to generate more robust results.

#### **4.8.1 Conceptually Ordered Matrix**

Miles and Huberman (1994) develop the conceptually ordered matrix to facilitate researchers organizing variables in an orderly manner and allowing explanations or implications to be drawn easily from them.

Different conclusions can be drawn from reading the matrices in two ways. Reading the columns vertically allows comparison of each determining perspective across the cases enabling the identification of variations of determinant perspectives across cases. Then, reading the rows horizontally, gives information about relationships between the five determining perspectives for each case. This helps the identification of the contexts of differing perspectives for each individual case.

The analysis process identified variations of each determining perspective (e.g. profit oriented versus learning oriented). At this juncture, the resemblances and divergences of characteristics of WCM practices began to be identified, and then cross case analysis was conducted to develop a conceptual framework which comprises a WCM typology.

#### **4.8.2 Classification of WCM Practices**

Summarizing each case using a conceptually ordered matrix provides structure to the conceptualisation process (Miles & Huberman, 1994). In analysing the evidence, each case report should explain how and why a particular proposition is or is not identified (Yin, 2003). On the other hand, across cases, the explanations are found for why the replication of patterns is identified in certain cases, but not in others (Yin, 2003), enhancing the internal validity of research findings. Where discrepancies were noted, the data was revisited to further investigate.

A WCM typology was developed from observed patterns of determining perspectives, where WCM practices can be described as following particular WCM approaches by grouping similar cases into a common group and then comparing the groups to distinguish the shared characteristics (Kluge, 2000). Furthermore, a typology is an observation of what makes up a particular approach, which assists researchers or practitioners in what is expected (Elman, 2005).

It should be noted that this analysis employed a binary approach, where cases were categorized to fall into a dominant side and, to a certain extent, differences were justified. In addition, an overall observation of the evidence suggested that a certain WCM approach was more prevalent; thus this study will consider the dominating approach as suitable to describe the approach taken. It was found that a few cases combined the arrangements of a particular determining perspective, where companies were observed being moderate to reduce excessive formalization or innovation (Chapman, 1998).

The classification process lead to identification of various WCM practices, which enables the development of a WCM conceptual framework. Extant literature was reviewed to further refine and extend the emerging framework, employing iterative processes of data and relevant literature. The following chapters will explain the research findings in more detail.

## 4.9 Chapter Summary

This research aims to develop a conceptual framework illuminating the variations of WCM practices in complex organizational settings. The case study approach is deemed more appropriate to gain an in-depth understanding of the context and relationships which are not clearly defined. The cases were purposefully selected to illuminate the emerging framework, in which case characteristics were specified to fulfil its objectives.

Prior to data collection, secondary data was used to develop a case background, and this information proved essential in refining the research instruments. The semi-structured interview guides blended from open and close ended questions. This enabled the research to obtain precise information while also capturing new information during the data collection process. Furthermore, specified quality procedures ensured the research process was conducted in a coherent and transparent manner.

During the data collection process, informants representing various functional domains and hierarchy levels were interviewed. The first interview, with CFOs or senior managers of finance, provided comprehensive understanding about WCM and led to the identification of subsequent informants. The following interviews observed the interactions and interdependency between managers in terms of managing WCM components. The secondary data was again collected after the interview process to further investigate issues which emerged during interviews.

The interviews were transcribed in text format for data analysis. The coding process consisted of open codes, categories, and themes which led to identification of five determining perspectives. Case reports were developed to facilitate the analysis process and a conceptually ordered matrix was used to identify patterns of determining perspectives across cases. Finally, the cases were classified into common groups, representing particular WCM approaches.

# **Chapter 5**

## **Forces Shaping Working Capital Management Practices**

### **– Phase II**

#### **5.1 Introduction**

This chapter presents the findings obtained from the case studies of five Malaysian listed companies. The findings allowed in-depth understanding and comprehensive explanations of WCM practices to be gained.

The remainder of this chapter is organized into three sections. The second section explains the five perspectives influencing WCM practices, the third presents an alternative view of the determining perspectives and, finally, is a summary of the chapter.

#### **5.2 The Determining Perspectives of WCM Practices**

The following subsections present the five perspectives believed, in this research, to influence WCM practices. As mentioned earlier, these are PEU, budgetary control, organizational structure, interdependency and information technology, and organizational culture.

##### **5.2.1 Perceived Environment Uncertainty**

The first proposition<sup>1</sup> to be examined is the influence of PEU on managerial approaches to WCM. This study identifies that the level (high-low) of PEU illustrates different decision making approaches (see Table 5.1 on page 80). As mentioned in chapter 3, classification of cases is to be developed by reading the matrices in two ways. Reading the matrices vertically and horizontally helps the identification of the contexts of differing

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<sup>1</sup> Proposition 1 is that managers' perceptions of environmental uncertainty are associated with the managerial approach to WCM.

perspectives for each individual case. It is important to note that evaluation of the uncertainty level is based on managers' perception of their foreseeable environmental variables in relation to managing WCM components. This study finds that managers, in high PEU, consider more aspects in the WCM decision making process, compared to situations where there is a low PEU. Further, the performance of companies operating in such high uncertainty environments may be affected by many external factors, and managers are suspected to monitor those factors continuously (Duncan, 1972; Lawrence & Lorsch, 1967). Conversely, companies operating in low PEU are to have a more standardized or formal arrangement in terms of managing their working capital components (Gentry, et al., 1979).

Four important themes emerged which influence the level of PEU: market conditions, economic conditions, financing, and government regulations. The following sections discuss the themes in more detail.

#### **5.2.1.1 Market Conditions**

Market conditions are associated with organizational ability to respond to consumer demands, product tactics, and competitors reaction (Day, 1994). Further, a market driven organization requires continual monitoring of external factors and diverse information inclusion in decision making processes (Hamel & Prahalad, 1994). This study finds that market conditions are distinguishable in dynamic versus static markets. For companies operating in a dynamic market, it is assumed that consumer demand is difficult to predict, competition is based on innovation, and competitors' activities influence the market. Contrastingly, in static markets, companies are able to foresee consumer trends, use branding product tactics, and suffer minimal impacts from competitors' reactions. In this study, market conditions have influenced the management of working capital (see Table 5.1). For example, the ability to foresee consumer demand influences WCM components, as regards better alignment of cash flows and inventory levels (Gentry, et al., 1979). In fact, three categories

emerged from the data that influence market conditions; consumer demand, competing trend, and competitors' reaction.

**Consumer demand** – there is evidence that different participating companies perceive consumer demand as either predictable or difficult to predict. The greater a company is able to predict consumer demand, the more that company is able to control inventory levels and other working capital activities. For example, case 1's managers indicated that consumer demands were seasonal; especially during religious events and government's pre-budget announcement. Consequently, managers were able to foresee that, during these months, demand was predicted to be high. As case 1's production manager put it: *"for our business there are two peaks, one would be the pre budget for tax purpose and obviously is like you said is religious event so it's a five months peak seven months off season..."* In case 2, managers were able to foresee trends in their consumer demands. Case 2's CFO said: *"Like children nutrition, I think during good time or bad time (economic condition) it still requires the products to be there (consistent trends)..."* Similarly, case 5's sales manager said: *"we foresee let say now we run the Eid (Muslim's religious festival) campaign, so we foresee maybe the small pack automotive oil could increase..."*

Conversely, cases 3 and 4 face difficulties predicting consumer demands. Case 3 manufactures and distributes a large range of food products and the senior manager (Accounting) said: *"when you go to supermarket especially in Malaysia, a significant percentage of products is ours and there are many brands you may don't know..."* This statement implies that, due to the large range of products, predicting consumer demand has become more difficult and complex. As case 3's demand planning manager put it: *"it's an impulse, you will not know what the consumers are thinking or wanting to buy next week. Today I buy this, tomorrow I may not want to buy this..."* Case 4 (manufacturers and

distributors of vehicles) also faced difficulties in predicting consumer demand. As their strategic demand and planning manager put it:

*The beauty part of it is, there is no answer, and you will never find the true answer. You can't say this is right or wrong, you cannot. What you can do is you can put everything (together) when you zoom in maybe certain percentage, you can't never tell, but at the back of your mind you must consciously contour yourself that things are gonna happen, means, you try your best to predict before we get there. But the issue is; can you do it? It gives you question and every answer that you get won't satisfy you...*

**Competing trend in the market** – this study finds two competing trends used to gain additional or maintain market share, namely branding and innovative product tactics. The branding tactic refers to marketing campaigns to promote particular brands and induce consumer demand. This implies that volume is substance for particular companies. For example, case 5's manager (manufacturers and distributors of automotive oil) indicated that it was important for this company to maintain its position by conducting branding campaigns. As their senior manager (Accounting) said: *"We are concentrated on the branding so is more on the branding to ensure that we have a market share..."* Similarly, case 1 employed branding tactic to sustain its position. As the senior manager accounting put it: *"we need to have the right portfolio (brand), all the while, we have dominated on Brand X (pseudonym brand)"* Furthermore, case 1's sales manager said: *"when we do more (campaigns) activities it will give some impacts to sales..."*

On the other hand, this study finds that cases 3 and 4 employ an innovative products approach to compete and generate demands in the market. Case 3's demand planning manager said: *"every time we launched a new product there will be an increase in sales, very important for us to have a lot of new launches of new products, new innovations and new creativity..."* Similarly, case 4 required innovative product strategies to compete in the market. Their demand planning manager stated:

*we have to look back at the model that we are selling, whether or not we are coming up with new model, you know whether or not it's gonna be a fresh look for our*

*model, whether or not is going to be increase in our number we are going to sustain our volume so those are the step by step I mean you look at the bigger picture first, what is gonna happening in the industry, and then you look at your model line up...*

**Competitors' reaction** has major impact on all the cases, except case 3. Special promotions, or new product launches by competitors, affect demand and may increase inventory levels, due to unsalable products. In particular situations, companies are forced to revise their strategies and possibly develop counter offers to reduce or minimize the impacts.

The demand planning manager from case 2 said:

*new competitors entered into the market, so the share of the business is actually less, whether our competitors are doing any activities for example (or) they are having new pack design, new formula, how aggressive are they into the trade, so all these are actually influence the market...*

Likewise, case 4 was impacted by competitors' reactions. The demand planning manager said:

*(You want to) Sell certain amount (of vehicles) but you see other competitors are still selling the same amount of units (compare to previous year), we are coming up with new models, but their models are not affected, so what does it tell us? Where do they get the additional consumers? Normally they sell this much but now they are selling even more. Do they take my customers and should I be worried...*

On the other hand, case 3 is the only company in this study experiencing minimal impact from competitors' reactions, which may be due to their strong market position and the presence of many leading brands. This eventually gives case 3 competitive advantages and an ability to control market movements. As case 3's demand planning manager said:

*we know that our competitor is going to launched (new products) and what we can do, we increase the production volume and then we reduce the price then we flood the market with so much of our products with lower price and people are used to the taste and... you can buy at the cheaper price. That's one of the ways to counter attack the new launches to protect your market share...*

#### **5.2.1.2 Economic Conditions**

In this study, economic conditions refer to the impacts of exchange rate, economic situations (recession and booming), and energy and material costs. Gitman and Maxwell (1985) found that the economic recession in the early 1980s had influenced the management

of working capital where companies tended to be more cautious due to uncertainty. It is imperative to note that there are many other economic factors that have been found to influence the management of working capital, such as inflation conditions (Ben-Horim & Levy, 1983) and economic growth (Carey, 1949; Reason, 2008). However, certain factors only affect companies within certain industries but not others (Hawawini, et al., 1986; Raheman, et al., 2011). This suggests that the impacts of economic conditions are varied and depend on the sensitivity of companies to economic variables.

The following paragraphs describe evidence from this study on the three categories that were classed together as economic conditions.

**Exchange rate** – the evidence suggests that all the cases are insignificantly affected by changes in exchange rates. Although all the cases import large amounts of material and are presumed to be sensitive to fluctuations in exchange rate, all the cases have taken preventive actions by implementing strict hedging policies. Case 2's CFO stated: "*we only hedge three to six months beyond that is really unpredictable I guess foreign exchange also could be a factor...*" The CFO further indicated that hedging policy minimized risks of currency exposure or, as case 5's senior manager (Accounting) put it:

*Fluctuations of the US Dollar because our raw material we buy in US Dollar. What we did in the US Dollar side, some our sales are in the US Dollar also so, we also have foreign account, so US Dollar account, so that we don't have any translation lost, that the best thing, so we also do hedging of the currency for the purchases...*

These examples show that managers are able to reduce risks of exchange rate fluctuations and, although, some advocate that exchange rates could do harm to working capital performance in this study the impacts in all the cases are observed to be minor.

**Economic situation** – only managers in cases 2, 3, and 4 perceive their companies as sensitive (major) to changes in economic situations. During economic recessions, these companies have experienced significant decreases in consumer demands and were exposed to risks of higher inventory levels, delays in payments to vendors, and/or cash collection

problems. The CFO of case 2 said: *“Certainly the last six months with the downturn in Malaysia, our demands are essentially dropping. Some people are keeping buying less of our products but during good times (sales) really grows in fact before the down (economic recession)...”* Similarly, case 4 was affected as their senior manager (Accounting) said:

*quite difficult in the (economic) downturn as well, instead of shortened the credit period a lot of dealers they are asking a longer and longer credit terms because they cannot sale the cars, cars stuck in the store room, once they cannot sale the cars they cannot pay you, so it is like chicken and egg situations...*

Furthermore, case 4’s demand planning manager said: *“if the economy is okay...then it spurs a lot of businesses”*

On the other hand, evidence suggests that cases 1 and 5 are least affected during economic upheavals due to consistent demand and their ability to maintain profits in the recent global recession. Case 1’s senior manager (Sales) indicated: *“a little bit like economy, it will influence us kind of things. I mean economy not so good then partly (play) a role, a little bit influence into the sales that kind of thing...”* Similarly, case 5’s senior manager (Accounting) said: *“Overall (economic impact) we would say a little may be extra 5% effort...”*

**Energy and material cost** – the evidence suggests that all cases are sensitive to changes in energy and material costs. Operational costs, including price and production costs, are affected when energy and material costs increase. As case 5’s senior manager accounting said: *“our raw material price is going up then normally we try to buy more now. It affects us very much...”* Similarly, case 1’s senior manager (Accounting) stated: *“the impact of commodity price last year...very high commodity price like petrol is like \$140 same (goes to) for aluminium can other our raw material all those are increasing...”* In case 3, the demand planning manager stated: *“the material cost is growing up, every year cost is growing up, cost of raw material and packaging...”* This condition leads to closer monitoring of market

trends to assist managers in deciding when to initiate contract negotiations. The senior manager of production in case 2 said:

*(material) price fluctuate and all that, that's why our purchasing team we always look into the market report look at the financial analysis of what is happening in the market and we keep ourselves very close to the market so then we know when to anticipate or when to locked in prices...*

### **5.2.1.3 Financing**

Financing refers to the effect of interest rates and bank regulations. Strischek (2001) suggests that bank regulations and requirements have influenced the management of working capital for certain companies. A bank may look into the health of working capital practices before approving any funds to finance companies' financial needs. In a sense, certain banks may view working capital conditions as part of their financing requirements. Furthermore, some companies are able to finance working capital on their own, while others may require loans from banks regularly and are more exposed to bank regulations (Belt & Smith, 1991b). This study finds that the degree (major – minor) of impact of financing influences the management of working capital, inasmuch as companies who depend more on bank credit facilities to finance working capital requirements may be exposed to changes in interest rates and regulations.

**Bank regulations and interest rate** – cases 4 and 5 are significantly affected when banks impose strict regulations or increase interest rates. The effects can be seen from two aspects: 1) the interest cost of borrowing funds to finance working capital requirements and 2) the strict regulations imposed on customers (hire purchase) and companies. As case 4's Treasurer said: *“we have to look for the alternative funding, look and seek ways to either tap the capital market or some other innovative ways like sell or lease back arrangement to the fund, we have to increase bank facilities as a stock gap measure...”* The informant indicated that case 4 had high dependency on financing as a source of funds to finance working capital activities. However, strict regulations imposed on customers could also affect demand. As

case 4's demand planning manager put it: *“lending facilities for hire purchase of our customers...in our case, customer are easily 80% to 90% are hire purchase based... if the hire purchase is not so stringent, then it spurs a lot of businesses...”*

In case 5, managers' perceived interest rates as the main concern, due to substantial amounts of WCM requirements being financed through banks. Case 5's senior accounting manager said: *“(my CEO will ask) why your profit is lower? Because I need to get more working capital some interest there if not I don't have the interest cost the profit will be more...”*

In contrast, the affect of bank regulations for cases 1, 2, and 3 were negligible. Managers suggested that their companies were able to release cash from the working capital chain and this led to strong cash positions and minimal requirements for bank finance facilities. As case 3's senior manager (Accounting) said:

*what we can do is release (reduce) the money from financing working capital and we (can) do something else that could generate return to our shareholders, if you are heavy on (financing) your working capital basically you could end up borrowing (more) from the bank. You will see from your so called financing cost will be sky high. If you don't need to finance that working capital maybe you cut it by half instead, so it improves a lot and it will maximise shareholders return...*

Case 1's senior manager similarly said: *“Our company has strong cash position that enables us to even acquire new companies during downturns”* implying that the company is in a strong cash position and financing working capital issues are not a major concern.

#### **5.2.1.4 Government Regulation**

Government regulation refers to the effect of government policy, rules, taxation, and excise duty on business operations. This study observes that the government tightly regulates certain industries, such as the automotive industry, tobacco and alcohol, to monitor and govern their business activities. Thus, companies are bound to carry out their business in certain ways and changes in regulations may have major or minor impacts on their

management of working capital. The data shows cases 1 and 4 are significantly affected by this aspect.

Case 1's senior manager of accounting said: *"being particularly in beverage industry and taxation is very tight, if the Malaysian government increased (tax) again. It changes the whole thing..."* According to their senior sales manager: *"if unfavourable (budget announcement) to us which means that the government enforced higher tax, this is the major impact..."* It is evident that every time the Malaysian government increases its tax, sales are affected. This results in higher prices of case 1's products and weakens consumers' purchasing power.

In case 4, the Malaysian government has attempted to liberalize the automotive industry by participating in ASEAN Free Trade Agreements (AFTA). Case 4's manager indicated that this led to saturation of the auto industry by encouraging global automakers to penetrate the Malaysian markets as their senior manager (Accounting) said:

*the liberalization of the auto industry in Malaysia pursuant to AFTA and National Automotive Policy (NAP) where supposedly playing field is more level (liberal), you can see our market share is drop quite substantially; we were hammered by the implementation of the NAP which saw severe drop in second hand car prices...*

On the other hand, the impact of the Malaysian government's policies is minor for cases 2, 3, and 5. These companies are still bound to particular government regulations but the impact on operation, and particularly WCM components, are negligible. Or, as case 2's demand planning manager put it:

*Usually our products will go through the Ministry of Health, Halal certification (Muslim religious development department) and so on. So if they have new regulations that says, your product cannot have all these contain for example, or even let say fat contains or the ingredient is not suitable for kids so that actually influence our demand...*

Similarly, case 3's demand planning manager said: *"In Malaysia we are not allowed to advertise or do any promotions for children nutrition it's not only for us but for the rest of the*

*manufactures as well*” The above statements indicate the minimal impact of government regulations on these business activities.

To recap this section, the cases illustrate differing patterns of intensity in market conditions, economic conditions, financing, and government regulation. Essentially, these cases reveal that there is variation in the level of PEU. The following points summarize the findings:

- Market conditions – the data suggests that cases 1, 2, and 5 are in a static market environment whereas cases 3 and 4 are in a dynamic market environment. Managers in cases 3 and 4 faced difficulties recognizing consumer demands or market sentiments compared to managers in cases 1, 2 and 5, where patterns of consumer demands were clearer. Further, cases 3 and 4 relied on innovations in products to generate demands, whereas pricing aspects and branding strategies were adopted in cases 1, 2 and 5.

Table 5.1 Perceived Environment Uncertainty: Summary of Findings

Themes	Market Conditions			Economic Conditions			Financing	Govt. Regulation	Outcome
	CD	CIM	CR	ER	ES	EM	BR	GR	
Case 1	+	+	++	+	+	++	+	++	Low Uncertainty
	Static			Minor			Minor	Major	
Case 2	+	+	++	+	++	++	+	+	Low Uncertainty
	Static			Major			Minor	Minor	
Case 3	++	++	+	+	++	++	+	+	High Uncertainty
	Dynamic			Major			Minor	Minor	
Case 4	++	++	++	+	++	++	++	++	High Uncertainty
	Dynamic			Major			Major	Major	
Case 5	+	+	++	+	+	++	++	+	Low Uncertainty
	Static			Minor			Major	Minor	

Market conditions are rated based on the following:

Customer Demands (CD): ++ Difficult to predict + Relatively Predictable

Competing in Markets (CIM): ++Innovations + Branding & Cost Efficiency

Competitors’ Reactions (CR): ++ Strong impact +minor impact

Economic Conditions/Financing /Government Regulation are rated based on the following:

++ Major Impact + Minor impact

(ER) Exchange Rate, (ES) Economic Situation, (EM) Energy & Material Costs, (BR) Bank Regulations, Government Regulations (GR)

- Economic conditions – the findings suggests that cases 2, 3, and 4 have suffered significant impacts from economic recessions and rising costs of material and energy. Stories from informants stated that their companies were struggling due to weak consumer spending and this led to risks of high inventory levels, delays in payments and slow collections. In contrast, cases 1 and 5 are not significantly affected by the economic conditions as their managers indicated that consumer demands were fairly stable even during economic downturns due to the necessity of their products (dairy, food products). It should be noted that all cases were affected when the cost of materials increased, but exchange rate changes had insignificant influence on the participating companies.
- Financing – this study finds that cases 4 and 5 are significantly affected when banks increase interest rates or tighten regulation. Conversely, cases 1, 2, and 3 indicate that changes in bank regulations or increases in interest rates were insignificant. This was due to the companies' ability to finance working capital requirements on their own, thus their dependency on bank facilities was minimal.
- In respect of government regulations, cases 2, 3, and 5 are not significantly affected by changes in government regulations, but they are of major concern for cases 1 and 4. For example, case 1 is affected whenever the government increases tax as the price of their products is also increased. Furthermore, case 4 is affected when the government participated in AFTA and introduced NAP, meaning the Malaysian automotive market was liberalized and automotive companies lost a substantial market share.

It is evident that the degree (low – high) of PEU influences the decision making approaches taken. Cases 1, 2 and 5 are in low PEU, while PEU is high for cases 3 and 4. For companies operating in low PEU, managers are able to assign organizational capabilities,

meaning such companies are more standardized in terms of managing working capital components, volume driven and focus on pushing productivity limits.

In contrast, companies operating under high PEU are more flexible or informal in terms of managing their working capital components. High PEU requires managers to consider many different aspects in the WCM decision making processes, with companies expected to monitor external variables continuously.

### **5.2.2 Budgetary Control**

The second proposition<sup>2</sup> is to understand the influence that emphasis on budgetary control has on managerial approaches to WCM. Budgetary control is a short term planning tool which normally covers control arrangements and specifies allocation of financial and non-financial resources (Anthony & Govindarajan, 2004; Merchant & Van der Stede, 2007). Budget involves a negotiation process with top management where agreed targets are used as boundaries of commitments and performance evaluations (Anthony & Govindarajan, 2004).

Hopwood (1972) states that the use of budget and control signify different managerial approaches. In an organization where a budget is strongly imposed, managers are relying on financial performance measures to control subordinates in order to achieve intended targets (Harrison, 1993; Hartmann, 2000). This is also known as Reliance on Accounting Performance Measure (RAPM). In some companies, objective financial performance measures only are not enough to assist managers; hence, subjective performance measures are more relevant in the decision making process (Van der Stede, et al., 2006).

Table 5.2 (presented on page 91) illustrates that budgetary control influenced the managerial approach to WCM and two approaches emerged from the data, namely learning and profit oriented. This study finds that in an organization where a profit oriented approach is adopted, managers use accounting or budget terms to control subordinates and align WCM

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<sup>2</sup> Proposition 2 is that budgetary control approaches influence the managerial approach to WCM.

components to satisfy a predetermined budget. In contrast, in learning oriented organisations, managers utilise multiple sources of information to speculate regarding market sentiments and decision making is normally done by consensus so WCM components can be aligned to be more responsive to market demands.

There were two themes which emerged from the data that influenced budgetary control: use of budget and utilising WCM components. The following sections explain these themes.

### **5.2.2.1 Use of Budget**

This study observes that the reliance on budget to manage WCM components implies different managerial approaches, namely budget emphasis and ongoing orientation. In budget emphasis, managers are relying on pre-specified financial targets to control subordinates and WCM components. While for ongoing planning orientation, managers require a diverse set of information to speculate on market directions.

The following paragraphs describe three categories which emerged from the data that affect the use of budget, which are budget emphasis, ongoing planning, and forecasting accuracy.

**Budget emphasis** – the coding process suggests that cases 1, 2, and 5 adopt budget emphasis approaches. Various formal meetings are organized to monitor organizational performance, including WCM components. These meetings are attended by the management team and are where corrective plans (if necessary) are developed to narrow the difference between budget and actual performance. As case 1's senior manager (Accounting) put it:

*basically when (we) prepare the budget we use the budget as benchmark so when we prepare the next year budget we will based on this year (budget) then we put in any initiatives any improvements we projected to realized to adjust accordingly then we have our new WCM levels... once you prepared the budget that will be your KPI for the year, anything happened. You have to manage...*

Managers are expected to commit to what has been agreed and it is the managers' responsibility to reach the intended targets. *"The message is very clear, of course we have quarterly meetings, and we revisit our budget we would know how we are doing whether we are ahead of the budget or shortfalls from the budget..."* as case 1's senior manager accounting said.

Similarly, case 2 adopts a budget emphasis, where working capital components are predetermined in the budget preparation process. As their production planner said:

*different companies got different way of getting it, here is based on a budget, on a yearly financial budget so sales will know how much they have to sell within the one year period so it will be bolt down to sales forecast. What they want to do and how they want to break it down for multiple SKU (products), so they will try to see how they can meet the budget that has been set for...*

Periodical formal meetings were organized to ensure the company was able to achieve intended targets. Case 2's CFO explained:

*we actually have monthly sales operation meeting we look at past month performance, your forecasting accuracy and your stock that you buying for the next 6 months, you know your capacity we put it all together in a total holistic package we view the whole situation in that meeting... I think when I look at the monthly review is more profitability of operation the attainment of the KPI ratios against the target...*

A similar situation was observed in case 5 when the accountant said: *"...monthly basis so we are able to predict, so now it's only projections (monitoring) on the monthly basis whether we up to our projections or not that one is like monitoring on a monthly basis..."*

Furthermore, case 5's assistant operations manager said: *"Every month we have these management account (meeting) basically we have all these ratios, from there we see what the progress is, if it's not up to marked (target) then we have to develop corrective actions..."*

**Ongoing orientation** – the study suggests that managers in cases 3 and 4 are more moderate in terms of reliance on budget as a performance measure. These companies have faced difficulties in determining WCM levels, which may be due to dynamic market conditions and/or operational complexity. Hence, managers are encouraged to discuss and

learn from multiple sources of information when coping with market changes. As case 3's senior manager (Supply Chain) put it:

*you know because the budget and what the sales can do sometimes can be different, so both are needed, are there any gaps, we don't simply settle on a number but we say oh there is a gap, what can we do for the gap. Do we run an additional promotion? We do inducement for the consumer to buy...*

It is evident that changes in market have greater influences on case 3's inventory level, hence continuous discussion between managers is imperative. As the senior manager (Supply Chain) again put it:

*Once you planned for the inventory, what you got to do is watch out for the sales because if let say for this month, for example, we targeted a certain amount of inventory but sales (figures) are not happening so there you start having higher inventory so then you start pushing the buttons and say guys.. It's not happening and it is a dynamic situation...*

The evidence suggests that an ongoing planning approach is appropriate for case 4 because the market direction is too difficult to predict. According to case 4's demand planning manager:

*Each month we do a tactical planning, at the same time also do analysis, very tactical very segmented to that (specific) product only ... of course every month there is going to be changes in planning, that is the demand, we communicate where we discuss with sales, marketing, production later on and also finance people.*

Or, as their senior manager (Accounting) said: *"discussions and regular meetings (between middle level managers) to change the way and the plan for the working capital activities for the financial year..."* This statement indicates that working capital targets are not rigidly imposed and changes are allowed in accordance with market demands.

**Forecasting accuracy** – this study finds that accuracy in forecasting is more essential for ongoing planning approaches ; it reduces managerial uncertainties in terms of allocating WCM levels (D'Attilio, 1992). As case 3's senior manager (Accounting) put it: *"you don't know how many (materials), how much to produce. In other words, you must know what your requirement is, so how to know your requirements basically you must have a good*

*forecast...*” To develop better forecasts, interactions between managers are essential to speculate what the demands could be like. As case 3’s demand planner put it: *“consensus demand plan is a consensus rather than agreed volume (budget oriented) between demand supply team and business team...”* Similarly, case 4 is also depended on forecasting accuracy. As the strategic demand planning manager put it: *“forecasting numbers cannot be by the way, you will never guess it right, it cannot be coincidently it becoming like that. That is the challenge because automotive variables are not ambitious, it can never be...”* Thus, as case 4’s production planner said: *“that’s why forecast from sales is very important every month...”*

In contrasting cases, 1, 2, and 5, budgetary control has greater influence on many aspects, including forecasting figures. The senior manager (Accounting) from case 1 said:

*You also budget the volume whether you forecasting (is) correct or not that would be important because when you forecasting is wrong your cash flow is out then you have a lot of receivables. The most important is the budget must be accurate and the forecasting has to be accurate*

Similarly, case 2’s production planner said: *“inventory level is based on sales forecast because the sales forecast will account on everything in the budget...”*

### **5.2.2.2 Utilising WCM Components**

This section discusses control of WCM components as part of performance measures to achieve intended targets. The cases exhibit two different approaches, known as mechanistic and organic, in terms of managing WCM components. A company which adopts a mechanistic approach tends to control its WCM components more strictly to justify its intended targets. On the other hand, organic approaches are more flexible in terms of managing WCM components. For example, companies may carry higher inventory levels to cater for unstable markets or negotiate receivables terms to attract businesses or clients. Consequently, companies incur higher operational costs and increase working capital requirements.

The coding process identified that there were two categories that distinguished the utilisation of WCM components: short-term financial management and inventory management.

**Short-term financial management** represents the financial components of working capital which comprise cash, payables, and receivables. Evidence suggests that cases 1, 2, 4, and 5 employ mechanistic control in terms of utilising financial resources. As mentioned earlier, mechanistic approach refers to companies who impose strict control on their working capital policies, or, as case 1's senior manager (Accounting) put it: "*our initiative for this year, we try to move (payables terms) from 30 to 60 (days) and 60 to 90 (days)...*" In terms of receivables management, he said: "*very strict payment (receivables) terms...if they exceed payment term you don't deliver we will not (release) the stock...*" Likewise, case 2's CFO said: "*we (are) also imposing our (receivables) term very strictly with them (clients) because when we sign (agreement) the 30 days we want you to honour 30 days...*"

A similar situation was observed in case 5, where the payables period was extended and receivables term strongly imposed. The payables executive said: "*even though they (sales managers) agreed with (suppliers) let say 30 days, if suppliers say 30 days and we say no this is a standard policy, is 60 days credit term so we follow that way...*" Furthermore, the senior accounting manager said:

*I actually increased the payment days for the payables because previously we pay everything in 30 days, so I changed it now to 90 days, so stretch all the debtors, because our collection is normally 60 days. So we also have 30 days (additional) from 90 days...The suppliers for bottles and boxes, I changed (extend payable period). They were mad...so some of them (suppliers) also call me, so I said come (over). I explain to you so it's like we forced them...*

In terms of receivables, case 5's senior manager (Accounting) said: "*There is no more flexibility we becoming strict already so we tightening things...if he wants to place an order but still hasn't paid outstanding bills, we say no, hold first! You pay first, then we will release goods...*"

Initially, case 4 adopted an organic approach but had to tighten WCM components to avoid further distress in tight conditions. Payable terms were lengthened to provide additional time for the company to pay its obligations; receivable periods had not been shortened, but collection activities were intensified. According to the senior manager (Accounting):

*We have to pursue a very stringent working capital management because of the distress (financial lost) company. On receivables side, we have to ensure that whoever needs to pay us, pay us on time and what we did in the worst time was we tried to lengthen our payments out to suppliers. We know it's not the best practice for the business cycle if delay payments to suppliers, everybody caught in multiply effect. But definitely the priority was to the bring cost down and preserved (maintain level of) cash. We are burning cash quite badly, cash burning very high month on month we are losing cash, bleed out of system and priority there was to maintain or optimise cash and get as much cash back to the company as possible and we reduce all sort of unnecessary expenditures...*

In terms of receivables collection, he said:

*collection efforts have been intensified we need to collect money from our dealers and shortened the credit period but that was quite difficult in the downturn as well instead of shortened the credit period...*

The above statements suggest that the majority of participating companies have made some arrangements to lengthen payables terms, but have been unable to shorten the receivables period. Accordingly, the companies have intensified collection activities with instructions to stop deliveries for overdue accounts.

On the other hand, case 3 adopts an organic control approach in managing its WCM components, and offers some flexibility. Informants suggested that the payables term was standardized (not lengthened) and receivables terms were flexible. Their senior manager (Accounting) said:

*You have to see your model because if your model structured in such a way...you must see when you first sign an agreement with them (clients) and they want to do business with you. This is the time that you need to see you know what is ideal. Of course first time signing you can't be giving too much meaning that you can pay me in 90 days that's not good. You have to strike balance...*

The informants suggest that case 3 prefers to be flexible in terms of WCM policies and is more interested in developing long term partnerships. Again, as the senior manager (Accounting) put it:

*After been a while in the business, and we are not adjusting to hurt your working capital. Unless your customer is really in trouble for example your collection is suppose to collect within 30 days. If the customer is really in trouble during this period, then I need to help you because we need to help each other. We call it long-term partner. For example if your customer is getting contract from the government. You know the government is paying 90 days, you can't expect him to pay within 30 days so in this case to build his business. You might want to adjust so it's a case by case basis....*

**Inventory management** – the coding process indicates three important factors emerged from the data that influence inventory management: lead times, product processing cycles and suppliers' capabilities. Data analysis suggests that all cases have been trying to minimize inventory levels but, in particular circumstances, certain companies are unable to attain greater control of inventory levels.

This study finds that there are two approaches identified in terms of inventory management: organic and mechanistic. Case 1 is an example of a mechanistic company where inventory levels are manageable. For example, case 1 renegotiated the material delivery methods with suppliers to minimize inventory levels, as explained by their senior manager (Accounting):

*All the while we are very careful in terms of inventory, production, raw material, and packaging, just in time kind of basis so we are quite aggressive on that... We used to keep so many inventories so what we have done we re-negotiated this entire contract with suppliers again. We need this volume this quantity but don't deliver to me at once because they produce one batch more cost efficiency for them but then of course we work like partnership so some of them they may still produce but then because of this concern we say, you deliver by batches, and I pay you batches, so what they do is they produce they will store the remaining in their warehouse. We don't suffer cash flow...*

Similarly, case 2's CFO said: *"we still keep very tight control of our stock holding level, like I mentioned those stocks that manufactured. We are able to maintain our two to three weeks holding quite well..."*

The study suggests that case 5 also adopts mechanistic control of its inventory. The production manager said, *“We don’t keep extra buffer (inventory) plus minus 1% or 2%. We receive and produce and we don’t hold so much of stock because usually the products will come 2 or 3 days before production date so come and go...”* However, it is important to acknowledge that case 5 sometimes has to hold higher inventory levels due to unstable supplies of premium base oil (main ingredient of automotive oil). The senior manager (Accounting) explained: *“We also have supply problem, more on the supply problem rather than the pricing. On the supply problem, if we don’t pick the load now, next order, we don’t know whether we can get it or not...”*

In case 4 also, the company adopts a mechanistic approach in terms of managing inventories. Due to distress conditions, the company had to adopt some mechanistic mechanisms rather than being more organic. The company had taken various actions to reduce inventory levels, such as JIT method, vendor realisation program, and parts standardizations, however, as the senior manager (Accounting) said: *“inventory management was key, we realise that at time we have high stock we need to control the stocks”* The first initiative was to use JIT to control inventory levels, according to the production planning manager: *“for local components, we like to hold minimal level possible, especially the small components, if possible we only hold between four to eight hours only”* The senior manager (Accounting) actually said: *“we have a JIT here...”* Secondly, the company embarked on a vendor realisation program where vendors were consolidated to strengthen distribution and quality. The senior manager (Accounting) explained: *“first we need to reduce the number of vendors...in the past there was too many vendors supplying one type of bumper we had 5 suppliers...so it’s crazy... it’s not possible in this current environment...”* Then, the company moved to standardised parts throughout different models: *“parts standardization allows us to*

use similar parts for different models if forecast is inaccurate for certain models...” the production planning manager said.

In contrast, case 3 adopts an organic approach to inventory management. The senior manager (Accounting) stating: “there are many factors, first it takes into consideration of the lead time, second you have to see the minimum quantity, third you have to see the consumption...too low meaning that you might hit with out of stock situation that you can’t produce” The above statements indicate that this company faces many issues in relation to managing inventories, thus flexibility reduces risks of supply shortages or sudden increase in demands.

Similar to the previous section, a conceptually ordered matrix is used to organize the findings in more meaningful ways and it is evident that budgetary control is influenced by use of budget and utilisation of WCM components. The following summarizes the findings (as shown in Table 5.2):

Table 5.2 Budgetary Control: Summary of Findings

Themes	Use of Budget			Utilising WCM Components		Outcome
	BE	FA	OP	SFM	IM	
Case 1	+	+	+	+	+	Profit Oriented
	Budget Emphasis			Mechanistic		
Case 2	+	+	+	+	+	Profit Oriented
	Budget Emphasis			Mechanistic		
Case 3	++	++	++	++	++	Learning Oriented
	Ongoing Planning			Organic		
Case 4	++	++	++	+	+	Hybrid *
	Ongoing Planning			Mechanistic		
Case 5	+	+	+	+	+	Profit Oriented
	Budget Emphasis			Mechanistic		

Use of Budget

Budget Emphasis (BE): ++ Weakly Existed + Strongly Existed

Ongoing Planning (OP): ++ Strongly Existed + Weakly Existed

Forecast Accuracy (FA): ++ Strongly Existed + Weakly Existed

Utilizing WCM Components

Short-term Financial Management (SFM), Inventory Management (IM): ++ Organic + Mechanistic

\* Cases are rated based on binary approach and dominating value may be valid to describe a practice

- In the use of budget aspect, cases 3 and 4 adopt an on-going planning approach, whereas cases 1, 2, and 5 employ a budget emphasis. Companies who adopt ongoing planning orientation, encourage learning activities to facilitate managers in decision making processes. In contrast, companies where managers rely on financial terms to control subordinates to achieve intended performance measures would predominantly adopt a budget emphasis approach.
- This study identifies two approaches in utilizing WCM components, organic and mechanistic control. Cases 1, 2, 4, and 5 employ mechanistic arrangements; companies preferred to squeeze WCM components. Furthermore, these companies impose strict WCM policies to improve profitability. In contrast, case 3 employs organic control where it preferred not to squeeze WCM components due to their need to generate business and, consequently, hold high inventory levels as buffers to cater for sudden increases in demand. In terms of WCM policies, case 3 offers a great deal of flexibility to established, long term relationships with vendors and clients.
- A unique arrangement was observed in case 4 where ongoing planning was adopted in managing WCM components, but the company used a mechanistic approach to control its WCM components. Due to distress conditions, this company has no choice but to manipulate the WCM components to conserve cash. Organizational literature proposes that companies experiencing extreme financial conditions or risks are likely to adopt tight control rather than being more organic (Khandwalla, 1977).

This study concludes that cases can be divided into two categories (learning oriented and profit oriented) depending on how companies use budget as a managerial tool to control WCM components. Evidence indicates that case 3 adopts a learning orientation; associated with on-going planning and organic control of WCM components as WCM levels are

difficult to determine. Managers are encouraged to organize discussions to make sense of multiple factors in decision making processes ultimately making WCM components more flexible to adopt to changes in demand.

In contrast, cases 1, 2, and 5 adopt a profit orientation where budget is used as the main measure in determining WCM levels, and working capital policy is designed to reduce levels of WCM components. Herein, managers would be more segregated and pay more attention to achieving intended financial targets.

A slightly different scenario was observed in case 4 where the company combined elements from both approaches to conserve cash and minimize the impacts of distress conditions. However, the evidence suggests this company adopts more of a learning orientation rather than a profit oriented one (see the discussion in Chapter 6 for more details).

### **5.2.3 Organizational Structure**

The third proposition<sup>3</sup> is to understand the influence of organization structural designs on managerial approaches to WCM. This study finds that organizational structure, vertical and horizontal perspectives, influences working capital activities, particularly information flow and decision authority. Table 5.3 (presented on page 99) summarizes the findings with regard to the influence of organizational structure on working capital. Scholars have suggested that organizational structure is linked to how decisions are made and information sharing between managers (see for example: Chenhall & Morris, 1986; Lawrence & Lorsch, 1967; Miles & Snow, 1978).

The following subsections discuss the case evidence of organizational structure in terms of information linkage flow and structural design.

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<sup>3</sup> Proposition 3 is that organizational structure influences the managerial approach to WCM.

### 5.2.3.1 *Information Linkage Flow*

Information linkage flow refers to interaction arrangements between managers in WCM decision making processes. This study identifies two distinguishable information flows, horizontal and vertical. The horizontal arrangement encourages interactions and information sharing between managers across business units. Furthermore, integrators are embedded within business units to synchronize various business activities to meet market demands. In contrast, a vertical arrangement refers to information being vertically shared, where top management are well informed about WCM activities. Various formal meetings are organized to discuss, monitor, and determine WCM activities with senior managers from different units required to attend periodical meetings to discuss and update any changes, including those involving WCM components.

The coding process identified two categories that distinguished information sharing arrangements: horizontal and vertical flow.

**Horizontal flow** – the evidence suggests that cases 1, 3, and 4 adopt horizontal information sharing arrangements to enhance their decision making process. As case 3's senior manager supply chain explained:

*We have the cycle of meetings that we have before we actually come up with a consensus on what the demand plans like. We start off with meeting, a forum we called it sales and marketing review, where the salesmen and the marketers sit together with the supply chain people to plan, try to make sense the (demand) next couple of months try to forecast...*

A similar arrangement was identified in case 4, according to their production planning manager: *"We always have interactions with finance; the finance people normally will come over and find us in terms of inventory..."* Furthermore, case 4's senior manager (Accounting) said:

*We physically sit together (with Head of Payables and Head of Receivables) so we do share information, we look at the cash balances. On the payables, how much they expect to pay this month then they will pass to the treasury, (on the receivables) they will pass all the information how much they expect coming this month...*

A different arrangement was observed in case 1 where a high degree of formalization was adopted but the company used horizontal information linkage to improve work culture and teamwork. Their senior manager (Accounting) stated:

*People working in different departments with silo thinking, it's not communicated and then if anything wrong, this is logistics (mistake) for keeping so much stock. It is easy to point finger but at the end of the day, is it going to help the company... We encourage a lot of (interaction) cross functional (different department)...we believe as one company you can have this kind of quality across the entire department if the team work together you are damn powerful...*

and the senior manager (Production) expanded:

*Our interactions compared to couple years ago, it improves tremendously we used to be (informant shows negative face expression) big time even with sales, I mean sales would be the main issue for my plans to change (production level) just imagine this week they say they want to sell 10 thousands hectolitres of these suddenly they decide they want to sell 20 thousands hectolitres of that but I already brought in all the working capital for this week... interaction never used to happen to be honest. I would be the first person to admit two years ago they really you do your own thing (focus on their jobs) I do my own thing I don't care (what others are doing)...*

The above evidence suggests that intensive interaction between managers across an organization enables WCM components to be more responsive to changes in market sentiments.

Synchronizing each unit is a challenging task; hence integrators are assigned with responsibility to facilitate managers in WCM decision making processes. It is apparent that cases 1, 3, and 4 assigned integrators in certain business units to link and synchronize WCM components. Case 3's Demand Planner (assigned as an integrator) said: *"I report directly to business unit manager but dotted line to senior manager of supply chain. So that is how we are structured in order to have each business (unit) to be able to move in a more agile manner..."* Similarly, in case 4, the demand planning manager said:

*...to be very frank with you in this company, what I see is gonna be very much reflected of what the other teams (business units) in marketing and planning division. We have a production planning advisor, he will advise us on production planning. This person is actually our window to manage production. We would know which one is the maximum capacity, which parts only available for certain number so but the market should direct production; you know production is to react (follow orders)...*

**Vertical flow** – on the other hand, cases 2 and 5 adopt a vertical information sharing arrangement. Much information related to WCM components is shared vertically with higher level or top management, thus interaction between middle level managers from different functional areas is minimal. As case 2's CFO put it:

*it is more of thing like previous month we have missteps then so we make it known to management what were the missteps what would be immediate steps what would be immediate action if we just think need merits bigger group attention then we bring it up...*

Managers are required to report the status of WCM components to their superior and then the respective managers will table it at the management meeting, as case 2's demand planning manager stated: *"my number (sales forecast) after being review (discuss) by bosses as well as the management team were actually furnish (provide) to finance for their subsequent calculation... they (top management) will review because it's a bit risky for one person to decide. It's the management call..."*

Case 5 also showed a vertical information sharing arrangement strongly existed. The senior manager accounting said: *"Normally all (material) before buying, supply chain department actually referred to me first so before he buys. So I already know how much. It's not like suddenly unexpected, it is already been designed that (way). It is not like they independently go buy themselves..."* The above evidence implies that information related to WCM components has to be reported and referred to senior managers, so senior managers are well informed about many WCM activities.

### **5.2.3.2 Structural Design**

Structural design refers to how WCM decision making processes are conducted. There are two structural designs identified in this study, centralized and decentralized. Centralized structural design refers to many decisions related to working capital being made at the top level. Alternatively, a decentralized structure refers to WCM decision making happening anywhere within an organization.

**Centralized structure** – evidence suggests that cases 1, 2, and 5 adopt a centralized WCM decision making process. It is apparent that these companies dedicate top management to making many decisions related to WCM components. As case 2's CFO put it: *“Managing WCM components actually a team (top management level) effort in a sense, of course ultimately the Managing Director is responsible. In terms of value it comes more at management level so all tighten together...”* Furthermore, as case 2's production planner stated: *“it's a management decision right! And they want to see like what the total (amount) they can produce and how they want to do it. It is like a game plan so it's depending on them (management team)...”*

Similar arrangements were identified in case 5 with the senior manager (Accounting) saying: *“Basically if we talk about working capital I am the one who is responsible for all the financial (aspects) in this company. So for working capital basically, I have to determine how much that I need based on our forecast and business plan...”* Furthermore, their receivables executive said: *“Credit approval is given from our bosses like our General Manager's credit limit is set by group above (top of hierarchy) that we have to go through the management committee...”*

**Decentralized structure** – cases 3 and 4 adopt decentralized WCM decision making processes. In case 3, the senior manager (Supply chain) said:

*the head of business units called the business executive manager, he (would appear) like he owns the business unit, he is like the Managing Director of the business, so normally the picture (decisions) come out anyway in a forum as I say we have the sales marketing review, manufacturing review, or monthly forecast review. So it will come out anyway but when it doesn't and there is a dead end and there's steel made then he has to throw his dice and he has to make the call....*

This statement indicates that managers in business unit level are empowered to decide WCM levels for respective units. As their demand planning manager put it:

*The way how we are structured now, we have business units. Our CEO in Europe realized that we have grown too big you know it is like a giant so then he says that in order for you to move forward fast, you need to be agile and then to be agile, you*

*need to be segmented so from there you will have a business team so in Malaysia we have about 10 (not actual number) business units, and within the business units we have all of this functions, we have the sales people, we have the marketing people, we have the supply chain people, we have technical people, we have that innovative people, the whole team within the business units who report directly to the business executives manager but at the same time we also report to our functional boss...*

Similarly, in case 4, the decision making authority was delegated to business units' managers.

Case 4's senior manager (Accounting) said: *"they will consult with their respective managers and then it's channelled (to the right unit) but if they cannot be solve at that their level (business unit) then its channel up (top management)"* While case 4's production planner said:

*This respective section will determine its own levels; we don't have a company policy that we have to keep this stock level. It's all our own judgement, our initiative but it's not in the policy... we will decide first and then report to the management. It's our decisions and our managing Director does not have the time for this, he will see the report only. If the auditors think we carry too much stock, then they will find us...*

Table 5.3 (below) summarizes the findings regarding organizational structure and concluded that participating companies can be divided into two categories, centralised and decentralised structure. The following points are presented to summarize the findings:

- There are two types of information sharing arrangements, vertical and horizontal. Cases 1, 3, and 4 implement a horizontal information flow where managers across business units are encouraged to interact to balance WCM components and minimize conflicts. In contrast, cases 2 and 5 adopt a vertical information flow. Top management is well informed about WCM activities and this leads to centralized decision making for many issues related to WCM components.
- In structural designs, this study finds two approaches related to decision making processes, centralized and decentralized. Table 5.3 showed that cases 1, 2, and 5 adopt centralized decision making. This means many WCM decisions are made at the top level. In contrast, cases 3 and 4 adopt decentralized decision making processes, in which

managers are empowered to make decisions because of their familiarity with business conditions.

- Despite centralized decision making, case 1 implemented horizontal information flow between managers to improve work culture and ability to achieve intended goals (budgets). This is consistent with Chapman (1998) who argues that firms with formal control arrangements can employ rigid procedures but they also need to consider, in particular conditions, intensive interactions and information sharing between managers.

Table 5.3 Organizational Structure: Summary of Findings

Themes	Information Linkage		Structural Designs		Outcome
	VF	HF	CS	DS	
Case 1	++	++	+	+	Hybrid* Structure
	Horizontal Flow		Centralized		
Case 2	+	+	+	+	Vertical Structure
	Vertical Flow		Centralized		
Case 3	++	++	++	++	Horizontal Structure
	Horizontal Flow		Decentralized		
Case 4	++	++	++	++	Horizontal Structure
	Horizontal Flow		Decentralized		
Case 5	+	+	+	+	Vertical Structure
	Vertical		Centralized		

Information Linkage

Vertical Flow (VF): ++Weakly Existed + Strongly Existed

Horizontal Flow (HF): ++ Strongly Existed + Weakly Existed

Structural Designs

Centralized Structure (CS): ++ Weakly Existed + Strongly Existed

Decentralized Structured (DS): ++ Strongly Existed + Weakly Existed

\* Cases are rated based on binary approach and dominating value may be valid to describe a practice

Summing up the findings, cases 3 and 4 adopt horizontal structures. This arrangement is associated with horizontal information sharing flow and decentralized decision making processes. As mentioned earlier, managers are encouraged to interact and learn about various aspects, thus WCM decisions are made by consensus. In contrast, cases 2 and 5 adopt vertical structures. This arrangement constitutes a centralized WCM decision making process and vertical information sharing flow. Top management prefers to control managers to keep WCM components at specified levels and decision authority is restricted to top hierarchy. A

unique condition was observed in case 1 where the company combined both mechanisms to improve work culture and teamwork between managers.

## **5.2.4 Interdependency and Information Technology**

Interdependency and information technology is a new determining perspective that emerged during the data collection process. This perspective contributes to the understanding of WCM practices and constitutes an important expansion to the emerging conceptual framework.

The degree of interdependency is associated with business processes, including WCM activities. Low interdependency is observed to suit a business operation that is considered simple and has a high degree of specialization in individual tasks (Chenhall, 2003). Here, managers are independent in regards to managing WCM components. Conversely, high interdependency is related to coordination, learning aspects and dynamic environment (Macintosh & Daft, 1987). Managers in relatively complex business processes, compromise in many aspects of WCM; many decisions in any WCM components have to be discussed across the board prior to implementation.

Enterprise Resource Planning (hereafter called ERP) usage is associated with business processes where a customization process is associated with high interdependency and a standardized process is associated with low interdependency (Daft, 2001; Khandwalla, 1977). This study finds that a company with complex working capital processes is relying on ERP capabilities to make decisions. Alternatively, in a company with fairly straightforward processes, reliance on ERP is minimal. The following subsections describe the themes: interdependency and ERP usage.

### **5.2.4.1 Interdependency**

This study finds that managers are to compromise in minimizing conflicts or balancing WCM components. 'High degree of interdependency' basically refers to managers

relying on each other to coordinate complex business processes (Chenhall, 2003); managers participate in discussions to share their current status and link different views to make better WCM decisions. On the other hand, low interdependency refers to managers who focus on individual targets and tasks (Chenhall & Morris, 1986; Daft, 2004). In this sense, middle level managers are familiar with the process and mainly try to maintain certain levels of WCM components.

The evidence showed two categories that distinguished the interdependency levels: focus on individual tasks and compromising to minimize conflicts.

**Focus on individual task** – refers to when companies dedicate each department/manager to focus on individual tasks. As case 1's senior manager (Accounting) said: *“actually our business is quite straight forward for inventory basically you know you need to produce (this much) you need to keep this types of things (raw materials) of inventory level and finished good level, sales, payable, receivable, more less from your volume and by segment...”* This statement indicates that managers are aware of the volume needed to fulfil overall organizational targets, thus managers are more focus on individual targets.

In case 5, the working capital process was fairly straightforward where managers are familiar with their tasks. The senior manager accounting said: *“working capital, let say, inventory level we already know how many, how long we want, we have prepared cash flow projection so we already know...”* Where change is required, top management approval would be needed; however, a change does not mean it has to be negotiated with other departments. Case 5's assistant manager put it thus:

*If there is a need to change we will change (it) but it (decisions) doesn't need to suit every department. But at the end of the day compromise or not is to benefit the company you must benefit the company because company's direction is to grow or make profit...*

Likewise, case 2 implement low interdependency and changes are normally discussed between senior managers (top management). The CFO said:

*I think in terms of (inventory level) the planners only worries (focus) in terms of quantity they don't look at value because the planner you make sure we get the goods at the right quantity and the right place that's their job. The purchasing manager should buy it at the best price and the best terms that their job overall...*

The above statements indicate that managers are assigned to keep WCM components at certain levels, thus, the segregation of WCM components is strong and lowers the need to compromise.

**Compromising to minimize conflict** – managers, in complex business processes, are involved in various negotiations to minimise conflicts and balance WCM components. As case 4's senior manager accounting expressed it:

*We will rely on the marketing guys for their expertise. They know how many cars they can sell, they know the market better, then they will say, ok this year we can sell this X amount of car then it will be debated in the company. Finally, the agreed figures will be given to production who will order the parts based on those orders...*

Similarly, case 3's senior manager (Supply Chain) said:

*you know the number gets discussed, the demand plan gets entered into the system, the supply planner then takes over based on the number that they believe going to be sold, then the system will take a look at the stock cover policy what is inventory levels and what is production's capacity, then suggest a production plan...*

Managers in both companies are compromising between business units to find the right balance of WCM components. This indicates that managers are dependent on each other to manage working capital.

#### **5.2.4.2 ERP Usage**

Managers use ERP as a tool to extract critical information and share that information with managers in the decision making process. This study identifies two levels of dependency (high and low) where in high dependency managers intensively used ERP to analyse WCM components and share information across business units. In low ERP dependency, however, managers do not extensively use ERP capabilities to facilitate the decision making process; rather it is used for data warehouse purposes. The following paragraphs discuss the findings concerning low and high ERP dependency.

**High ERP dependency** – it is apparent that ERP, in cases 3 and 4, is used extensively in decision making processes. Case 3's senior manager (Supply chain) said:

*The inventory level is decided by the system, because it's policy already. The production planner gets it loaded into the ERP system and the system will trigger, ok you need this (amount) some more of raw material this (amount) some more of this packaging the period of bla bla bla. It is all system driven very little human intervention. The more human intervention, the chaotic it will be. It's a very simple thing, just like any other thing the more human intervention, the more problem waiting. It is like your body, for example, your body, you just need to input and output make sure you input (eat) the correct stuffs, the (ERP) system is like your body. You give the correct input you will chain out the correct output...*

The above evidence suggests that data gained from ERP provides crucial information in deciding appropriate WCM levels. Further, the finance department also depends on ERP to gain insight into WCM performance. Case 3's senior manager (Accounting) attested: *“Our ERP is actually quite advanced; you know you just hit the button and you get the report. So basically this (ERP) is customised...”*

Similarly, in case 4, the senior manager (Accounting) said: *“There is information floating around the place. To be effective, it must have accurate information and available information as when you want (that) information...”* and the production planning manager said: *“Because we have thousands of different parts, so you cannot do it manually. It may incur human errors. It requires system (ERP) but it must be reliable system, means it has to be updated, somebody has to keep it updated for me...”*

The above examples indicate that these companies are dependent on ERP capabilities to assist them in managing WCM components, which may be due to their wide range of materials and complex transactions. Thus, here, ERP is a tool that provides important information for the decision making process.

**Low ERP dependency** – ERP is not extensively used by managers in the WCM decision making processes in case 1. The senior manager (Production) said: *“I do a physical (manual) stock take. I cross check (with ERP reports), it's a long process but we found that it*

is due diligence and I don't want to have a big surprise at the end of the day..." This statement indicates that information is entered into the ERP system, which is then shared with other departments. For example, the finance department uses information from ERP to prepare reports. Case 1's senior manager production said: "Because they (finance) will also see that ok ERP said you got this much you report it. What happened? So that's a monthly thing basically ringgit (MYR)..."

A similar situation was identified in case 2, where ERP dependency was relatively low. Although this company has recently upgraded its ERP system and has the capability to monitor WCM levels, ERP is only used to improve organizational processes including reporting, monitoring and processing of WCM activities. As case 2's CFO put it:

*It's about the openness in that respect. So certainly ERP has improved our transparency. Last time if something rotten (in warehouse) there they will keep quiet nobody knows it. Now it's transparent once you create the report, what you are doing there now people are monitoring it...*

The production planner further explained:

*ERP is just one type of software that we use, it is actually very vital for us because everything run through ERP, I mean condition like purchase orders, inventory level stock holding. Everything comes from ERP that's means movement from whatever materials are recorded...*

The following points are presented to summarize the findings as shown in Table 5.4.

Table 5.4 Interdependency and Information Technology: Summary of Findings

Themes	Information Technology	Interdependency		
Categories	ED	CMC	SIT	Outcome
Case 1	+	+	+	Simple Process
	Low	Low		
Case 2	+	+	+	Simple Process
	Low	Low		
Case 3	++	++	++	Complex Process
	High	High		
Case 4	++	++	++	Complex Process
	High	High		
Case 5	+	+	+	Simple Process
	Low	Low		

Information Technology

ERP Dependency (ED): ++ Intensively Used + Weakly Used

Interdependency

Compromising-Minimise Conflict (CMC): ++ Strongly Existed + Weakly Existed

Specialization on Individual Tasks (SIT): ++ Weakly Existed + strongly existed

- Cases 3 and 4 demonstrate high interdependency levels where managers are more dependent on each other to manage WCM components. Whereas, cases 1, 2, and 5 indicate low interdependency levels, where managers are well informed and understood in terms of managing working capital components.
- The evidence suggests that cases 3 and 4 are relying on ERP capabilities to facilitate WCM decision making processes and enhance interdependency between managers. In contrast, cases 1, 2 and 5 use information technology as an operational tool (i.e. data warehouse) rather than facilitating decision making processes. In other words, ERP usage is low when determining WCM levels, due to known parameters or intended targets.

Managers in cases 3 and 4 are more dependent on each other and ERP dependency is considerably higher, as shown in Table 5.4 (above). Decisions are made through a series of discussions and compromises between business units. In contrast, managers in cases 1, 2, and 5, are to focus on achieving individual targets (low interdependence) and ERP is not heavily used to make decisions: hence managers are segregated.

### **5.2.5 Organizational Culture**

The last proposition<sup>4</sup> is to understand the relationship of organizational culture to WCM practices. Using previous models of culture, this study is able to classify the cases into two categories, also known in organizational literature as bureaucratic and adaptability (Bigliardi, Dormio, Galati, & Schiuma, 2012; Denison & Mishra, 1995); bureaucratic culture is normally linked with consistency and is result driven whereas adaptability is related to innovation and sense making capability.

Adaptability culture is associated with a strategic focus that suits companies operating in dynamic environments (Denison & Mishra, 1995; Momeni, Amir Babak, & Saadat, 2012).

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<sup>4</sup> Proposition 4 is that organizational culture influences the managerial approach to WCM.

Managers consider multiple sources of information (internal and external) and interpret what would be an appropriate set of initiatives to improve organizational performance (Simons, 1995). In contrast, bureaucratic culture is associated with an internal focus and budget emphasis (Bigliardi, et al., 2012; Schein, 1984). Managers in cost centre organizations are expected to rely on financial budgets to achieve intended targets (Hartmann, 2000), and being consistent to undertake their jobs efficiently (Bigliardi, et al., 2012; Denison & Mishra, 1995; Schein, 1984). To improve consistency, companies impose strict regulations, policies, routines, and procedures on daily activities.

Schein (1984) defines organizational culture as a set of values and norms shared between members of an organization which has been accepted and passed on to new employees. He suggests three layers of awareness to describe organizational culture. Level 1, artefact and creations, refers to objects that are visible representations of an organization, such as buildings and logos. The second level is values, which refers to employees' behaviours which is relatively noticeable. For example, to gain rewards, employees have to achieve certain targets (for example, days of collection, days of payment and days of working capital). The deepest layer of organizational culture is basic underlying assumptions, level 3, which is known as invisible and taken for granted. For example, the view that every material must be processed before it becomes a finished good.

The coding process identified two themes that distinguished organizational culture, values and basic underlying assumptions.

#### **5.2.5.1 Values**

This study finds that values are distinguishable between adaptability and bureaucratic culture. In adaptability culture, managers exhibit innovative efforts in finding alternatives to improve WCM performance. In bureaucratic culture, managers highlight the importance of achieving intended targets.

**Innovative efforts** – cases 3 and 4 embed innovation efforts to improve organizational performance, including WCM. Hence, managers are to develop new initiatives and seek new ideas to improve WCM. The case 3's senior manager accounting said: *“Support and realisation of the importance of working capital and you have to see that working capital is playing quite a big role in terms of delivering or maximising the shareholders return...”* Informants in case 3 perceived working capital as important, not only for finance people but it was noticed in most interviews. Case 3's demand planning manager said: *“when you reduce waste (unused materials) it goes directly to your bottom line...”* inventory planning manager said: *“looking at the figures challenging it whether it still affecting badly, you know, working capital”* The case 3's informants showed greater awareness of WCM and they were seeking ways to improve WCM components. The case 3's demand planning manager 2 said:

*...it (new development program) is going to have an impact to our working capital because once we know actual sentiment from the ground, we know exactly how much to produce...Right now the input sales which does not reflect the actual market demand, so you tend to have a high stock cover for example, so in that sense you have high stock cover at the distribution centre and you have your stock covers at your dealers so that impact your working capital...so meaning if you have a better idea of what demand planning should be in terms of volume then we can control we can minimize the impact of these unnecessary effect to working capital. You can control your stock level and control your warehouse utilisation space...*

The above statement indicates that case 3's managers are aware of the role of working capital and have developed initiatives to reduce the holding level of finished goods by improving sales forecasting techniques.

Similarly, in case 4, informants stated that working capital was important and it required supports from multiple organizational levels. The senior manager accounting said: *“You need cooperation across all divisions to effectively manage working capital...”* The demand planning manager said: *“we must know what we are doing, we must know our numbers well, and we must know where the bottleneck is...”* An observation suggests that

employees develop alternatives to improve WCM. Case 4's payable manager said: *"Some of our processes have been reduced from ten steps process to may be seven step processes, because we want to reduce cost or (employees') overtime..."*

**Result oriented** – employees are expected to achieve intended targets. Case 1's senior manager accounting said:

*You can do whatever but still (shortfall) no result then you (are) not achieving your result (target). Your rewards will be based on performance you can be busy whole day but if you don't achieve and if you are behind (from budget), you have to come up with other initiative to close (gap)...*

Senior manager production explained:

*You say that I am living the (company's name) way but it doesn't show and you are paid for it we expect you to act as (company's name) employees and (company's name) way but you don't display it you don't get anything (rewards)...*

Managers are given targets as performance measures and this is used to determine rewards.

Similarly, in case 5, managers were evaluated based on intended targets. As the assistant operation manager said: *"profitability is definitely one of the main KPI they looking at, and also inventory turnover, debtor turnovers, creditor turnover, how well you manage our cash position and shareholders return ROI ROC a lot of things..."* The credit manager said: *"I reduced overdue at the same time I reduced credit process for customer to apply..."* As the case 5's payable executive put it: *"I am evaluated based on number of cheque issued on time. I don't have a clear target but they give me a percentage figure say 70% of our achievement..."*

In case 2, similar condition was observed. The case 2's CFO said: *"working capital ratio is part of my business KPI...now you put in segment (segregated units) and you become more focus and once you are more focus, you can track performance...you can never improve if you cannot track..."* The production manager said: *"one of main KPI to ensure that we always (have) sufficient inventory, sufficient buffer stocks...we don't go out of stocks so those are the very very main KPI for us..."*

### 5.2.5.2 *Basic Underlying Assumptions*

This study finds that patterns of basic underlying assumptions are distinguishable between cases. In adaptability culture, managers exhibit ability to interpret multiple sources of information to make sense of market directions. In contrast, managers exhibit strict attitude and discipline to be consistent in terms of managing WCM activities.

This study finds that managers in cases 3 and 4 demonstrate sense making capabilities to manage WCM components. In contrast, those managers in cases 1, 2, and 5 exhibit high level of consistency to manage WCM components.

**Sense making** capabilities are observed to be important for managers in cases 3 and 4. Case 4's strategic demand and planning manager said: *"it's the external factor, but it might not impact me now but something that I need to ponder and you need a team consciously looking at the scenario (external factors). That is the beauty of it..."* Case 4's senior manager accounting said: *"which areas we want to focus on and how our company like to be in 2016 ..."* Similarly, Case 3's senior manager supply chain said:

*The tricky part is making sense, I mean the demand planner have to make sense of the number, is it realistic? Is it not challenging? And also the supply planner has to balance the inventory. Can you imagine a blind man walking across a plan, trying to balance?*

**Consistency** – this study identifies that being consistent is important for cases 1, 2 and 5. Case 1 senior manager accounting said:

*Being business people sometimes they may be good in producing drinks, may be they are not good in highlighting the numbers, how come the number is so high! Again a little bit of awareness. Inventory (people) make sure the ordering process is correct the minimum level of inventory holding and optimized slow moving (items) that you need to clear off so you need get rid of it. Make it more efficient...*

An interesting observation in case 1, supply chain department expected its employees to have certain characteristics to perform operational tasks. The senior manager production said: *"We setup small group activities in supply chain (department). Things like what we call an action log list if the person is in charge of quality and he supposed to have these characters that you*

*must live it...*” This company believed that shaping employees’ behaviour may improve consistency.

Case 2’s CFO said: *each of our companies (worldwide) got the same tools, it’s not like we have to look outside and trained ourselves then it’s not consistent but our holding company use the same tools, set the same thinking, so you need the best practice to find consistency...*” This company used training and development to improve consistency.

Case 5’s managers indicated that being consistent is essential to manage WCM components. The accountant said: *“because we get used to it and then we have to plan our routine accordingly...”* The receivables executive said: *“Actually this thing is like a routine a cycle right! Actually my communication I can insist or strongly forced (customers) to get (make) payments. So I managed to reduce outstanding...”* The payable executive said: *“documentation is in order no discrepancy, accurate, and everything is complete...”*

The following points summarize the findings about organizational culture as discussed in this section.

- Values – managers in cases 3 and 4 demonstrated innovation efforts where they were seeking alternatives to improve WCM performance. Whereas, cases 1, 2, and 5 are to be more result oriented, managers showed greater tendency to achieve intended targets.
- Basic underlying assumptions - cases 3 and 4 showed sense making capability to facilitate the WCM decision making process and enhance understanding of market directions. In contrast, managers, in cases 1, 2 and 5, preferred to be more consistent in terms of managing WCM components.

Table 5.5 shows (below) two types of organizational culture emerged from the cases, bureaucratic and adaptability. The evidence suggests that cases 3 and 4 adopt adaptability culture. Managers, in cases 3 and 4, exhibit innovation effort and sense making capability to

enhance understanding about WCM components. In that sense, managers are more flexible to new changes. In contrast, it was observed that cases 1, 2, and 5 imposed strict regulations, policies, routines, and procedures to undertake daily activities. Hence, managers are to be more result oriented and consistent in terms of managing working capital activities.

Table 5.5 Organisational Culture: Summary of Findings

Themes	Values		Basic Underlying Assumptions		Outcome
	IE	RO	SM	CO	
Case 1	+	+	+	+	Bureaucratic Culture
	Result Oriented		Consistency		
Case 2	+	+	+	+	Bureaucratic Culture
	Result Oriented		Consistency		
Case 3	++	++	++	++	Adaptability Culture
	Innovative Effort		Sense Making		
Case 4	++	++	++	++	Adaptability Culture
	Innovative Effort		Sense Making		
Case 5	+	+	+	+	Bureaucratic Culture
	Result Oriented		Consistency		

Values

Innovation effort (IE): ++ strongly existed + weakly existed

Result Oriented (RO): ++ weakly existed + strongly existed

Basic Underlying Assumptions:

Sense making (SM): ++ strongly existed + weakly existed

Consistency (CO): ++ weakly existed + strongly existed

### 5.3 Determinants of WCM: An Alternative View

In this chapter, the coding process identified five determining perspectives that are believed to influence WCM practices as shown in Figure 5.1 (presented on page 114), such as PEU, budgetary control, organizational structure, interdependency and information technology, and organizational culture. However, it is apparent that these perspectives affect each of the participating companies in a different manner. Throughout this chapter, much effort was given to analyse the data from each perspective point of view. The evidence suggests that there is divergence in each determinant perspective. This raises two important questions. Does it imply different managerial approach to WCM? Can the determining perspectives facilitate managers to align WCM components in line with their organizational context? In this section, the researcher takes an alternative view of determining perspectives

from companies point of view, and discovers an interesting phenomenon where comparable patterns are identified in explaining WCM approaches (further discussion and interpretation from extant literature is retained for chapter 6).

**Case 1** – an observation of the determining perspectives propose that the managerial approach to WCM components is a non-integrated approach. The finding, low PEU, profit orientation, simple business process, and bureaucratic culture, implies a high degree of formalization. The company operates in a fairly static market condition and managers are relying on budget to control subordinates to achieve intended WCM targets. Hence, this company enforces rigid working capital policy and employees' consistency to keep WCM components at specified levels. However, it is important to acknowledge that this company adopts hybrid organizational structure, where decision making is centralized but information sharing flow is horizontal. The company believes that improving teamwork and communication between managers will extend organizational capabilities.

**Case 2** – the outcome of determining perspectives, low PEU, profit oriented, vertical structure, simple business process, and bureaucratic culture, indicates that the arrangement of WCM components is to be a non-integrated approach. The result is consistent with case 1, where market condition is static and parameters (budget emphasis) to improve organisational performance are known. CFO or management team is the most influential when it comes to working capital and top management determines the level of WCM components (centralized structure). Hence, the company segregates its managers to focus on achieving intended targets and being consistency to undertake their jobs.

**Case 3** – an observation of determinants perspectives suggests that managerial approach to WCM components is an integrated manner. The finding, high PEU, learning oriented, horizontal structure, complex process, and adaptability culture, proposes high level of adaptability in managing WCM components to be more responsive to changes in the

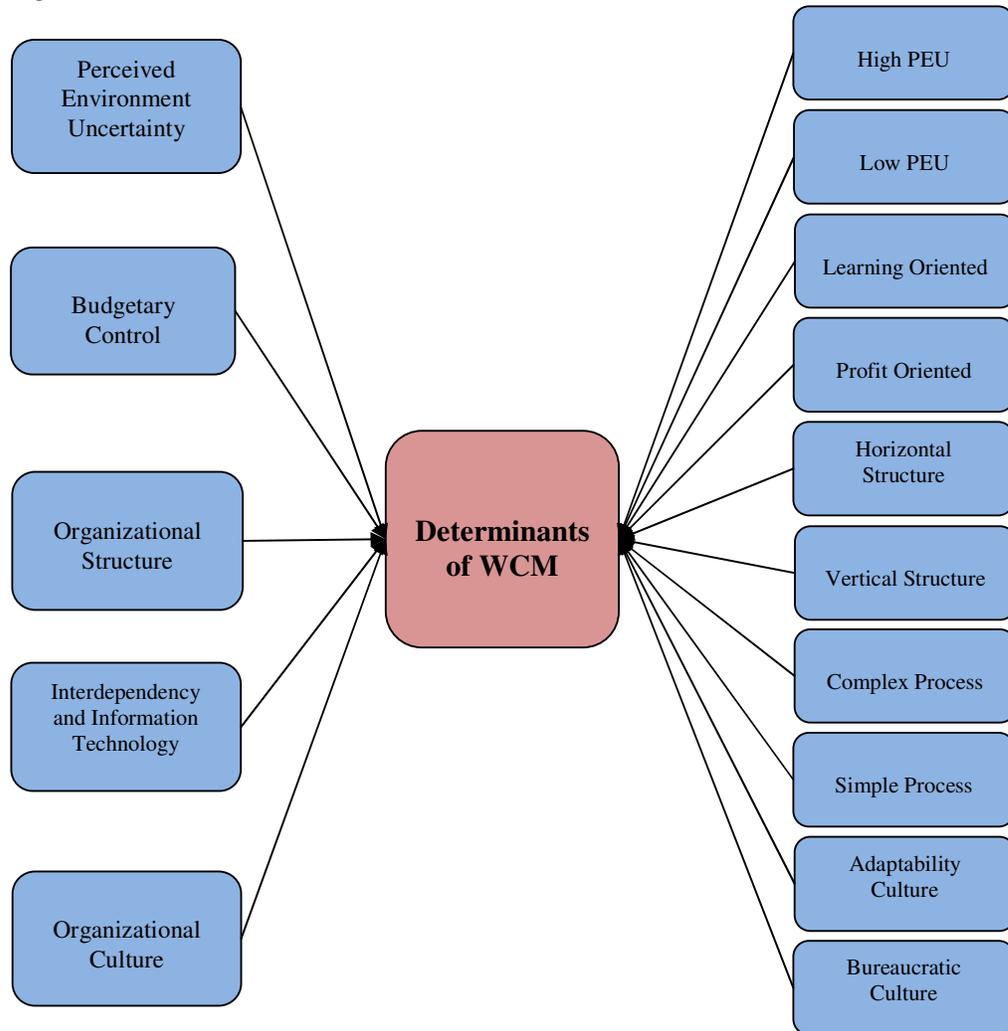
market. It is obvious that budget alone is inadequate in WCM planning process, and series of discussions between managers to learn different perspectives and speculate appropriate WCM levels is essential. Furthermore, the company offers high degree of flexibility in terms of working capital policy for managers to synchronize WCM components with market movements. Normally, WCM decisions are made in consensus manner and decentralized. Hence, managers' capabilities to make sense of external and internal variables in decision making process are critical, and develop alternatives to enhance effectiveness of WCM.

**Case 4** – the finding of determining perspectives, high PEU, horizontal structure, complex business process, adaptability culture, suggests managerial approach to WCM components is an integrated manner. The outcome is similar to case 3, where adaptability of WCM components is essential. Except the company adopts hybrid budgetary control arrangement where ongoing planning is implemented, but control of WCM components is becoming rigid and similar to mechanistic control. The company has to adapt the new changes in working capital policy to avoid further distress conditions and current economic recession.

**Case 5** – managerial approach to working capital components is a non-integrated approach. The finding of determining perspectives, low PEU, profit oriented, vertical structure, simple business process, and bureaucratic culture, indicates high degree of formalization. The result is similar to cases 1 and 2 where managers rely on accounting and financial terms as pre-specified in the budget to control subordinates and WCM components. The company strongly enforced rules and procedures to control WCM components to achieve intended targets. Further, senior manager accounting is the key person in charge of working capital levels, he/she is well informed of many financial aspects, including decisions about inventory levels (e.g. based oil). Employees are given specified targets (individually) and

performance is measured based on achievements and being consistent with daily routines is essential to achieve intended targets.

Figure 5.1 Determinants of WCM: An Alternative View



Summing up the findings, five determining perspectives illustrate comparable patterns in explaining differences in WCM practices. At this juncture, companies employ profit orientation, high PEU, vertical structure, simple business process, and bureaucratic culture; where WCM components are managed in a non-integrated manner. In contrast, companies encourage managers to pay more attention to external variables in decision making processes, learning oriented, decentralized, complex process, and adaptability culture, thus working capital components may be managed in a more integrated manner. This raises an important

discussion for the next chapter where cases are compared and contrasted to recognize different characteristics of WCM approaches.

## **5.4 Chapter Summary**

This chapter presented the findings of multiple case studies in regards to the management of working capital. The data analysis process identified that five determining perspectives have had significant influence on WCM practices, related to Malaysian listed companies. A new determinant perspective (information technology and interdependency) was identified during data collection and contributed important extension in understanding of WCM practices. The five listed companies provided in-depth understanding about what determines WCM practices are. The five determining perspectives are PEU, budgetary control, organizational structure, information technology and interdependency, and organizational culture.

This chapter explained that there are deviations in each determinant perspective, by reading the matrices vertically and horizontally. The evidence suggests that level (high vs. low) of PEU illustrates different WCM approach, where managers in high PEU are to have a more external focus in decision making processes compared to low PEU. In budgetary control, this study identifies that learning orientation and profit orientation suggest different WCM approach. Managers in learning orientation are considering both objective and subjective performance measures to manage WCM components, whereas the profit orientation is driven by budget and financial terms to determine the appropriate WCM levels. Similar conditions are observed with the other three determining perspectives, organizational structure (horizontal vs. vertical structure), information technology and interdependency (complex vs. simple business process), and organizational culture (adaptability and bureaucratic culture). An alternative view of determining perspectives reveals consistent patterns across cases enabling the researcher to distinguish WCM approaches.

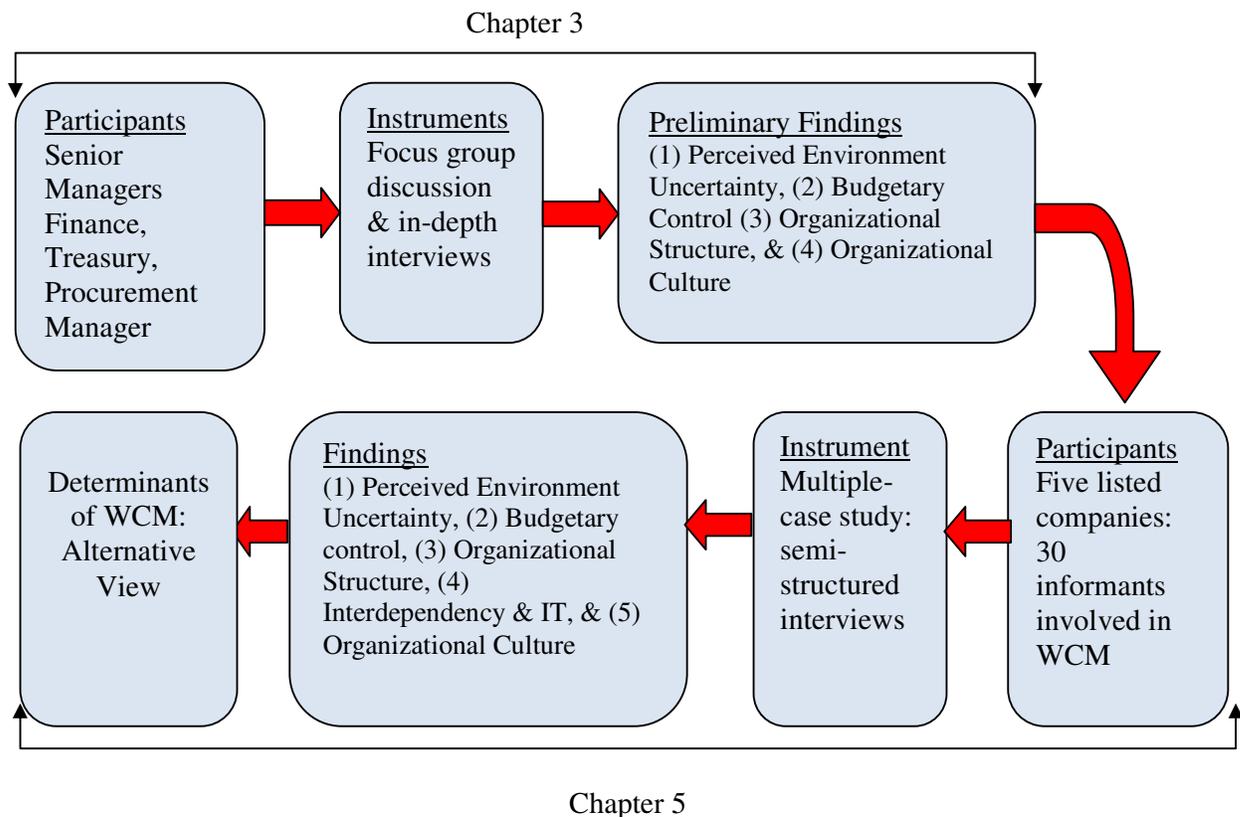
# Chapter 6

## A Typology of Working Capital Management

### 6.1 Introduction

This chapter extends the analysis in chapter 5 and proposes a conceptual framework describing WCM practices. The framework provides explanations of WCM practices by distinguishing between two WCM approaches. The framework is the product of a process, combining similar cases into a group and then comparing the differences between groups (Kluge, 2000). Before starting the discussion, it is useful to visualise the research process that has been followed (Figure 6.1).

**Figure 6.1 The Research Process of Determinants of WCM**



Chapter 3 sought to develop a preliminary understanding of WCM, narrowed the focus of the study and suggested an appropriate methodology, enabling the development of a

research instrument (see chapter 4 for details). This chapter also offered four propositions for investigation in subsequent fieldwork, the observations which suggested that the characteristics of PEU, budgetary control, organizational structure, and organizational culture had significant impact on the approach adopted in the management of working capital.

In chapter 5, the interpretation of multiple cases confirmed that there were five determining perspectives of WCM practices, with a new perspective (interdependency and information technology) emerging during data collection and being incorporated into the framework. Furthermore, the evidence suggested that each determining perspective comprised variations that offered insights about different WCM practices in the Malaysian environment.

The remainder of this chapter is organized into two sections; the second being a discussion of the development of the conceptual framework and linked to extant literature, while the third is a summary of the discussion.

## **6.2 A Conceptual Framework of Working Capital Management**

A conceptual framework provides a comprehensive and integrated understanding, explaining WCM in complex organizational settings. This is the main finding of this research, symbolizing the diversity in WCM practices which have never been fully discovered. It is believed managers, scholars, and professionals can use this framework to examine WCM components within an organizational context, particularly Malaysian listed companies. In this sense, it is a new paradigm in WCM where five determining perspectives within organizational contexts have significant roles in formulating an effective WCM strategy.

This research was inspired by the classification suggested by previous scholars. Among many classifications of organizational strategies in the literature are: mechanistic and organic (Burns & Stalker, 1961), defender, analyser, and prospector (Miles & Snow, 1978,

2003), cost leadership and product differentiation (Porter, 1980), or open and closed systems (Daft, 2004). The organizational literature identifies two extreme contexts of organization located at opposite ends of the continuum. At one end, mechanistic, defender, cost leadership, and closed systems clearly underline specific targets (i.e. financial outcomes and volume) and periodically enforce mandatory monitoring activities (Burns & Stalker, 1961; Daft, 2004; Langfield-Smith, 1997; Miles & Snow, 1978). At the other end, organic, prospector, product differentiation, and open systems refer to the use of a much broader scope of information, focused on the external environment (competitors, customer inputs, non-financial information) and learning aspects, to facilitate the decision making process.

An extensive review concluded that WCM literature lacked explanations of WCM in a whole organizational context. For example, chapters 1 and 2 demonstrated that a conceptual framework would be valuable for managers and academicians to reappraise, redesign, or rebuild effective WCM practices. Thus, this study was intended to provide a comprehensive understanding, explaining why there was considerable diversity in WCM practices currently used by Malaysian listed companies. The following subsections discuss determining perspectives of WCM and a typology which contributes to the development of a WCM conceptual framework.

### **6.2.1 Determining Perspectives of Working Capital Management**

Table 6.1 (following) illustrates an overview of the findings as observed in chapter 5. Conclusions can be drawn by reading the table in two ways. Reading down the columns (vertical) gives insights about each determining perspective across cases while reading across the rows (horizontal) offers insights about each case across determining perspectives. Then, the cases are compared to differentiate the WCM approaches. In this section, the discussion of the determining perspectives of the conceptual framework is drawn by reading the table vertically. The description of characteristics of WCM approaches, drawn by reading the table

horizontally (as shown in Table 6.7), is to be presented in the next section: 6.2.1. However, before discussing the WCM typology, it is useful to link the five determining perspectives of WCM practices with extant literature.

Table 6.1 Summary of Findings: Vertical View

Case No	Perceived Environment Uncertainty	Budgetary control	Organizational Structure	Interdependency & Information Technology	Organizational Culture
Case 1	Low Uncertainty	Profit Oriented	Hybrid	Simple Process	Bureaucratic Culture
Case 2	Low Uncertainty	Profit Oriented	Vertical Structure	Simple Process	Bureaucratic Culture
Case 3	High Uncertainty	Learning Oriented	Horizontal Structure	Complex Process	Adaptability Culture
Case 4	High Uncertainty	Hybrid	Horizontal Structure	Complex Process	Adaptability Culture
Case 5	Low Uncertainty	Profit Oriented	Vertical Structure	Simple Process	Bureaucratic Culture

### 6.2.1.1 Perceived Environment Uncertainty

This study suggests that it is imperative for managers to understand the influence of external factors on WCM. This is similar to Gentry et al. (1979) who suggested that managers in Fortune 500 companies considered external variables in WCM decision making processes. Previous studies by Filbeck and Krueger (2005) and Raheman et al. (2011) found that working capital performance varies across industries and they further suggested that this may be due to external factors which influenced how managers determined working capital policies. An empirical study by McInnes (2000) identified that economic conditions influence cash management, but seasonal factors (market conditions) influenced inventory, payables, and receivables management. In a sense, researchers have already identified the influence of PEU on the management of working capital. Unfortunately, previous WCM studies were not designed to observe how the *level* of PEU influenced WCM decision making processes. Furthermore, it should be acknowledged that the above studies have examined WCM practices in developed countries, where the external environment is perceived to be different from that of Malaysia.

Table 6.2 Perceived Environment Uncertainty: Summary of Findings

Cases / Outcome	Themes of Perceived Environment Uncertainty			
	Market Conditions	Economic Conditions	Financing	Govt. Regulations
Case 1 <b>Low Uncertainty</b> +++++	<b>Static</b> + <i>our business is very seasonal, like Chinese new year then consumption grow up so then have to take that into consideration as well</i>	<b>Minor</b> + <i>Despite the challenging economic backdrop, our company achieved great revenue compared to previous year</i>	<b>Minor</b> + <i>working capital is tying down money in the bank (financing) so what we have done is we have set new benchmark in finding out what is our threshold minimum to require</i>	<b>Major</b> ++ <i>People anticipated that budget announcement, there will be tax increased kind of thing, so that will also affect sales</i>
Case 2 <b>Low Uncertainty</b> +++++	<b>Static</b> + <i>You already have like a picture to what is happening (in demands) and where you have the spike...so whatever happened like the festive already accounted...</i>	<b>Major</b> ++ <i>in fact during the good times before the downturn our (sales) range plus 30% of the market but the minute the downturn came the market strength (reduced) by 10% we can see the swings...</i>	<b>Minor</b> + <i>It (distributor card) can be quite expensive (compared to) the bank (financing) the trade off I could reduce number of staff doing collection...</i>	<b>Minor</b> + <i>We have to get the approval like Halal (certification), for example or even from the Ministry of Health that actually affect the timeline but not much to the volume...</i>
Case 3 <b>High Uncertainty</b> ++++++	<b>Dynamic</b> ++ <i>Innovation (in products development) resulted (the company) ahead of the competition by offering top quality and healthy products...</i>	<b>Major</b> ++ <i>The uncertain (economic recessions) situations greatly influenced spending behaviour of consumers who were very cautious and this affecting company's performance.</i>	<b>Minor</b> + <i>what you can do is release (reduce) the money from financing working capital and you (can) do something else that could generate return to your shareholders</i>	<b>Minor</b> + <i>You (are) not allowed (government policy) to promote formula and then they promote home cook meal so they don't allow us give any sampling to hospital so that's effect demand.</i>
Case 4 <b>High Uncertainty</b> +++++++	<b>Dynamic</b> ++ <i>Why market is very aggressive? Is (because) consumer is given a lot of choice not those days... automotive market of late is very vicious and everyone want the same cake</i>	<b>Major</b> ++ <i>We didn't touch the policy because in that kind of situation (economic recession), we cannot cut the credit period, at that time you had to intensify the collection</i>	<b>Major</b> ++ <i>We were hammered by stringent credit hire purchase policy so all these added together really wacked our performance in particular calendar year</i>	<b>Major</b> ++ <i>We were hammered by the implementation of the national automotive policy which saw the severe drop in second hand car prices</i>
Case 5 <b>Low Uncertainty</b> ++++	<b>Static</b> + <i>Sometimes inventories will go up and down depending on seasons...</i>	<b>Minor</b> + <i>because of the economy crisis (it) affect our cash flow but doesn't really affect in the sense that they (we) insolvent</i>	<b>Minor</b> + <i>Why your profit is lower? Because I need to get more working capital some interest there if not I don't have the interest cost the profit will be more</i>	<b>Minor</b> + <i>We don't have many local (indigenous) suppliers...so government call for green book... so far they (indigenous) are okay</i>

To rate the level of PEU, the researcher assigned firms a “+” for managers’ minor concerned and/or static market and “++” for major concerned and/or dynamic market in managing WCM components.

Table 6.1 (presented on page 119) showed that PEU can be categorized as high and low (as discussed in chapter 5). This is consistent with organizational scholars who identified levels of PEU as being associated with how managers assigned or managed specific organizational outcomes (Auzair, 2011; Duncan, 1972; Herremans, Isaac, Kline, & Nazari, 2011; Khatri & D'Netto, 1997; Sawyerr, 1993). As an example, managers in low PEU firms may understand consumer demand and whether they have the capabilities to match the demands. These managers are, therefore, interested to control organizational resources to achieve intended targets, whereas managers in high PEU rely on various external variables in their decision making process (Khatri & D'Netto, 1997; Sawyerr, 1993; Sulaiman, Ahmad, & Alwi, 2004).

Table 6.2 (presented on page 120) summarizes the findings on PEU from chapter 5; where cases 1, 2 and 5 are in low PEU, while high PEU existed for cases 3 and 4.

#### **6.2.1.2 Budgetary Control**

This study proposes that managers should better understand the appropriate use of budget and control to effectively manage WCM components. The extent to which managers rely on budget to control subordinates signifies different managerial approaches (Hopwood, 1972; Sulaiman, et al., 2004). In an organization where financial measures are inadequate to facilitate decisions, managers may consider various factors (similar to ongoing planning), in which they are also considering subjective performance measures when making decisions (Van der Stede, et al., 2006). In contrast, other managers would rely solely on budget to control subordinates to achieve intended financial targets (Sulaiman, et al., 2004; Waterhouse & Tiessen, 1978). The following paragraphs restate previous WCM studies as regards the influence of budgetary control over WCM practices, which was discussed in chapter 2. However, these studies examined the WCM practices of developed countries and may not be

applicable to the Malaysian context. It should be noted that the current research is the first formal study examining WCM practices in the Malaysian context.

A comparison of WCM practices between Australia and the United States conducted by Belt and Smith (1991b) found that Australian companies adopted a situational changes approach (similar to the ongoing planning approach identified in the current research) than the Americans, in 1988. They also indicated that Australian companies offered more flexibility, (similar to organic control of WCM components) in terms of working capital policy, to adapt to changes in the environment. This may be due to Australian companies being commodity export-oriented firms, where flexibility to meet demands is essential (Belt & Smith, 1991b). A similar outcome was found in Canada by Khoury, Smith, and MacKay (1999) where companies adopted a situational changes approach, being flexible in terms of working capital policy. Gentry et al. (1979) also found that a large proportion of Belgian companies adopted ongoing planning and did not squeeze WCM components, as the second most adopted, to cater for sudden increases in demands or production costs, amongst other factors.

In contrast, a comparison of WCM practices among Belgium, France, India, and the U.S. by Gentry et al. (1979) found that the main objective of WCM (in these countries) was to support anticipated sales within the planning period or rely on budget to achieve intended targets (similar to budget emphasis). As for the working capital policy, Gentry found that these companies preferred to squeeze WCM components to a minimal level (similar to mechanistic control).

A survey of small businesses in the U.K. by Peel and Wilson (1996) found the majority of companies relied on budget to control WCM components. Also, a recent study by McInnes (2000) found that a majority of companies in New Zealand relied on budget to

achieve intended WCM targets. However, neither study examined the overall objective of the working capital policy adopted.

Extant WCM literature has suggested that the degree of reliance on budget is associated with control over WCM components (Nazir & Afza, 2009). In other words, if a company uses an ongoing planning approach then the control of WCM components is to be flexible or organic. In contrast, a company which adopts a budget emphasis to control subordinates may employ more rigid or mechanistic control of WCM components.

Table 6.3 Budgetary Control: Summary of Findings

Cases / Outcome	Themes of Budgetary control	
	Use of Budget	Utilising WCM Components
Case 1 <b>Profit Oriented</b> ++	<b>Budget Emphasis</b> + <i>Next year, this is the period when we start looking to budget how much we want to spend and we are all very volume driven...</i>	<b>Mechanistic Control</b> + <i>Those distributors have very strict payment terms, if they exceed payment terms you don't deliver we will not (release) the stock...</i>
Case 2 <b>Profit Oriented</b> ++	<b>Budget Emphasis</b> + <i>they have to meet like a certain amount of quota is to meet the budget</i>	<b>Mechanistic Control</b> + <i>We also imposing our terms very strictly with them (distributors) because when we sign the 30 days we want you to honour 30 days in fact our trade debt is hardly any better because of our distributor systems...</i>
Case 3 <b>Learning Oriented</b> ++++	<b>Ongoing Planning</b> ++ <i>Very impulse driven to get an accurate forecast is a challenge. So you keep learning so we change our forecast every week based on the sales (sentiments)...</i>	<b>Organic Control</b> ++ <i>If too low is also bad, too low meaning that you might (be) hit with out of stock situation. You can't produce so working capital is about optimising; it's not reducing working capital...</i>
Case 4 <b>Hybrid Approach</b> +++	<b>Ongoing Planning</b> ++ <i>discussions and regular meetings to change the plan for working capital activities for the financial year so it's not rigid plan throughout the year</i>	<b>Mechanistic Control</b> + <i>five to ten years ago, cash was not a problem, we have multibillion surplus the last few years our cash is dropped significantly now is become very crucial component for us here</i>
Case 5 <b>Profit Oriented</b> ++	<b>Budget Oriented</b> + <i>Mainly is our budget, we also have our (monthly) targets. For example next 3 months my sales target is 10 million so my forecast also has to justify (satisfy budget) that I have this figure.</i>	<b>Mechanistic Control</b> + <i>Our credit control procedures. So we ensure that the arr... There is no more flexibility we becoming strict already so we tightening things</i>

To rate the use of budgetary control, the researcher assigned firms a “+” for managers who are relying on budget and/or mechanistic control and “++” for managers who are considering ongoing planning and/or organic control to manage WCM components.

In the current study, the use of budget is also associated with control over working capital policy, which is consistent with previous WCM studies. It is apparent that the

managerial approach is different when companies adopt a profit orientation versus learning orientation as shown in Table 6.3 (above). The unique, hybrid control strategy of case 4 was discussed in Chapter 5.

### **6.2.1.3 Organizational Structure**

This study proposes that organizations' structural designs influence managerial approaches to WCM, particularly WCM decision making processes and information linkage. This is consistent with organizational scholars who have suggested that structural designs influence decision making authorities and information sharing arrangements (Chenhall, 2003; Lawrence & Lorsch, 1967; Miles & Snow, 1978). Hence, it is necessary for a company to implement an appropriate structural design to suit its environment (Daft, 2004; Miles & Snow, 2003). Various terms have been used to describe organizational structure; differentiation and integration (Lawrence & Lorsch, 1967), centralized and decentralized (Miles & Snow, 1978) and vertical and horizontal (Daft, 2001) which were used in this study, and bureaucratic and non-bureaucratic (Perrow, 1970).

In extant WCM literature, Smith and Sell (1980) found that overall management of working capital components of American companies were more centralized, meaning the decision making authority was given more to top management, in 1978. Later, in the mid 1980s, the American companies gradually decentralized the management of working capital components. Additionally, Gitman and Maxwell (1985) found that Fortune 1000 companies decentralized receivables and payables management but centralized financial planning and budgeting. This phenomenon has changed over time, and management of working capital became more decentralized in 1988 due to the large size and business scope of American corporations (Belt & Smith, 1991a).

A comparison study by Belt and Smith (1991b) identified that Australian companies centralized financial aspects of working capital but decentralized inventory management (in a larger proportion than the Americans) to others outside of the finance unit or top

Table 6.4 Organizational Structure: Summary of Findings

Cases / Outcome	Themes of Organizational Structure	
	Information Linkage Flow	Structural design
Case 1 <b>Hybrid Structure</b> +++	<b>Horizontal Flow</b> ++ <i>If something is wrong with this department so I just send an email so no personal touch. Why not we just give a call which is better or why not you just go down and explain the situation you build-up the reputations and solve together.</i>	<b>Centralized Decision Making</b> + <i>Being finance the one who generate this figure (WCM performance) and comparing with budget last (year) whether if there is any improvements...</i>
Case 2 <b>Vertical Structure</b> ++	<b>Vertical Flow</b> + <i>Higher management they actually received feedbacks from all down lines so they hear information they know what is happening and they will feedback (response)...</i>	<b>Centralized Decision Making</b> + <i>They (top management) will just again translate it back to us, because they just give it to us, what we need to produce, this is what we need to keep, so that's how it works</i>
Case 3 <b>Horizontal Structure</b> ++++	<b>Horizontal Flow</b> ++ <i>from the sales people so they give their feedback, and then the branding people or the marketing people they will give inputs on the promotions plans, so with all these things come together then we decide on the part the most likely demand for this product on the monthly basis..</i>	<b>Decentralized Decision Making</b> ++ <i>They (business units) are the one who have more control they are the one who can make the difference and they can put initiatives to make the different...</i>
Case 4 <b>Horizontal Structure</b> ++++	<b>Horizontal Flow</b> ++ <i>Production always follows orders. The production never makes cars without an order. The sales (dept) will tell how many cars are needed; production will make exactly what the sales request. Every month they meet, we call it production meeting we will be adjusted (production levels) if they can't meet...</i>	<b>Decentralized Decision Making</b> ++ <i>The respecting units will decide how much stock they want to carry...</i>
Case 5 <b>Vertical Structure</b> ++	<b>Vertical Flow</b> + <i>we have a forum on a monthly (basis) we have a managers meeting to highlight this issue and also every quarter we have these enterprise risk management meeting with all the managers as well basically all these forums to discuss things that you mentioned if there is a need to change we will change</i>	<b>Centralized Decision Making</b> + <i>It must go through me first. I control before he buy I already know...</i>

To classify the organizational structure, the researcher assigned firms a “+” for vertical information sharing and/or centralized structure and “++” for horizontal information flow and/or decentralized structure to manage WCM components.

management. By and large, McInnes (2000) finds that overall management of working capital is centralized within the finance departments and top management of New Zealand listed companies. Unfortunately, none of the above studies has examined information linkage flow between managers, which is an important segment of organizational structure (Daft, 2004). In terms of information sharing arrangements, little is known about this particular aspect from extant WCM literature. A study by Gentry et al. (1979) found that managers in Belgium, France, and the U.S. adopted intensive interactions (similar to horizontal information flow) between production, marketing and finance to improve forecasting accuracy and enabled managers to determine appropriate WCM levels. This indicates that series of discussions between managers across the board enhance the effectiveness of cash flow predictions, production plans, and sales forecasts. However, it must be remembered that these previous WCM studies focused on the context of developed countries, the findings of which may be not applicable to the Malaysian context.

Table 6.4 (above) summarized the findings on organizational structure. The findings are consistent with extant literature where an organization's structural arrangement signifies a different managerial approach to WCM components.

#### ***6.2.1.4 The Interdependency and Information Technology***

Interdependency and information technology influence the managerial approach to WCM in Malaysian companies. Organizational theorists have suggested that the degree of interdependency is associated with the level of complexity in business processes (Chenhall, 2003; Chenhall & Morris, 1986; Daft, 2004; Macintosh & Daft, 1987). Their views of business process divided interdependency into two levels: low and high. Low interdependency is observed as being more sequential, due to simple business processes and managers' familiarity with their duties. In companies where business activities are on a more case by case basis, non-standardized processes and consumer orientations are to employ

complex systems and encourage high interdependency across the value chain (Daft, 2004) as flexible interaction is needed to enable quick responses to consumers' demands. In terms of information technology, the use of ERP in decision making is associated with the level of business complexity; in companies where complex business processes are observed, managers' reliance on ERP in decision making processes is relatively high (Daft, 2004). Alternatively, simple business processes are associated with low reliance on ERP when making decisions.

Although interdependence is an important aspect within an organizational context (Chenhall, 2003), extensive review of extant WCM literature lacks evidence of previous studies examining interdependency levels between managers. This may be due to more WCM studies focusing on investigations of working capital performance (financial performance measures) impacts on corporate profitability. Hence, this study is the first formal study documenting interdependency in WCM processes across firms and cultures, and the framework (outcome of the study) can be used to provide meaningful comparisons of WCM practices in the current business environment.

Information technology is an integrative platform that improves information flow within and between organizations and enhances communication capability and quality of working capital decisions (Fairchild, 2005). In this study, ERP is perceived as an essential tool to enable frequent interaction and create an integrative platform for WCM decisions, especially for companies associated with complex business processes.

Table 6.5 (below) summarizes the findings observed in chapter 5. Evidence suggested that the business processes in cases 3 and 4 were complex. Managers in these companies were dependent on each other to manage WCM components and ERP was important in any decision making process. This is consistent with Daft (2004) who suggested that high interdependency is associated with high ERP usage. In contrast, business processes in cases

1, 2, and 5 were straightforward; managers were familiar with their duties and they were more independent. In terms of ERP usage, information about WCM components was simply stored in the database system and not essential in facilitating managers' WCM decisions.

Table 6.5 Interdependency and Information Technology: Summary of Findings

Cases / Outcome	Themes of Interdependency and Information Technology	
	ERP Usage	Interdependence
Case 1 <b>Simple Process</b> ++	<b>Low Usage</b> + <i>I do a physical (manual) stock take. I cross check (with ERP reports), it's a long process but we found that it is due diligence and I don't want to have a big surprise at the end of the day...</i>	<b>Low Interdependence</b> + <i>Inventory it has to be channelled down to supply chain so supply chain should keep these number spare parts...</i>
Case 2 <b>Simple Process</b> ++	<b>Low Usage</b> + <i>All stored in ERP system how much inventory in warehouse. It depends like manufacturing, operation will have operational capabilities, and finance will have finance capabilities, so depending on the requirement...</i>	<b>Low Interdependence</b> + <i>Raw material value is supposed to be purchasing responsibility. We (finance department) make sure that they don't over purchase...we cannot be monitoring their budget and then how much is purchased kind of difficult for us in a sense</i>
Case 3 <b>Complex Process</b> ++++	<b>High Usage</b> ++ <i>First we look at historical sales results for the past six months via ERP. It allows us to do that so we did the analysis that is for the past 3 months which is the average of the sales</i>	<b>High Interdependence</b> ++ <i>It's all (about) information, there are sales marketing (people) and then the demand planners to makes sense of it...</i>
Case 4 <b>Complex Process</b> ++++	<b>High Usage</b> ++ <i>This (web based) system is the communication (platform) for ordering material (to suppliers). This system then will post to our ERP accounting system...</i>	<b>High Interdependence</b> ++ <i>The manufacturer and the sales division of course there are conflicts. the manufacturing needs to continue, you cannot shut down the plant just to cut down the production, then you have to be mindful if you want a shut down then you have vendors to sustain so it's a fine balance between managing the company's needs and the vendors survival...</i>
Case 5 <b>Simple Process</b> ++	<b>Low Usage</b> + <i>So from the figure we generate the so called calculation in the system, so that we know what is the stock that we have to reduce and to purchase so very straight forward...</i>	<b>Low Interdependence</b> + <i>They are doing their jobs independently and they already know what to do...</i>

To rate the interdependency and IT, the researcher assigned firms a "+" for low ERP usage and/or low interdependency and "++" for high ERP usage and/or high dependency between managers to manage WCM components.

### 6.2.1.5 Organizational Culture

It is obvious that organizational culture is a strong force shaping how things are done in a Malaysian organizational context, including WCM. Pacanowsky and O'Donnell-Trujillo (1982, p. 126) say "...a culture is not something an organization has; a culture is something an organization is..." Culture is about people, what they value, what they believe, and, most

Table 6.6 Organizational Culture: Summary of Findings

Cases / Outcome	Themes of Organizational Culture	
	Values	Basic Underlying Assumptions
Case 1 <b>Bureaucratic Culture</b> ++	<b>Result Oriented</b> + <i>Only that you incorporate it in KPI and make it review monthly basis that's how you educate them so if you shortfall. You have to come up with other initiative to close (gap)...</i>	<b>Consistency</b> + <i>discipline from all functions, like marketing as entry point of sales, materials arrive on time kind of thing, promotion running as per schedule, and then production has to get the stock ready on time as well and then sales also has to execute it promptly</i>
Case 2 <b>Bureaucratic Culture</b> ++	<b>Result Oriented</b> + <i>one of main KPIs to ensure that we always have sufficient inventory buffer stocks, we don't go out of stocks so those are the very very main KPIs for us</i>	<b>Consistency</b> + <i>each of the subsidiaries companies got the same tools, we don't look outside and trained ourselves then it's not consistent but when we got trained from our holding company it is the same tools set the same thinking so when you start having the best practice you find it consistent</i>
Case 3 <b>Adaptability Culture</b> ++++	<b>Innovation Efforts</b> ++ <i>We are accountable to our shareholders in order to ensure that...we need to have that (operational) savings...</i>	<b>Sense Making</b> ++ <i>The sales the marketers sit together with the supply chain people to plan try to make sense the next couple of months try to forecast...</i>
Case 4 <b>Adaptability Culture</b> ++++	<b>Innovation Efforts</b> ++ <i>We are embarking on the 10 years strategic road map and... So in order to reach those goals part of it was to change the culture of how we do thing here...</i>	<b>Sense Making</b> ++ <i>Effectively managed, it requires a non stop thinking process of how car sales are doing because the market very aggressive...</i>
Case 5 <b>Bureaucratic Culture</b> ++	<b>Result Oriented</b> + <i>Everybody has to commit and cooperate and be responsible and must know what to collect and what have been collected. If they don't cooperate we only know the money is in the account but actually that thing is their extra commissions. If don't key in they don't get the right commission</i>	<b>Consistency</b> + <i>We get used to it and then we have to plan our routine accordingly..."</i>

To rate the organizational structure, the researcher assigned firms a "+" for result orientation and/or consistency and "++" for innovation effort and/or sense making to manage WCM components.

importantly, how they behave collectively. Culture is defined as the set of values and norms shared between members of an organization and successfully passed on to new members as an exceptional way to bring about business process (Schein, 1984).

Accordingly, organizational theorists have suggested that culture is linked to control arrangements (Auzair, 2011; Bigliardi, et al., 2012; Schein, 1984; Simons, 1995). Studies on business culture propose organizational culture categories associated with particular organizational designs: markets-bureaucracies-clans (Ouchi, 1980), adaptability-mission-clan-bureaucratic (Denison & Mishra, 1995; Hooijberg & Petrock, 1993; Quinn, 1988). Essentially, these studies propose that organizational culture is associated with competing values of bureaucracy and adaptability. Bureaucratic values refer to rigidity, uniformity, consistency, routine, and predictability. Such an organization sets priority on results and consistent orientation, and thus is to shape employees' behaviour to enhance its ability to achieve intended goals. Conversely, adaptability values sense-making, consensus decisions, innovative ideas, and informality. In other words, managers in these organisations are more focused on external environments and given flexibility to initiate changes.

Although the influence of human capital is a central consideration in any form of organization in the current environment, the review of WCM literature finds no evidence of previous studies examining the influence of organizational culture on the management of working capital. Thus, this study may be the first documenting such influence, and identifies two controlling cultures emerging from the case studies: bureaucratic and adaptability. Table 6.6 (above) summarizes the findings on organizational culture.

### **6.2.2 A WCM Typology**

In the previous section, the determining perspectives offered an understanding about various WCM practices and enabled the development of a WCM typology in the Malaysian

context. This WCM typology is developed from observations of the determining perspectives in five intensive case studies where WCM practices can be described to adopt specific approaches. This section discusses the development of the typology, performed by grouping similar cases into common groups and then comparing the groups to recognize the differences (Kluge, 2000). This enables the construction of a set of characteristics for different WCM approaches.

However, this typology is not definitive and cannot cover every form of WCM practice as organizational forms are too complex, dynamic, and not fully understood (Miles & Snow, 2003). Furthermore, a typology is a composition of observations which constitute a particular type which then guides independent viewers as to what can be expected (Elman, 2005). In a sense, this typology guides managers to evaluate WCM practice within organizational contexts.

As an alternative approach, a scoring system of determining perspectives (as shown in Appendix E) was developed, to examine the cluster of companies (Voss, Roth, & Chase, 2008). This system suggests that there are indeed two distinct groups, as cases 1, 2, and 5 are rated at 1.15, 1.05, and 1.00 respectively, while cases 3 and 4 are both rated at 1.90. This scoring system seeks objectivity by classifying cases within a continuum.

Table 6.7 (presented on page 132) is used to facilitate the grouping process, reading the rows horizontally (scrutinizing each case individually) enables consistent patterns to be observed and enabled classification of cases into groups (Miles & Huberman, 1994). The table illustrates that cases 3 and 4 share similar patterns of determining perspectives in terms of managing working capital components. The findings, high PEU, learning oriented, horizontal structure, complex process, and adaptability culture, suggest working capital components are managed in a more integrated manner. Hence these companies can be classified into a group that follows an *Integrated WCM Approach*. Although case 4 was

slightly different from case 3, specifically in terms of the budgetary control, it has been found that a company facing hazards to its short-term survival may partially adopt formal control arrangements rather than being more organic (Chenhall & Morris, 1986; Khandwalla, 1977), while still following an integrated WCM approach.

Table 6.7 Summary of Findings: Horizontal View

Case No	Perceived Environment Uncertainty	Budgetary control	Organizational Structure	Interdependency & Information Technology	Organizational Culture	Prediction
Case 1	Low Uncertainty	Profit Oriented	Hybrid	Simple Process	Bureaucratic Culture	Non-Integrated WCM
Case 2	Low Uncertainty	Profit Oriented	Vertical Structure	Simple Process	Bureaucratic Culture	Non-Integrated WCM
Case 3	High Uncertainty	Learning Oriented	Horizontal Structure	Complex Process	Adaptability Culture	Integrated WCM
Case 4	High Uncertainty	Hybrid	Horizontal Structure	Complex Process	Adaptability Culture	Integrated WCM
Case 5	Low Uncertainty	Profit Oriented	Vertical Structure	Simple Process	Bureaucratic Culture	Non-Integrated WCM

In contrast, Table 6.7 shows that cases 1, 2, and 5 demonstrate a differing pattern of determining perspectives. The findings of a low PEU, greater profit orientation, a more vertical structure, a simple process, and a bureaucratic culture, suggest that WCM components are managed in a non-integrated manner, hence, these companies may be grouped together as following a *Non-Integrated WCM Approach*. However, case 1 is slightly different from the other two companies (cases 2 and 5) in terms of organizational structure, adopting a hybrid approach with strong horizontal information linkage affecting WCM activities to the extent that managers are more teamwork oriented and flexible. However, further observation of the evidence suggested that case 1 can still be considered as a company following a non-integrated WCM approach, within which the company partially adopts certain characteristics of informal control arrangements to reduce excessive formalization (Chapman, 1998).

The grouping process therefore produces two different WCM approaches, which exemplify different characteristics of managing working capital components. The following

subsections discuss the observations of the determining perspectives in each case used to facilitate the development of a WCM typology.

### 6.2.2.1 Integrated WCM Approach

This section explains the description of the integrated WCM approach through examination of the related cases. Attention is given to similarities between companies in order to realize common characteristics of an integrated WCM approach.

As discussed earlier, cases 3 and 4 are identical, representing the characteristics of an integrated WCM approach. Both exemplify consistent patterns of determining perspectives, with high PEU, learning orientation (except case 4), horizontal structure, complex business process, and adaptability culture, illustrated in Tables 6.8 and 6.9 (following).

Table 6.8 Summary of Findings for Case 3

Perceived Environment Uncertainty	
<input checked="" type="checkbox"/> Dynamic Market	Static Market <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Economic Impact	Minor Economic Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Financing Impacts	Minor Financing Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Government Impacts	Minor Government Impacts <input checked="" type="checkbox"/>
Budgetary control	
<input checked="" type="checkbox"/> On Going Planning	Budget Emphasis <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Organic Control WCM Components	Mechanistic Control WCM Components <input checked="" type="checkbox"/>
Organizational Structure	
<input checked="" type="checkbox"/> Horizontal Information Linkages	Vertical Information Linkages <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Decentralized Decision Making Process	Centralized Decision Making Process <input checked="" type="checkbox"/>
Interdependency and Information Technology	
<input checked="" type="checkbox"/> High ERP Usage	Low ERP Usage <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> High Interdependency	Low Interdependency <input checked="" type="checkbox"/>
Organizational Culture	
<input checked="" type="checkbox"/> Innovative values	Guided with Rules and Procedures <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Sense-making capabilities	Disciplines, Consistency, Uniformity <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Strongly existed	
<input checked="" type="checkbox"/> Weakly existed	

An examination of case 4 finds a minor difference from case 3 in that a mechanistic control is enforced to reduce high operational costs by strengthening working capital policy. However, as mentioned earlier, further investigation of the evidence suggested that this company still appeared to embody the integrated WCM approach and that controls were necessitated by distress conditions (Chenhall & Morris, 1986; Khandwalla, 1977).

Table 6.9 Summary of Findings for Case 4

Perceived Environment Uncertainty	
<input checked="" type="checkbox"/> Dynamic Market	Static Market <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Economic Impact	Minor Economic Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Financing Impacts	Minor Financing Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Government Impacts	Minor Government Impacts <input checked="" type="checkbox"/>
Budgetary control	
<input checked="" type="checkbox"/> On Going Planning	Budget Emphasis <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Organic Control WCM Components	Mechanistic Control WCM Components <input checked="" type="checkbox"/>
Organizational Structure	
<input checked="" type="checkbox"/> Horizontal Information Linkages	Vertical Information Linkages <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Decentralized Decision Making Process	Centralized Decision Making Process <input checked="" type="checkbox"/>
Information Technology and Interdependencies	
<input checked="" type="checkbox"/> High ERP Usage	Low ERP Usage <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> High Interdependencies	Low Interdependencies <input checked="" type="checkbox"/>
Organizational Culture	
<input checked="" type="checkbox"/> Innovative values	Result Oriented <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Sense-making	Consistency <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Strongly existed	
<input checked="" type="checkbox"/> Weakly existed	

#### 6.2.2.1.1 *The Characteristics of the Integrated WCM Approach*

An examination of determining perspectives between cases 3 and 4 suggests that WCM components are managed in a more integrated way, therefore. Table 6.10 (presented on page 135) summarizes the characteristics of an integrated WCM approach, drawn from assessments of cases 3 and 4.

**Perceived environment uncertainty** – the evidence suggests that PEU in an integrated WCM approach is relatively high, indicating that external variables are not known and difficult to assign within an organizational context (Auzair, 2011; Duncan, 1972; Khatri & D'Netto, 1997; Sawyerr, 1993). Furthermore, accounting data alone is insufficient to guide managers' decisions in high uncertainty environments (Govindarajan, 1984; Van der Stede, et al., 2006), due to difficulties in managers recognising market probabilities (Brownell, 1987; Chenhall, 2003; Szpulasi, 2011).

In this study, it is apparent that the external environment affects WCM performance. For instance, in an environment where unpredictability is added to uncertainty, a company carries high inventory levels to cater for sudden spikes in demands (Gentry, et al., 1979; Szpulasi, 2011). Hence, managers in an integrated WCM approach are more focussed on

Table 6.10 Characteristics of Integrated WCM Approach

Perceived Environment Uncertainty	Budgetary control	Organisational Structure	Information Technology & Flow Arrangements	Organisational Culture
<p><b>High PEU</b> = the variables of external variables are not known</p> <p><b>Details:</b></p> <ol style="list-style-type: none"> <li>1. Market conditions = consumer demands are difficult to predict, product innovation, and high impact on competitors reactions.</li> <li>2. Economic conditions = sensitive to exchange rate, economic situations (recessions, booms) and energy and material costs.</li> <li>3. Financing = major impact from banking regulations and facilities.</li> <li>4. Government regulations = major impact from government regulations and taxation issues.</li> </ol>	<p><b>Learning Oriented</b> = ongoing planning and adaptation to changes is important.</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Ongoing planning = managers continuously monitor market directions and speculate appropriate levels of WCM components. Less reliance on budget to determine WCM level</li> <li>2. Forecasting accuracy = rapid changes in consumer demands, thus levels of WCM components are very difficult to maintain and monitor.</li> <li>3. Utilizing resources = adapting and implementing changes internally is a real challenge and expensive. Companies usually cannot enjoy efficiency of financial resources (WCM components) and rapid changes in manufacturing technology (high inventories).</li> </ol>	<p><b>Horizontal</b> = Information linkage is flexible and decisions about WCM components can happen anywhere within an organization.</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Structural designs = horizontal structure where decision making authority is delegated to managers of respective units.</li> <li>2. Information linkage = horizontal flow to promote flexible interactions and series of discussions to develop consensus/speculate appropriate levels of WCM components. Integrators are assigned to linked different units and facilitate decision making process.</li> <li>3. Compromising = decisions are normally made through consensus in a form of forums consists of managers from various units.</li> </ol>	<p><b>Complex Process</b> = business process is complex and requires high interdependency and ERP to facilitate decision making process</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Information technology is vital in decision making process and ERP dependency is high to integrate/linked different business units.</li> <li>2. Business process = complex process and lack of uniformity where various business units are created to manage particular activities.</li> </ol>	<p><b>Adaptability Culture</b> = flexibilities in adapting changes in environment and more externally focused.</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Values = employees are encouraged to appreciate 'adaptability values' who normally seek innovations/practical solutions to improve organizational performances.</li> <li>2. Basic underlying assumptions = employees' ability to interpret or making sense of environment and introduced new ways to improve WCM performance.</li> </ol>

external variables in decision making processes, when compared to a non-integrated WCM approach.

**Budgetary control** – the current evidence further suggests that an integrated WCM approach is to adopt a learning orientation in which budget is less relevant (Brownell, 1987). Typically, managers are involved in various informative discussions on a regular basis to make sense of market sentiments (Chapman, 1997; Van der Stede, et al., 2006). Therefore, the study finds that managers are considering various aspects, including non-financial performance measures, to determine appropriate levels of WCM components.

In terms of utilizing WCM components, an integrated WCM approach tends to be flexible (except case 4) in working capital policy. The evidence suggests that this approach may not take advantage of squeezing WCM components to shorten cash cycles. Working capital policy is flexible and exceptions are allowed.

**Organizational structure** – This study finds that an integrated WCM approach adopts a horizontal or decentralised structure. Business unit managers are empowered to determine levels of WCM components except cash management, which is a treasury function at top management level. This may be due to familiarity of managers at the business unit level to speculate appropriate WCM levels (Gitman & Maxwell, 1985) or, alternatively, top management may not have enough time to focus on micro aspects of working capital .

**Interdependency and information technology** – the evidence suggests that the business process is relatively complex when an integrated WCM approach is adopted. WCM processes involve various parties, including supply chain managers, finance officers, production managers, marketers and business unit managers, thus the process of determining and managing WCM components is fairly difficult. The complexity of the business process raises the need for interdependency throughout the value chain, therefore, ERP is normally used to improve coordination. This is in line with organizational literature which proposes

that a company is to employ advanced technology in cases of high interdependency of business units (Chenhall & Morris, 1986; Daft, 2001; Miles & Snow, 2003).

**Organizational culture** – this study finds that an integrated WCM approach is associated with an adaptability culture, in which managers exhibit greater sense making capabilities and innovation efforts (Bigliardi, et al., 2012). Employees are also given flexibility to manage WCM components and their ability to make sense from multiple sources of information is crucial. Furthermore, managers are aware of working capital’s value and are keen to develop alternatives to improve it.

**6.2.2.2 Non-Integrated Working Capital Management Approach**

This section explains the description of the non-integrated WCM approach through examination of the related cases. Attention is given to similarities between companies in order to realize common characteristics.

Table 6.11 Summary of Findings for Case 1

Perceived Environment Uncertainty	
<input checked="" type="checkbox"/> Dynamic Market	Static Market <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Economic Impacts	Minor Economic Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Financing Impacts	Minor Financing Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Government Impacts	Minor Government Impacts <input checked="" type="checkbox"/>
Budgetary control	
<input checked="" type="checkbox"/> Ongoing Planning	Budget Emphasis <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Organic Control WCM Components	Mechanistic Control WCM Components <input checked="" type="checkbox"/>
Organizational Structure	
<input checked="" type="checkbox"/> Horizontal Information Linkages	Vertical Information Linkages <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Decentralized Decision Making Process	Centralized Decision Making Process <input checked="" type="checkbox"/>
Information Technology and Interdependencies	
<input checked="" type="checkbox"/> High ERP Usage	Low ERP Usage <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> High Interdependency	Low Interdependency <input checked="" type="checkbox"/>
Organizational Culture	
<input checked="" type="checkbox"/> Innovative values	Result Oriented <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Sense-making	Consistency <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Strongly existed	
<input checked="" type="checkbox"/> Weakly existed	

This study suggests that cases 1, 2, and 5 have commonalities indicating characteristics of a non-integrated WCM approach, discussed in the next section 6.2.2.2.1. They share determining perspectives of low PEU, profit orientation, vertical structure, simple

business process, and bureaucratic culture, as shown in Tables 6.11 (above), 6.12 and 6.13 (to follow), although a few diversions are noted.

Case 1 has low PEU but is sensitive to the government regulation aspect due to the impact on prices caused by tax increases. In addition, it is a clear case of profit orientation, squeezing WCM components to achieve financial targets, as do cases 2 and 5.

In terms of organizational structure, however, case 1 adopts a hybrid structure with a more horizontal information flow to improve teamwork, but with authority for decisions still retained at the top of the hierarchy. Organizational theorists have proposed the need for flexible interactions between managers to reduce excessively rigid rules and procedures that weaken companies' ability to achieve intended targets (Lawrence & Lorsch, 1967; Miles & Snow, 1978). This notion is also supported by Bower (1970) who suggested changes in organizational structure had significant implications for information sharing and potentially changed a company's operation. Both cases 2 and 5 exhibited a strictly vertical arrangement.

Table 6.12 Summary of Findings for Case 2

Perceived Environment Uncertainty	
<input checked="" type="checkbox"/> Dynamic Market	Static Market <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Economic Impact	Minor Economic Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Financing Impacts	Minor Financing Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Government Impacts	Minor Government Impacts <input checked="" type="checkbox"/>
Budgetary control	
<input checked="" type="checkbox"/> Ongoing Planning	Budget Emphasis <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Organic Control of WCM components	Mechanistic Control of WCM components <input checked="" type="checkbox"/>
Organizational Structure	
<input checked="" type="checkbox"/> Horizontal Information Linkages	Vertical Information Linkages <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Decentralized Decision Making Process	Centralized Decision Making Process <input checked="" type="checkbox"/>
Interdependency and Information Technology	
<input checked="" type="checkbox"/> High ERP Usage	Low ERP Usage <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> High Interdependency	Low Interdependency <input checked="" type="checkbox"/>
Organizational Culture	
<input checked="" type="checkbox"/> Innovation Efforts	Result Oriented <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Sense-making	Consistency <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Strongly existed	
<input checked="" type="checkbox"/> Weakly existed	

All managers indicated that their WCM process was fairly straightforward and managers understood what should be done to achieve WCM components at specified levels.

Company 1 had just completed the upgrading process of its ERP system, but ERP usage is still relatively low, as in the WCM decision making processes of cases 2 and 5 also.

Table 6.13 Summary of Findings for Case 5

Perceived Environment Uncertainty	
<input checked="" type="checkbox"/> Dynamic Market	Static Market <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Economic Impact	Minor Economic Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Financing Impacts	Minor Financing Impacts <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Major Government Impacts	Minor Government Impacts <input checked="" type="checkbox"/>
Budgetary control	
<input checked="" type="checkbox"/> Ongoing Planning	Budget Emphasis <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Organic Control WCM Components	Mechanistic Control WCM Components <input checked="" type="checkbox"/>
Organizational Structure	
<input checked="" type="checkbox"/> Horizontal Information Linkages	Vertical Information Linkages <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Decentralized Decision Making Process	Centralized Decision Making Process <input checked="" type="checkbox"/>
Information Technology and Interdependencies	
<input checked="" type="checkbox"/> High ERP Usage	Low ERP Usage <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> High Interdependency	Low Interdependency <input checked="" type="checkbox"/>
Organizational Culture	
<input checked="" type="checkbox"/> Innovation Efforts	Result Oriented <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Sense-making	Consistency <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Strongly existed	
<input checked="" type="checkbox"/> Weakly existed	

In terms of organizational culture, employees in all three cases are relatively familiar with procedures in terms of managing WCM activities. Any issues regarding WCM components (uncollected invoices, payables terms) are normally dealt with as referred to by rules and regulations. Thus, employees exhibit a high degree of consistency and result orientation.

#### 6.2.2.2.1 *The Characteristics of Non-Integrated WCM Approach*

This study identifies that cases 1, 2, and 5 illustrate similar characteristics in relation to managing WCM components which exemplify a non-integrated approach. Table 6.14 (presented on page 142) summarizes these characteristics, which are the opposite to the characteristics of an integrated WCM approach. Although, case 1 exhibits a slightly different pattern of determining perspectives; overall observation suggests that a non-integrated WCM approach is dominant. The following paragraphs discuss the similarities of determining perspectives and interpretation from extant literature to develop the characteristics of a non-integrated WCM approach.

**Perceived environment uncertainty** – a notable feature of the non-integrated WCM approach is that managers' perception of the impacts of external variables are relatively low, and thus managers may have better opportunities to administer WCM components and push organizational capabilities to the limit.

In organizational literature, low PEU refers to external variables being known and able to be assigned within an organizational context (Auzair, 2011; Duncan, 1972; Khatri & D'Netto, 1997; Sawyerr, 1993). Consequently, management has a better opportunity to use accounting data to control lower level managers to cater for rising demands or reduced production levels during off peak seasons (Waterhouse & Tiessen, 1978). This indicates that managers in low PEU may have more opportunity to control WCM components, compared to integrated WCM.

**Budgetary control** – this study suggests that managers are relying on budget (profit orientation) to control subordinates and WCM components to achieve intended targets. Hence, accounting data and financial measures are used extensively to guide managers in terms of managing WCM components (Gentry, et al., 1979; McInnes, 2000; Nazir & Afza, 2009; Peel & Wilson, 1996). In this study, the evidence suggests that many non integrated cases are to enforce rigid working capital policy by squeezing WCM components, intensifying collection, lengthening payables terms, and minimizing inventory holdings. This is consistent with Gentry et al. (1979) who suggested that a budget emphasis is associated with strict control over working capital policy including periodical monitoring activities to measure current performance against budget (Hopwood, 1972; Sunday, 2011; Waterhouse & Tiessen, 1978).

**Organizational structure** – this study finds that management teams are given greater responsibilities to determine the level of WCM components in a non integrative approach.

The CFO and top management are the most influential when it comes to working capital (Belt & Smith, 1991b; McInnes, 2000; Smith & Sell, 1980)

Organizational theorists propose that companies that adopt a centralized structure are to segregate organizational members to be more specialized and focus on individual tasks (Daft, 2004; Lawrence & Lorsch, 1967; Miles & Snow, 2003; Waterhouse & Tiessen, 1978). This is consistent with the current study where vertical information linkage contributes to a high degree of formalization and limited exceptions to enhance management's grasp over WCM components (case 1 excepted) to achieve intended WCM targets.

**Interdependency and information technology** – the evidence suggests the business process in these companies is fairly simple and managers are familiar with their duties in terms of managing working capital components. Hence, managers are becoming less dependent on each other and more focused on individual tasks (Chenhall & Morris, 1986; Daft, 2004) reducing interdependency between managers.

Due to simple business processes and low levels of interdependency, managers in these companies perceive information technology, exemplified by ERP, usage as minimal in the decision making process. Instead, ERP is used mainly for data warehousing purposes (Daft, 2004).

**Organizational culture** – it is apparent that consistency and a result orientation are essential cultural elements in these companies, and improve their abilities to achieve intended budgets – the ultimate goal. As mentioned repeatedly by informants in these cases, meeting targets (result oriented) and consistency are important elements in improving WCM performance. Moreover, datelines and targets are critical in performance measurement processes. This can be linked to why companies who are seeking consistency will enforce strict rules and discipline (Schein, 1984).

Table 6.14 Characteristics of a Non-Integrated WCM Approach

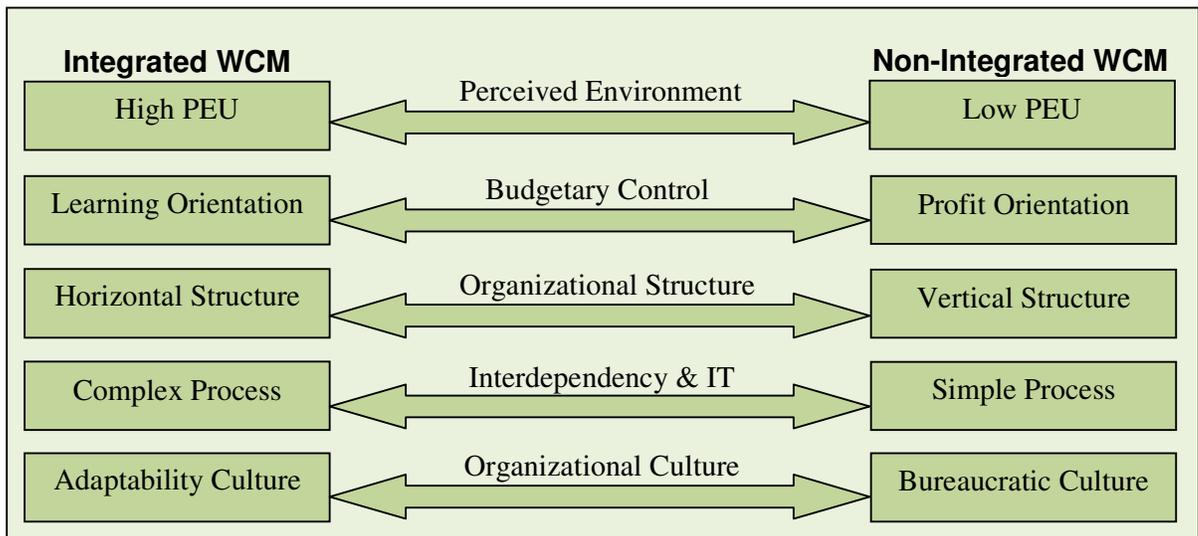
Perceived Environment Uncertainty	Budgetary control	Organisational Structure	Interdependency & Information Technology	Organisational Culture
<p><b>Low PEU</b> = Predictable, identifiable or manageable external factors, minor and slow changed in environment.</p> <p><b>Details:</b></p> <ol style="list-style-type: none"> <li>1. Market conditions = relatively predictable consumer demands, branding and cost efficiency, and stable markets.</li> <li>2. Economic conditions = minor impact from exchange rate, economic situations (recessions, booms) and energy and material costs.</li> <li>3. Financing = minor impact from banking regulations and facilities.</li> <li>4. Government regulations = minor impact from government regulations and taxation issues.</li> </ol>	<p><b>Budget Emphasis</b> = Due to predictable parameters to improve organisational performance, achieving targets of WCM components through budget is high.</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Budget emphasis = high priority on achieving budget, including WCM.</li> <li>2. Forecasting accuracy = changes in demands are relatively predictable, thus levels of WCM components fairly straightforward to determine and monitor.</li> <li>3. Monitoring performance= top management monitors WCM activities through reports and meetings on regular basis. WCM components are governed through standard &amp; procedures.</li> <li>4. Utilizing resources = maximizing resources and improve efficiency in terms of financial resources (WCM components) and manufacturing capabilities (inventory levels).</li> </ol>	<p><b>Vertical</b> = Top management navigate and decide about appropriate levels of WCM components.</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Information linkages - Top management are well informed about the status of WCM activities. Formal meetings and reports on regular basis to discuss WCM performance and corrective actions (if necessary). Minimal interactions across units.</li> <li>2. Centralized = decision making authority is given to top hierarchy.</li> </ol>	<p><b>Simple</b> = Straightforward process and less integrative information flow.</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Low interdependency = simple process and focus on individual assignment (tasks) and standardizations. Hence, minimal compromising between managers across units.</li> <li>2. Information technology aimed to improve monitoring of WCM components and decision making process for top management (data warehouse purposes).</li> </ol>	<p><b>Bureaucratic Culture</b> = emphasis on consistency and result oriented.</p> <p><b>Details</b></p> <ol style="list-style-type: none"> <li>1. Values = many employees are governed by a set of rules and policies. Ability to achieve intended targets is important.</li> <li>2. Basic underlying assumptions = strict disciplines and attitude for its employees to improve consistency and uniformity.</li> </ol>

### 6.2.3 Conceptual Framework of WCM: Central Finding

The discussion about WCM typology leads this study to its central idea, the WCM conceptual framework. Figure 6.2 illustrates this conceptual framework, inspired by theoretical views and evidence from the multiple case study. Previous studies in WCM literature (Belt & Smith, 1991b; Gentry, et al., 1979; Gitman & Maxwell, 1985; McInnes, 2000; Smith & Sell, 1980) and organizational literature (Chandler, 1994; Chenhall, 2003; Chenhall & Morris, 1986; Daft, 2004; Duncan, 1972; Miles & Snow, 1978; Van der Stede, et al., 2006) have enabled the interpretation of the influence of determining perspectives on WCM.

This framework offers a comprehensive understanding, explaining WCM in complex organizational settings, and suggesting a WCM typology. The typology constitutes patterns of determining perspectives which signify two different WCM approaches: integrated and non-integrated. At this juncture, a comprehensive understanding about *how working capital is managed in Malaysian listed companies* is given.

**Figure 6.2 WCM Conceptual Framework**



### 6.3 Chapter Summary

This chapter explored the WCM conceptual framework that revealed five determining perspectives considered relevant to the Malaysian context. The conceptually ordered matrix

was used to make sense of the data. Reading the matrix vertically offered variations of determining perspectives; alternatively, reading the matrix horizontally illustrated consistent patterns of determining perspectives across cases.

An assessment of the cases illustrated consistent patterns of the five perspectives which facilitated the development of a WCM typology. The two WCM approaches, integrated and non-integrated, were identified through combining interpretations of extant literature and findings from the multiple case studies. Essentially, each WCM approach illustrates different characteristics in terms of managing WCM components. The integrated WCM approach is associated with high PEU, learning orientation, horizontal structure, complex business process, and adaptability culture. On the other end of the spectrum, the non-integrated WCM approach is associated with low PEU, profit orientation, vertical structure, simple business process, and bureaucratic culture. The patterns of determining perspective and classification of WCM practices enable this study to construct a WCM conceptual framework.

The subsequent, final, chapter offers concluding remarks including contributions to WCM literature, implication to managerial practice, key limitations and future directions.

# Chapter 7

## Concluding Remarks

### 7.1 Review of Research Question and the Journey

Before discussing the main findings and contribution of this research, it is useful to review its origin and the journey. This research began with an extensive review of extant WCM literature to examine the current understanding of WCM in contemporary organizational contexts, divided into three areas. In the first instance, the review identified four distinct eras describing major transitions in WCM research. Secondly, the review was extended to learn about factors influencing WCM and, finally, studies about WCM practices. Interestingly, the management of working capital which is embedded within an organizational context has neither been adequately researched nor documented. Scholars have put much effort into developing sophisticated financial models to manage working capital components (Gitman, et al., 1979), but in a globalization era, where knowledge is paramount in gaining competitiveness, financial measures alone are insufficient to support managers in their decision making (Van der Stede, et al., 2006). As Chandler (1994) elucidated, organizational forms have undergone extensive reformulation, where managers' creativity and innovative initiatives are now imperative for organizational adaptability in highly competitive markets. Hence, the notion of developing an effective WCM system revolves around the degree of integration in the WCM decision making process, enabling WCM components to be more adaptable to changes in global markets (Arcelus & Srinivasan, 1993; Crum, et al., 1983; Gentry, et al., 1979).

One study found that the majority of New Zealand listed companies do not integrate WCM components (McInnes, 2000), but this finding is not evidenced in the Malaysian context. However, the example highlights the subject of this research, as it is argued that WCM literature to date lacks the understanding to explain differences in WCM in contemporary organizational contexts. Furthermore, it was intended to propose a conceptual

framework to provide such an understanding, illuminating why there is considerable diversity in WCM practices. With that in mind, this study aimed to answer the primary research question: How are WCM components managed in Malaysian Listed Companies' contexts? Two secondary questions were generated by the main research question: 1) How do internal and external factors affect the style of WCM? 2) What determinants affect the decision making process of WCM components?

This research necessitated preliminary work to develop an early understanding of WCM in the Malaysian context. This comprised a focus group discussion and unstructured interviews where six informants, with designations of finance manager, procurement manager, and treasurer, shared their experiences about WCM. The subsequent qualitative data analysis suggested that four determining perspectives had significant influence on the management of working capital. These perspectives were perceived environmental uncertainty (PEU), budgetary control, organizational structure, and organizational culture. These early findings were then linked to extant literature to construct four propositions for subsequent fieldwork. Importantly, this process also refined the focus of the study and research instruments.

Evidence was then collected from five intensive case studies, offering an in-depth understanding of WCM practices, particularly in Malaysian listed companies. At this stage, primary (interviews) and secondary (a wide-range of document) data were collected for analysis. The interviews were transcribed in text format for coding purposes. The coding process, facilitated by the NVivo8 software, consisted of open codes, categories, and themes which led to identification of five determining perspectives. A new determining perspective (information technology and interdependency) was identified during data collection. Case reports were developed to analyse the circumstances of five determining perspectives in each case individually and a conceptually ordered matrix was used to identify patterns of determining perspectives across cases.

The remainder of this chapter is organized into five sections: the second section revisits the thesis's main findings and (third section) discusses the contribution of a conceptual framework to the body of WCM knowledge. The fourth addresses implications for managerial practice. The fifth section is a discussion of the study's limitations while the final section presents suggestions for future research.

## **7.2 The Thesis**

This section revisits the main findings, and ultimately highlights the essence of the study. Fundamentally, the study identifies five determining perspectives believed to influence how the managerial team manage working capital components. In other words, it is essential for managers and academicians to appraise the circumstances of five determining perspectives in order to enhance the adaptability of working capital strategy in current business environment.

First, the degree (high vs. low) of PEU influences how managers make decisions related to working capital. The evidence (presented in chapter 5) suggested that high PEU is associated with hostile markets comprised of major challenges, such as unpredictable demands, sensitive to economic conditions, highly depended on financing, and heavily governed by local authorities. In such conditions, managers are more externally focused on surrounding environment in most decisions. While managers in low PEU condition, market conditions are relatively stable, there is a lower sensitivity to economic conditions, less dependence on financing, and loosely governed by government regulation. In these circumstances, managers are more internally focused; and improving internal process to increase productivity or push organizational capabilities.

Second, the influence of budgetary control has on managerial approach to WCM. It is evident that budgetary control is influenced by the used of budget and utilisation of WCM components. In companies, where profit orientation is adopted, managers are given clear financial targets and they are responsible to achieve those targets. Hence, the management

team normally use budgets (top down approach) to control subordinates to maximize profitability. In terms of WCM policies, profit orientation is synonym with '*squeezing*' WCM policies to again maximize profitability. In contrast, the learning orientation approach encourages managers to continuously share information (ongoing planning) in speculating (forecasting accuracy) market movements; hence reliance on budget is minimal compared to profit orientation. In addition, WCM policies are more flexible as establishing long-term relationship with stakeholders (suppliers/retailers/clients) is beneficial to improve business attractiveness and enhance adaptability in response to market changes.

Third, this study finds organizational structural designs, particularly vertical and horizontal structures, influence working capital activities, especially information flow and decision authority. To establish an agile enterprise, managers are encouraged to interact freely and initiate learning ingenuity about various aspects to prepare them in decision making process. In such situations, horizontal structure is associated with horizontal information flow and WCM decisions are made in consensus manner. On the other hand, top management is well aware of what it takes to improve profitability; hence all information regarding working capital is vertically shared. On top of that, the CFO is most influential, and most working capital decisions are made at the top management level.

Fourth, the level of complexity (simple vs. complex) in business process influences the degree of ERP dependency and interdependency between business units, including working capital activities. It is apparent that a complex business process requires intensive compromises between managers in order to synchronize different business units to meet market changes. Therefore, ERP dependency is high as complex process requires a systematic approach to integrate various business processes. In contrast, managers, in simple process, are familiar with working capital activities; hence they are more focus on individual tasks. In terms of ERP dependency, the evidence (presented in chapter 5) suggested that ERP is mainly used for data management, it is not a crucial part of working capital.

Fifth, the study identified a significant influence of organizational culture to WCM practices. The evidence suggested that company with an embedded bureaucratic culture whereby managers have shown high consistency level (familiarity with working capital process) and having result orientation. Furthermore, managers are very familiar with working capital daily routines, and focused on achieving specified targets (result driven). In contrast, companies with an embedded adaptability culture whereby managers display innovative efforts (initiate improvement) and sense making capabilities. In other words, managers are interested in seeking new ideas or ways to improve working capital performance, while making sense from broad range of information is also imperative to speculate about market directions.

It is obvious that within each determining perspective, there are variations that offered insights into different WCM practices. An alternative view (presented in chapter 5) of determining perspectives showed replication of patterns between cases which enabled this research to observe the similarities and differences.

In reviewing the results of five determining perspectives vertically (presented the patterns of each determining perspective across the cases) and horizontally (shown the patterns of each case across the five determining perspectives) reveals two distinctly differing WCM approaches: integrated and non-integrated. An assessment of data, using conceptually ordered matrices, together with interpretations of the extant literature, facilitated the development of a WCM conceptual framework which constituted the major outcome of this study (presented in chapter 6). The following points briefly explain the characteristics of the two WCM approaches;

1. Integrated WCM Approach – managers are more focused on external variables in the decision making process, associated with a high PEU, learning orientation, horizontal structure, more complex processes, and an adaptability culture. As a consequence, working capital components are managed in a more integrated manner.

2. Non-integrated WCM approach – managers are to strengthen internal processes associated with a low PEU, profit orientation, vertical structure, simple process, and a bureaucratic culture; therefore, WCM components are managed in a more non-integrated manner.

### **7.3 Contribution to the Body of WCM Knowledge**

It is believed that the conceptual framework explaining variations of WCM (presented in chapter 6) adds value to the body of WCM knowledge. As mentioned throughout this thesis, WCM literature is short of explanations of WCM in complex organizational settings. Previous WCM studies have made a number of attempts to discern how companies managed WCM components (see for example: Belt & Smith, 1991b; Gentry, et al., 1979; Gitman & Maxwell, 1985; Khoury, et al., 1999; McInnes, 2000; Smith & Sell, 1980). Although they contributed valuable information about the tendency to develop effective WCM from a financial perspective, none of these studies have gone so far as to develop a comprehensive understanding of why there is considerable diversity in WCM practices. In addressing the research objectives (presented in chapter 1), this study provides insights which explain WCM in the contemporary organizational context and generates the following four contributions to the body of WCM knowledge.

First, in addressing the first research objective<sup>5</sup>, this study reveals five determining perspectives in the organizational context believed to influence WCM practices. The researcher was not able to find in any periodical articles on working capital, where the influence of organizational context had been fully discussed. The study, with its five determining perspectives, therefore contributes to the enrichment of working capital literature. Moreover, the study extends the views of previous studies in WCM, such as Gentry et al.

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<sup>5</sup> To develop an understanding of the determinants of the various WCM practices currently used in selected Malaysian listed companies.

(1979), Gitman et al. (1979), McInnes (2000), Brigham and Ehrhardt (2008) which suggested that effective WCM exceeded just the financial perspective and incorporated other disciplines.

Second, and at a more fundamental level, the framework provides insights for academicians and managerial practitioners to explain WCM in a contemporary organizational context, referring the second research objective<sup>6</sup>. Fundamentally, the framework can be used as a diagnostic tool for managers formulating WCM strategy to be in a stronger position to achieve individual organizational needs (refer to the next section for details). Subsequently, this enables academicians to elucidate the degree of integration in the working capital decision making processes. Mindful of the research issues raised by McInness (2000), the current study provides an explanation of why there is diversity in WCM and which circumstances of determining perspectives influenced managerial style in working capital.

Third, the insights from this research may be used to unpack and explain a dynamism in WCM which may support academicians in constructing decision making models to accommodate managers in different organizational needs. In a sense, this may enable academicians to develop more versatile financial models to support managers in making decisions. Of course, this latter notion is derived from findings of this research that still require further investigation (refer to the future research section for details).

Fourth, the study extends the role and scope of finance managers. The traditional view is that designated finance managers are to be responsible for all financial aspects (Trahan & Gitman, 1995), and to have sole responsibility for working capital performance (Gitman, Maxwell, & Singhvi, 1990). This notion has significantly changed in the contemporary organizational context, in which finance managers may be required to understand areas outside of the accounting area, and interactions between managers from diverse fields across

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<sup>6</sup> To develop a WCM conceptual framework explaining the dynamics of WCM in selected Malaysian listed companies.

an organization are crucial, especially in decision making processes (Van der Stede, et al., 2006). This broadens the scope of working capital and requires support and interdependency across business units/departments to improve organizational performance.

Taking together all aspects discussed in this section, it is apparent that WCM is not static, but rather it is embedded within organizational dynamics and consequently reflects the rich patterns of five determining perspectives which represent a focal point of the study. Therefore, it is imperative to evaluate the circumstances of these determining perspectives, which, in turn, enables academicians or managers to determine an appropriate WCM approach for each company. In a sense, this research contributes important innovative aspects to the body of WCM knowledge by unveiling a new paradigm to explain WCM in the current environment.

#### **7.4 Implication for Managerial Practice**

The research provides insight into WCM practices by identifying two approaches: integrated and non-integrated. The main implication for managerial practice is that validation of WCM practices, using the conceptual framework suggested here, is a useful exercise. It helps verify the determining perspectives and realignment of WCM practices, where necessary, to improve organizational performance.

In particular, the study suggests that the circumstances of determining perspectives influence the choice of WCM approach. Hence, managers should evaluate the circumstances of determining perspectives when organizing WCM components to suit individual organizational needs. This may enable companies to be in a better position to achieve intended targets.

As an illustration, in companies operating in volatile markets, where perceived environment uncertainty is high, managers are expected to consider both objective and subjective measures when making decisions (Van der Stede, et al., 2006). High PEU alongside with the other four determining perspectives comprise of learning orientation in

budgetary control, horizontal organizational structure, simple processes in interdependency and information technology, and adaptability organizational culture. In such a situation, the integrated WCM approach would be appropriate.

On the other hand, in companies operating in a relatively stable environment where perceived environment uncertainty is low, managers might pursue specified financial targets. Low PEU together with the other four determining perspectives consist of a profit orientation in budgetary control, a vertical organizational structure, a simple process, and has bureaucratic organizational culture. In this case, the non-integrated WCM approach would be more appropriate for improving internal processes and thus profitability.

## **7.5 Limitations**

As with any study, this research has a number of key limitations. First, the possibility of the interviews reflecting personal perceptions rather than fact. The interviewees were reminded to share with the researcher *what actually happened or was happening* (in their organizations) rather than *what should or could be happening* (personal opinion). Although this approach was constantly foregrounded, it was difficult for interviewees to remain within the specified boundaries. Therefore, the data analysis process, the longest stage in this study, took all possible preventive actions to minimise the effect of personal reflections that did not represent the actual organizational context. Consequently, as suggested by Miles and Huberman (1994), data was cross checked with key informants for validation purposes, improving the accuracy of the data.

Subsequently, as discussed in chapter 5, each determining perspective comprised of variations, and was assumed to be binary. The data analysis and extant literature have distinguished perspectives and indicated measures which classify the cases within the continuum. However, the study still encountered some difficulties in classifying the cases due to borderline phenomena. Efforts were made to interpret the findings in logical ways to find the reasons why WCM practices transpired in such ways. Through discussions with the

supervision team, it was decided a dominating value emerging from the cases can be considered adequate for purposes of grouping WCM practices into a particular type. In addition, validation processes (similar to those in the paragraph above), including confirmations from key informants, were prerequisites to developing conclusions.

The confidentiality of information gained from the semi-structured interviews was also a limitation for this study. This thesis was written in a natural manner, which means attempting to explain each case with all the supporting evidence possible, so that a reader can reach an independent judgement of the validity of arguments. However, a number of discussions with informants had the potential to reveal the identity of participating companies, and consequently leaving the researcher no choice but to modify some information to protect the identity of participating companies.

Finally, and preferably, the study would have included the financial structure viewpoint of the cases as part of the characteristics of WCM approaches. However, due to time and financial constraints, this part of the research was limited to a perspective of WCM practices in the organizational context.

## **7.6 Future Research**

The incompleteness of the WCM conceptual framework has created a number of opportunities for future research. Continued research linking the framework to organizational forms and including more detailed financial structure analysis would be a key area needing immediate attention. This could provide necessary information about financial structure in different WCM approaches which will help academicians to formulate financial models that are more dynamic and applicable in complex organizational settings. This could also extend the rigor of the framework in explaining WCM practices from a financial analyst's perspective. Furthermore, continued research examining potential prospects in information technology and organizational culture regarding WCM practices would be valuable.

Future research interested in contributing to the growing body of WCM knowledge in organizational contexts should focus on:

- Comparing financial structures in companies using specified WCM approaches to see whether different financial performance results are yielded. This may add important insights about the characteristics of each approach;
- Examining changes in any of the five underlying determining perspectives over a period of time. This may add value to the body of WCM knowledge by informing managers and scholars about WCM approaches over time;
- Identifying critical factors that force distressed and turnaround companies to adopt new WCM approaches. This could inform managers and scholars about which determinants are more critical and need greater attention during intense periods;
- Validating this WCM conceptual framework as a predictor of WCM approach. This could be done using a survey to extend the rigor of the framework;
- Extending the research to include more organizational culture types to accommodate companies using organizational cultures other than bureaucratic and adaptability; and
- Obtaining an in-depth understanding of the interface modes used between working capital decision making processes and information technology.

The above suggestions are no more than indicators of the direction that future research might take. The scope of WCM is broad and embedded within the organizational dynamic; and the main findings of the study are not a definitive paradigm but simply point to the evolving nature of how organizational context impacts on working capital. This means continuing research is required and our understanding and knowledge about WCM in the organizational context must also evolve. As Miles and Snow (2003, p. 3) express it *“Organization must also constantly modify and refine the mechanism by which they achieve their purposes – rearranging their structure, roles, and relationships and their decision making and control processes”*.

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# Appendix A

## Interview Guides

### A.1 Interview Guide for CFO/Senior Manager (Finance)

Name of Contact:

Position:

Company:

Department:

Date:

Time:

#### Brief Introduction

1. Thank you for your time and participation. I like to begin our conversation with brief explanation about the research project.
  - a. This study is intended firstly to develop an understanding of the determinants of the various working capital management (WCM) practices currently used in Malaysian listed companies; and
  - b. Secondly, to develop a conceptual framework explaining the dynamics of WCM in Malaysian context.
2. The information obtained from you and your company will be kept confidential. The access to information will only be given to my supervisors and me.
3. I am required by the Human Ethic Committee of Lincoln University, to get your consent to publish the results of the project with the understanding that anonymity will be preserved. Do you mind to sign the consent form? (A consent form is given) You should know that you may at any time withdraw from the project until 30<sup>th</sup> November 2009 including withdrawal of any information you have provided. I also have to remind you to share information about what have happened or are happening to your organization in regards to working capital.
4. As part of the analysis process, I normally transcribe all the interviews. Do you mind if I record our conversation? If there is any information that you don't want me to record please feel free to stop the recording at any time or should you need any information been deleted. (turn recorder on)
5. The interview is organized into five sections, business environment, budgetary control, organizational structure, information technology and interdependency, and corporate style. I would like you to tell me the experience in relation to managing working capital components. I am keen to learn about what is/was happening to your company. I would like you to avoid expressing personal opinions. Unless when I ask you to do so especially in corporate style section.

#### Business Environment

Note: Information about operating environment is also gained from secondary data, media articles, annual reports, press releases and so forth. Examples of recent events or facts may be used to illustrate the questions.

- 1) How do “company name” position itself in the Malaysian market? What is the “company name” overall market share in Malaysia?

- i) Is the consumer demands for “industry name” relatively predictable or difficult to predict? Why?
  - ii) What is your company’s strategy to sustain or gained market share?
- 2) What are the common challenges face by companies in this industry?
  - i) What actions were taken to overcome the challenges?
- 3) When changes occurred in your business environment (e.g. shift in consumer demands, competitors’ reactions, and so forth)?
  - i) How does it affect your company’s operation particularly working capital activities (e.g. cash level, inventory level, payable level, & receivable level)?
  - ii) Any significant changes made to working capital arrangements?
- 4) In recent years (2006-2009) saw increasing cost of raw materials, fuel prices, recessions, and exchange rate, are these events affecting your working capital components (cash, payables, receivables and inventory level)? What actions are/were taken to overcome the challenges?

**Budgetary Control**

- 5) How do you and/or your managers develop strategic plans to manage working capital activities?
  - i) Do you rely on budget, standard procedures, and working capital policy as a basis to design and implement working capital strategic plans? Why?

OR

- ii) Do you rely on ongoing planning (i.e. discussions, forum and etc) between managers to speculate appropriate WCM levels? Why?
- 6) How do you monitor the working capital activities?
  - i) Do you organized meetings or received feedbacks (reports) from business units on regular basis? Who attend the meetings?
  - ii) How often do you meet or communicate? Why?
- 7) Do you measure the working capital performance?
  - i) What performance measurement tools do you use to evaluate WCM performance?
  - ii) How often do you monitor the WCM performance?
- 8) How do you utilize working capital components to achieve intended targets or objectives?
  - i) Is optimization of working capital components important to your company?
  - ii) Is it necessary?
  - iii) What has/have been done to accomplish suitable levels of WCM components?

## **Organizational Structure**

- 9) Who are responsible to manage the WCM components (e.g. cash, inventory, payable, & receivable)?
- 10) Who determine the level of working capital components (e.g. cash level, inventory levels, payables level, & receivables level)? Why?
- 11) Do managers at different business units/departments share information between them in working capital decision making processes? Why?
  - i) How do they communicate or meet?

## **Information Technology and Interdependency**

- 12) If you or your subordinates discovered a change is required in any working capital components (e.g. credit term, inventory level), what compromises have had to be done between business units/departments before implementing any changes?
  - i) Do business units' managers consult each other before implementing any changes? Why?
  - ii) Who determine the final resolutions to have any changes made in any WCM components?
- 13) Is there any issues or conflicts arise between business units/departments over level of WCM components (e.g. procurement vs. inventory or cash flow vs. credit terms)?
  - i) How do you overcome these problems?
- 14) Could you explain the use of ERP system in terms of managing working capital activities?
  - i) What is the role of ERP system in your decision making process? Why?

## **Corporate Style**

- 15) Your company introduced training and development programs to improve employees' skills, what are the focus areas?
- 16) Is managing WCM components part of your Key Performance Indicators (KPI)? How are you evaluated?
- 17) What are the important elements to effectively manage working capital activities?
  - i) Why it is important to your company?

## **A.2 Interview Guide for Senior Manager (Supply Chain)**

Name of Contact:  
Company:  
Date:

Position:  
Department:  
Time:

### **Brief Introduction**

(This section is similar to main interview guide)

### **Inventory Management**

- 1) Can you briefly explain your scopes of job related to managing inventories?
- 2) Can you explained in more detail the decision making process of determining appropriate inventory levels?
- 3) Which are the most relevant information (e.g. budget, sales forecast, informal discussions, cross functional meetings or etc) to facilitate your decision making process in regards to inventory levels? Why?
- 4) How do you monitor inventory levels so that you will have the right quantity of inventories and at the right time? When considering vendor capabilities, lead time, broad products ranges, product life cycle, plant capabilities, market demand and other factors.
- 5) How often do you prepare inventory status reports to your head of department/business unit? Do you share the reports with other departments directly (e.g. Sales, Marketing, or Finance)? Do you have regular meetings or discussions (formal or informal) with them? Why?
- 6) If you identify changes need to be highlighted with other managers, for instance inventory levels are getting higher due to sudden dropped of sales, and how do you normally manage this issue?
- 7) Is maintaining the appropriate inventory levels included in your KPIs? For you to achieve the KPIs, what important factors enabling you to do so?
- 8) What are the important elements to effectively manage inventory levels?

### **A.3 Interview Guide for Manager/Executive (Payables)**

Name of Contact:  
Company:  
Date:

Position:  
Department:  
Time:

#### **Brief Introduction**

(This section is similar to main interview guide)

#### **Payables Management**

- 1) What is your scope of job in relation to managing accounts payable?
- 2) Could you briefly explain the process of managing accounts payables?
- 3) How do you monitor payables performance? Do you prepare payables performance reports? How often?
- 4) Do you share the payables report with other departments (e.g. purchasing, production)? Do you communicate with them? How do you communicate (e.g. meetings, discussions, reports or newsletter)?
- 5) In certain circumstances, do you compromise with your treasurer/purchasing manager and suppliers to adjust payment periods?
- 6) Do you consider fluctuation of cost of materials, lead time issues, and exchange rates in your scope of job?
- 9) Is managing accounts payable effectively part of your KPIs/performance evaluation? For you to achieve the KPIs, what important factors enabling you to do so?
- 7) What are the important elements to manage payables effectively?

## **A.4 Interview Guide for Manager/Executive (Receivables)**

Name of Contact:

Position:

Company:

Department:

Date:

Time:

### **Brief Introduction**

(This section is similar to main interview guide)

### **Receivables Management**

- 1) What is your scope of jobs in relations to managing receivables?
- 2) Could you briefly explain the process of receivables (credit) approval for customers?
- 3) Do you involve in decision making process in terms of credit approval?
- 4) How do you monitor receivables performance? Do you prepare credit performance (collection) reports? How often?
- 5) Do you share the collection report with other departments (e.g. purchasing, production)? Do you communicate with them? How do you communicate (e.g. meetings, discussions, reports or newsletter)?
- 6) In certain circumstances, do you have to negotiate with sales dept and customers to shorten credit periods?
- 7) Is managing credit collection effectively part of your KPIs/performance evaluation? For you to achieve the KPIs, what important factors enabling you to do so?
- 8) What are the important elements to manage receivables/credit collection effectively?

## A.5 Interview Guide for Manager/Executive (Demand Planning)

Name of Contact:  
Company:  
Date:

Position:  
Department:  
Time:

### **Brief Introduction**

(This section is similar to main interview guide)

### **Demand Planning**

- 1) What is your overall market share in “industry name” in Malaysia?
  - a) What are the initiatives taken to sustain or gain market share?
  - b) What determinant factors that enable “company name” to gain market share or strengthen your position in the market?
- 2) In general, what are the factors that influence “industry name” in Malaysia?
- 3) How do you normally develop a demand forecast?
  - a) Can budget influence your demand forecast? Why?
  - b) How competitors’ actions (i.e. introduce new products, promotional price) influence your demand forecast?
  - c) Do you require any information from other departments (e.g. Supply Chain and Finance) to develop a demand forecast? Why?
- 4) How do you speculate market demands?
  - a) Do you share the information about market demands with other departments directly (e.g. Supply Chain or Finance)?
  - b) Do you have regular meetings or discussions with them (e.g. Supply Chain or Finance)? Why?
- 5) Is demand forecasting accuracy included in your KPIs? For you to achieve the KPIs, what important factors that will enable you to do so?
- 6) What are the important elements to manage demand planning effectively?

## **Appendix B**

### **Case Study Protocol**

- 1) Review secondary data from electronic sources: there are two sources 1) collect relevant information from company's official website, such as annual reports, press releases, products' information, and any WCM related information, and 2) search media articles using electronic database (ABI inform), searching method should use the following formats:
  - a) Company information: "company name" AND "country name"
  - b) Industry information: "industry name" AND "country name"
- 2) Compile the relevant information to form an understanding about company's background. This information is known as case background.
- 3) Use case background to refine interview guides.
- 4) Conduct first interview with CFO or senior manager finance: this interview should provide comprehensive understanding about WCM, including explanations about emerging themes and identify subsequent informants. Prepare a contact summary form (for every interview) to reflect the researcher's understanding about the last discussion and identify issues for further investigations.
- 5) Conduct at least three interviews with informants that involved in WCM decision making processes. There should be at least one representative from three departments, supply chain (production planner or inventory), sales and marketing (demand planner), and finance (receivables and payables).
- 6) Transcribed the interviews into text format, and begin coding process. The coding process should be conducted immediately after each interview. Transfer all the transcriptions into NVivo8 software. This software enhances the researcher's ability with coding processes.
- 7) Identify (from interviews) additional secondary data (if any) and collect document from local libraries, government agencies, and research institutions. This document may provide general information about the role of external factors to the management of working capital.
- 8) Write case reports explaining the determinant perspectives in more detail for each case individually. Use conceptually ordered matrixes to facilitate analysis processes. Analyse the data and interprets the findings.



## Appendix D

### Coding Descriptions

Label	Determinants	Themes	Categories	Sub-Categories	Descriptions
PEU	Perceived Environment Uncertainty				Managers perception of environment uncertainty
PEU/MC		Market Conditions			Market conditions of participating companies
PEU/MCCD			Consumer Demands		Ability to identify consumers' demands
PEU/MCCM			Competing in Markets		Competing trends in particular markets of products innovations, product diversifications
PEU/MCCR			Competitors Reactions		Competitors' reactions will influence markets
PEU/EC		Economic Conditions			Economic factors that influence WCM
PEU/ECCF			Exchange rate		Fluctuation of currency which affecting working capital
PEU/ECES			Economic Situation		Economic situations which are affecting working capital
PEU/ECEM			Energy & Material Cost		Fluctuation of energy and material cost influence operations
PEU/FI		Financing			Interest rates, regulations and policies may affect working capital
PEU/FIBR			Bank Regulations		Banks impose regulations to companies in terms of financing
PEU/GR		Government Regulations			Government regulations and policies restrict companies' activities.
PEU/GRGR			Government Regulations		Particular industries are affected by government policies.
BC	Budgetary Control				Level of reliance on budget to achieve intended targets
BC/UB		Use of Budget			The use of budget in managing WCM components
BC/UBBE			Budget Emphasis		Budget is intensively used to control subordinates and WCM components
BC/UBFA			Forecast Accuracy		Demand forecast directly influenced WCM levels thus its accuracy is important
BC/UBOP			Ongoing Planning		Due to constant changes of market or complexity of operations, ongoing planning is suitable
BC//UW		Utilizing WCM Components			Utilizing WCM components to fulfil organizational objectives
BC/UWST			Short-Term Financial Management		Working capital policy are designed to fulfil organizational goals
BC/UWSTC				Cash Management	Conserved cash to increase liquidity or reduced idle cash

BC/UWSTP				Payables	Payable arrangements (rigid vs. flexible) to achieve intended targets.
BC/UWSTR				Receivables	Receivables arrangements (rigid vs. flexible) to achieve intended targets
BC/UWIM			Inventory Management		Inventory arrangement (rigid vs. flexible) to fulfil organizational goals
BC/UWIML				Logistics	Logistics issues consider lead time, distributions and warehouse space
BC/UWIMP				Plant Capability	Plant capability includes the product processing cycles, processing capability, plant reliability.
BC/UWIMS				Suppliers	Supplier capabilities include availability of materials, quality and relationships
OS	Organizational Structure				Structural arrangements illustrate WCM decision making process
OS/IL		Information Linkage			How companies designed its information flow arrangements about WCM activities
OS/ILVF			Vertical Flow		Information is shared vertically to informed top management about WCM activities
OS/ILHF			Horizontal Flow		Information is shared horizontally between managers of different departments.
OS/SD		Structural designs			Organizational structure that indicates who and how decision making processes conducted
OS/SDC			Centralized		Many decisions of WCM are determined by top management
OS/SDD			Decentralized		WCM decisions can happen anywhere within organization structure
ITI	Information Technology and Interdependency				Information flow and interdependency in managing WCM process.
ITI/IT		Information Technology			Information technology roles in managing WCM components
ITI/TEU			ERP Usage		The usage level of ERP in decision making process.
ITI/I		Interdependency			Interdependency of managers to undertake their jobs.
ITI/ICMC			Compromising- Minimising Conflict		Determinations of WCM levels require various business units to interact
ITI/ISIT			Specialization on Individual Tasks		Managers are segregated to focus on their tasks
OC	Organizational Culture				A set of belief, values and understanding of how things are normally done in an organization
OC/V		Values			Managing daily activities are derived from realisation of organizational objectives (awareness)
OC/VIE			Innovation efforts		Employees' initiatives to improve WCM performance.
OC/VRO			Result oriented		Employees determinations to achieve their targets
OC/BU		Basic Underlying Assumptions			Underlying values, assumptions and feelings (invisible)
OC/BUSM			Sense making		Ability to interpret various source of information to speculate external variables.
OC/BUC			Consistency		Strict disciplines and familiarity with daily routines to undertake WCM activities

## Appendix E

### Cases Average Score

A scoring system enables the classification of cases within the continuum (Voss, et al., 2008). This section measures cases using scoring of a 1-2 average scale (where 1 = non-integrated WCM and 2 = integrated WCM). Using the rating of five perspectives from section 6.2, each case is rated based on overall rating of the themes. For example, (in Table 6.6 organizational culture) overall rating for case 1, 2, and 3 is “++” or bureaucratic culture and case 3 and 4 is “++++” or adaptability culture. For grouping procedure, the average number is computed by dividing the overall score with number of themes, for example cases 1, 2, and 3 the average score is 1 point, while case 3 and 4 is 2 point. This process is repeated to all perspectives as shown in Table B – F below. Table A indicates overall average score for all the cases across five determinant perspectives.

Table A: Cases Average Score: Overall Score

Case No.	PEU	BC	OS	IIT	OC	Average
Case 1	1.25	1.00	1.50	1.00	1.00	<b>1.15</b>
Case 2	1.25	1.00	1.00	1.00	1.00	<b>1.05</b>
Case 3	1.50	2.00	2.00	2.00	2.00	<b>1.90</b>
Case 4	2.00	1.50	2.00	2.00	2.00	<b>1.90</b>
Case 5	1.00	1.00	1.00	1.00	1.00	<b>1.00</b>

PEU = Perceived Environment Uncertainty

BC = Budgetary control

OS = Organizational Structure

IIT = Interdependency & Information Technology

OC = Organizational Culture

Table B: Perceived Environment Uncertainty: Cases Average Score

Case No.	Market Conditions <sup>a</sup>	Economic Conditions <sup>b</sup>	Financing <sup>b</sup>	Government Regulations <sup>b</sup>	Average
Case 1	1	1	1	2	<b>1.25</b>
Case 2	1	2	1	1	<b>1.25</b>
Case 3	2	2	1	1	<b>1.50</b>
Case 4	2	2	2	2	<b>2.00</b>
Case 5	1	1	1	1	<b>1.00</b>

<sup>a</sup> Static = 1 Dynamic = 2

<sup>b</sup> Minor = 1 Major = 2

Table C: Budgetary Control: Cases Average Score

Case No.	Use of Budget <sup>a</sup>	Utilizing WCM Components <sup>b</sup>	Average
Case 1	1	1	<b>1</b>
Case 2	1	1	<b>1</b>
Case 3	2	2	<b>2</b>
Case 4	2	1	<b>1.5</b>
Case 5	1	1	<b>1</b>

<sup>a</sup> Budget Emphasis = 1 Ongoing Planning = 2

<sup>b</sup> Mechanistic Control = 1 Organic Control = 2

Table D: Organizational Structure: Cases Average Score

Case No.	Information Flow <sup>a</sup>	Structure Design <sup>b</sup>	Average
Case 1	2	1	<b>1.5</b>
Case 2	1	1	<b>1</b>
Case 3	2	2	<b>2</b>
Case 4	2	2	<b>2</b>
Case 5	1	1	<b>1</b>

<sup>a</sup> Vertical Flow = 1 Horizontal Flow = 2

<sup>b</sup> Centralized = 1 Decentralized = 2

Table E: Interdependency and IT: Cases Average Score

Case No.	ERP Usage <sup>a</sup>	Interdependency <sup>b</sup>	Average
Case 1	2	1	<b>1.5</b>
Case 2	1	1	<b>1</b>
Case 3	2	2	<b>2</b>
Case 4	2	2	<b>2</b>
Case 5	1	1	<b>1</b>

<sup>a</sup> Low Usage = 1 High Usage = 2

<sup>b</sup> Low Interdependence = 1 High Interdependence = 2

Table F: Organizational Culture: Cases Average Score

Case No.	Values <sup>a</sup>	Basic Underlying Assumptions <sup>b</sup>	Average
Case 1	1	1	<b>1</b>
Case 2	1	1	<b>1</b>
Case 3	2	2	<b>2</b>
Case 4	2	2	<b>2</b>
Case 5	1	1	<b>1</b>

<sup>a</sup> Result Oriented = 1 Innovation Efforts = 2

<sup>b</sup> Consistency = 1 Sense Making = 2